

MEMO

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From:
Kris Hinskey (Arcadis)

Date:
April 30, 2020

Arcadis Project No.:
30050315

Subject:
Ford Livonia Transmission Plant
Response Activity Plan – Remedial Investigation dated April 13th, 2018
Northwest Investigation Area Memo

Arcadis of Michigan LLC (Arcadis), on behalf of Ford Motor Company (Ford) has prepared this Investigation Memo for the Livonia Transmission Plant (LTP) property located in Livonia, Michigan (Site). This document was produced in compliance with a Consent Decree (CD) filed by the Michigan Department of Environment, Great Lakes, and Energy (EGLE), formerly known as the Michigan Department of Environmental Quality (MDEQ), on July 27, 2017 (No: 2:1712372-GAD-RSW). The purpose of this memo is to provide a summary of the soil and groundwater investigation completed in the northwest portion of the Site, including off-site properties located west-northwest of the LTP property. The approach to the on-site investigation was described in the approved *Response Activity Plan – Remedial Investigation (RI RespAP)* dated April 13, 2018. The approach for the off-site investigation was summarized in the June 5, 2019 *Northwest Investigation Area Memo* provided to EGLE. The preliminary results of the investigation were discussed with EGLE during a meeting on March 5, 2020.

The off-site investigation activities northwest of the Site were completed to further evaluate a potential source of chlorinated volatile organic compounds (VOCs) observed along the northwest Site property boundary during the on-site remedial investigation. High resolution site characterization techniques were used to identify the nature and extent of soil and groundwater impacts, and included the following:

- Laser induced fluorescence (LIF)
- hydraulic profiling tool (HPT)
- Vertical aquifer profiling (VAP), and
- Whole core soil sampling (WCSS)

Based on the VOC impacts detected at the northwest LTP property boundary, supplemental investigations were completed in April and December 2019. The goal of the supplemental investigation was to assess the potential presence of a VOC source area on commercial (non-residential) properties located west of the Site boundary.

The supplemental work included soil borings, HPT borings, and VAP groundwater sampling within the Levan Road right-of-way (ROW), Amrhein Road ROW, and on Roush Industries commercial property (Roush) located at 12445 Levan Road. Following the collection and review of the VAP groundwater data, permanent monitoring wells were installed on-site and off-site to continue monitoring the conditions in the northwest area, as shown on **Figure 1**.

Based on the use of the northwest area (commercial/nonresidential) and the most applicable human exposure pathway, all soil and groundwater analytical results were compared to the site-specific Nonresidential (NR) Volatilization to Indoor Air Criteria (VIAC) adjusted for 12-hour work-day exposure as provided by EGLE on October 30, 2018. For reference, the soil analytical summary table (**Table 1**) also includes a comparison to the NR Drinking Water Criteria, NR Groundwater-Surface Water Interface Protection Criteria and NR Direct Contact Criteria. The groundwater summary tables (**Table 1** and **Table 2**) include NR Drinking Water Criteria and NR Groundwater-Surface Water Interface Criteria comparisons.

The results of the 2019 investigations show that a source of VOCs (including trichloroethene [TCE], cis-1,2-dichloroethene and vinyl chloride) located west of 12445 Levan Road contributes to groundwater impacts present on the LTP property. The investigation locations from 2018 through 2019 are shown on **Figure 2** and **Figure 3**. Concentrations of TCE within the Levan Road ROW and Roush property are generally consistent with those observed at the northwest Site boundary.

A Freedom of Information Act (FOIA) search of the nearby properties found that the business located at 36555 Amrhein Road (Contractors Steel) had a Baseline Environmental Assessment completed in 2018 with TCE detected in both soil and groundwater above EGLE criteria. The limited sampling at Contractors Steel indicated concentrations up to 2,500 micrograms per kilogram ($\mu\text{g}/\text{kg}$) TCE in soil and up to 1,800 micrograms per liter ($\mu\text{g}/\text{L}$) in groundwater. No other constituents were detected above applicable EGLE criteria. Details on Contractors Steel sampling can be found in Section 1.3.2 of the *Baseline Environmental Assessment* (BEA) submitted to the EGLE Warren Office on September 17, 2018. As of April 28, 2020, Arcadis continues to discuss with EGLE impacts observed on Contractor Steel's property and the potential for impacts to other upgradient properties.

GEOLOGY AND HYDROGEOLOGY

Geologic and hydrogeologic conditions have been evaluated with high-resolution characterization techniques including HPT, LIF-HP, soil borings, and installation of monitoring wells across the northwest area. The soil boring logs for the area can be found in **Appendix A**. The geology consists of approximately 20 to 25 feet of fine sand, grading to interbedded silt and sand, overlying a 60-foot-thick layer of lacustrine clay. Bedrock consisting of shale is encountered at approximately 95 feet below grade at the deep monitoring well MW-15-59D located in the northwest corner of the LTP property.

The majority of groundwater flow occurs in a fine sand and interbedded sand and silt encountered in the top 15 feet of the saturated section (approximately 5 - 20 feet below grade). As shown on **Figure 1**, groundwater flow is generally to the east-southeast with a hydraulic

gradient ranging between 0.002 and 0.005 (foot/foot). Testing at the Site has shown the hydraulic conductivity ranges between 20 and 80 feet per day (ft/day) within the shallow sediments, resulting in an average groundwater velocity ranging between 0.5 and 2.0 feet per day. The underlying shale bedrock is hydraulically separated from the shallow aquifer by the lacustrine clay aquitard, as illustrated by the approximately 15-foot head difference between shallow unconfined monitoring wells and the deep monitoring well set above bedrock (MW-15-59D).

ANALYTICAL RESULTS

The soil and groundwater sampling completed during the investigation focused on four of the seven constituents of concern (COCs) identified in the CD including: 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene, (trans-1,2-DCE), tetrachloroethene (PCE), TCE, vinyl chloride (VC), and 1,4-dioxane. Based on the terms of the access agreement between Ford and Roush, PCE, 1,1-DCE, and 1,4-dioxane were not analyzed for samples collected on Roush property. The primary COC identified in the northwest portion of the Site is TCE. As a result, **Figure 2** through **Figure 4** include the distribution of TCE to illustrate the results of the investigation. As noted above, all soil and groundwater analytical results are compared to the site-specific NR VIAC adjusted for 12-hour workday as provided by EGLE on October 30, 2018. A summary of the results for the seven COCs is included on the attached **Table 1** through **Table 3**. Laboratory analytical reports are provided as **Appendix B**.

Soil

Soil samples were collected from on-site boring locations only. Soil analytical results are summarized in **Table 1**. Arcadis collected 159 soil samples to evaluate the northwest area for vadose zone impacts that may be indicative of a release or ongoing source. Soil samples that were collected during 2018 investigation were analyzed by the Pace Mobile Laboratory using USEPA Method 8260C, with a 10% split to TestAmerica Laboratories located in North Canton, Ohio (TestAmerica) using USEPA Method 8260B. The soil samples from the 2019 investigation were sent to TestAmerica and analyzed for the seven COCs.

The results of the soil sampling show that TCE, cis-1,2-DCE, and trans-1,2-DCE exceeded the Nonresidential VIAC for soil in the Northwest Area (see **Table 1**). The soil results beneath the LTP building are relatively low in concentration with only one area that suggests a potential historical release near boring LIFHP-137. The potential source areas are identified in the *Conceptual Site Model Report*, submitted to MDEQ on August 25, 2017. Soil impacts at boring HPT-182 are clustered around the water table (approximately 5 feet below grade) and may be influenced by groundwater impacts at the water table or within the capillary fringe. The soil analytical results for TCE are illustrated on **Figure 2**.

Groundwater

The on-site and off-site groundwater results are compared to the site-specific Nonresidential VIAC adjusted for 12-hour work-day exposure. Comprehensive analytical results are summarized in **Table 2** and **Table 3**. Arcadis collected 195 groundwater samples during the RI RespAP implementation of the northwest area. Groundwater samples that were collected during 2018 investigation were analyzed by the Pace Mobile Laboratory using USEAP Method

8260C with a 10% split to TestAmerica using USEPA Method 8260B. The groundwater samples from the 2019 investigation and 2020 monitoring well sampling event were sent to TestAmerica.

Laboratory results showed that of the seven COCs analyzed, only TCE and VC exceeded the Nonresidential VIAC for groundwater in this area. The TCE groundwater analytical results are illustrated on **Figure 3** and **Figure 4**. The results from the remaining COCs are summarized on **Table 2** and **Table 3**. Groundwater impacts appear to extend from the western, upgradient boundary of the Roush property, to the east-southeast to the Site. Maximum off-site TCE concentrations results range from 1,900 µg/L at the western Roush boundary and 2,000 µg/L in the Levan Road ROW. TCE concentrations have been identified near the Site northwest property boundary with concentrations up to 2,500 µg/L (HPT-182) and 4,400 µg/L (HPT-210) adjacent to the LTP building. Groundwater impacts are defined to the north, east, and south to all applicable criteria, but not to the west on the Contractors Steel property.

SUMMARY

Based on the investigations completed between 2018 and 2019, and additional monitoring well sampling conducted in 2020, the following has been determined:

- Groundwater is migrating to the east-southeast across the investigation area that includes the northwest portion of the Site and the commercial properties located northwest of the LTP property.
- Groundwater at the northwest Site boundary is impacted with VOCs; primarily TCE with lower concentrations of cis-1,2-DCE, trans-1,2-DCE, and VC.
- Groundwater sampling at upgradient, off-site properties (Levan Road ROW and Roush) suggests a source of VOCs is present west of the Site and contributing to groundwater impacts observed at the Site.
- The 2018 BEA completed for Contractors Steel, west of the Roush property, shows a source of TCE is present in soil and groundwater.
- Soil results in the vadose zone beneath the LTP building are generally low in concentration with only one area suggesting a potential historical release (i.e. LIFHP-137).

Based on the results of the northwest area investigations, permanent monitoring wells were installed to collect additional groundwater data and monitor stability. The results suggest an upgradient source of COCs to the west-northwest of the Site. Based on these results, no further off-site investigations are planned at this time. Next steps will be discussed with EGLE. If you have questions, please contact Kris Hinskey at 269-579-5402.

Enclosed:

- Figure 1 – Northwest Area Groundwater Elevation Contour Map February 2020
- Figure 2 – Northwest Area Trichloroethene in Soil Analytical Results
- Figure 3 – Northwest Area Vertical Aquifer Profile Trichloroethene in Groundwater Analytical Results
- Figure 4 – Northwest Area Monitoring Well Trichloroethene in Groundwater Analytical Results
- Table 1 – Northwest Area Soil Analytical Results Summary
- Table 2 – Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
- Table 3 – Northwest Area Monitoring Well Groundwater Analytical Results Summary
- Appendix A – Investigative Logs
- Appendix B – Laboratory Analytical Reports

TABLES



Location:						HPT-180	HPT-180	HPT-180	HPT-180	HPT-180	HPT-180	HPT-181	HPT-181	HPT-181	HPT-181	HPT-181	HPT-181	
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	HPT-180_1- 2_102518	HPT-180_2- 3_102518	HPT-180_3- 4_102518	HPT-180_4- 5_102518	HPT-180_23- 24_102518	HPT-180_25- 26_102518	HPT-181_1- 2_102518	HPT-181_2- 3_102518	HPT-181_3- 4_102518	HPT-181_4- 5_102518	HPT-181_5- 6_102518	HPT-181_22- 23_102518	
Sample Date:						10/25/2018	10/25/2018	10/25/2018	10/25/2018	10/25/2018	10/25/2018	10/25/2018	10/25/2018	10/25/2018	10/25/2018	10/25/2018	10/25/2018	
Depth Interval:						1-2	2-3	3-4	4-5	23-24	25-26	1-2	2-3	3-4	4-5	5-6	22-23	
Laboratory:	Unit	Nonresidential 12- hr VIAC Soil Criteria				Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																		
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 75	< 79	< 92	< 88	< 89	< 91	< 88	< 93	< 130	< 120	< 100	< 13,000 J	
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																		
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 38	< 39	< 46	< 44	< 44	< 46	< 44	< 46	< 64	< 62	< 51	< 41 J	
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 38	< 39	< 46	< 44	< 44	< 46	< 44	< 46	< 64	< 62	< 51	< 41 J	
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 38	< 39	< 46	< 44	< 44	< 46	< 44	< 46	< 64	< 62	< 51	< 41 J	
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 38	< 39	< 46	< 44	< 44	< 46	< 44	< 46	< 64	< 62	< 51	< 41 J	
Trichloroethene	µg/kg	12	100	4,000	660,000	< 38	< 39	< 46	< 44	< 44	< 46	< 44	< 46	< 64	< 62	< 51	< 41 J	
Vinyl chloride	µg/kg	24	40	260	34000	< 38	< 39	< 46	< 44	< 44	< 46	< 44	< 46	< 64	< 62	< 51	< 33 J	

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
 - Outline** Value exceeds the Nonresidential Direct Contact (DC) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/kg Micrograms per kilogram
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					HPT-181	HPT-182	HPT-182	HPT-182	HPT-182	HPT-182	HPT-182	HPT-182	HPT-182	HPT-183	HPT-183	HPT-183	HPT-183
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	HPT-181_22-23_102518_ML	HPT-182_1-2_102918	HPT-182_2-3_102918	HPT-182_3-4_102918	HPT-182_4-5_102918	HPT-182_5-6_102918	HPT-182_5-6_102918_ML	HPT-182_27-28_102918	HPT-183_1-2_110118	HPT-183_2-3_110118	HPT-183_3-4_110118	HPT-183_4-5_110118
Sample Date:						10/25/2018	10/29/2018	10/29/2018	10/29/2018	10/29/2018	10/29/2018	10/29/2018	10/29/2018	11/01/2018	11/01/2018	11/01/2018	11/01/2018
Depth Interval:						22-23	1-2	2-3	3-4	4-5	5-6	5-6	27-28	1-2	2-3	3-4	4-5
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria				Pace Mobile Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Mobile Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 100	< 100	< 95	< 91	< 94	< 12,000	< 89	< 90	< 90	< 89	< 96	< 95
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 51	< 51	< 47	< 46	< 47	< 37	< 45	< 45	< 45	< 44	< 48	< 47
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 51	< 51	< 47	200	190	670	640	< 45	< 45	< 44	< 48	< 47
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 51	< 51	< 47	< 46	< 47	< 37	< 45	< 45	< 45	< 44	< 48	< 47
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 51	< 51	< 47	< 46	82	990	950	< 45	< 45	< 44	< 48	< 47
Trichloroethene	µg/kg	12	100	4,000	660,000	< 51	< 51	< 47	1,200	2,800	9,000 J	8,300	< 45	< 45	< 44	< 48	< 47
Vinyl chloride	µg/kg	24	40	260	34000	< 51	< 51	< 47	< 46	< 47	< 30	< 45	< 45	< 45	< 44	< 48	< 47

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
 - Outline** Value exceeds the Nonresidential Direct Contact (DC) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/kg Micrograms per kilogram
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					HPT-183	HPT-183	HPT-183	HPT-184	HPT-184	HPT-184	HPT-184	HPT-184	HPT-184	HPT-184	HPT-185	HPT-185	
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	HPT-183_5-6_1101118	HPT-183_17-18_1101118	HPT-183_28-19_1101118	HPT-184_1-2_102618	HPT-184_2-3_102618	HPT-184_2-3_102618_ML	HPT-184_3-4_102618	HPT-184_4-5_102618	HPT-184_5-6_102618	HPT-184_21-22_103018	HPT-185_1-2_103018	HPT-185_2-3_103018
Sample Date:						11/01/2018	11/01/2018	11/01/2018	10/26/2018	10/26/2018	10/26/2018	10/26/2018	10/26/2018	10/26/2018	10/26/2018	10/30/2018	10/30/2018
Depth Interval:						5-6	17-18	28-29	1-2	2-3	2-3	3-4	4-5	5-6	21-22	1-2	2-3
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria				Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Mobile Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 97	< 110	< 100	< 99	< 14,000 J	< 96	< 100	< 84	< 96	< 87	< 94	< 91
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 49	< 55	< 51	< 50	< 44 J	< 48	< 51	< 42	< 48	< 44	< 47	< 45
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 49	< 55	< 51	< 50	< 44 J	< 48	< 51	< 42	< 48	< 44	74	< 45
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 49	< 55	< 51	< 50	< 44 J	< 48	< 51	< 42	< 48	< 44	< 47	< 45
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 49	< 55	< 51	< 50	< 44 J	< 48	< 51	< 42	< 48	< 44	1,000	< 45
Trichloroethene	µg/kg	12	100	4,000	660,000	< 49	< 55	< 51	< 50	< 44 J	< 48	< 51	< 42	< 48	< 44	170	< 45
Vinyl chloride	µg/kg	24	40	260	34000	< 49	< 55	< 51	< 50	< 35 J	< 48	< 51	< 42	< 48	< 44	< 47	< 45

Notes:
Bold Value was detected above the laboratory reporting limit
Shaded Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
Italics Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
Red text Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
Outline Value exceeds the Nonresidential Direct Contact (DC) Criteria
 J Estimated result. Less than reporting limit or matrix interference.
 NA Not Analyzed
 µg/kg Micrograms per kilogram
 < Result less than reporting limit as shown
 UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:						HPT-185	HPT-185	HPT-185	HPT-185	HPT-210	HPT-210	HPT-210	HPT-211	HPT-211	HPT-211	HPT-211	
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	HPT-185_3- 4_103018	HPT-185_4- 5_103018	HPT-185_5- 6_103018	HPT-185_21- 22_103018	HPT-210_0- 1_040219	HPT-210_1- 2_040219	HPT-210_2- 3_040219	HPT-211-1- 2_040119	HPT-211-2- 3_040119	HPT-211-3- 4_040119	HPT-211-4- 5_040119	HPT-211-5- 6_040119
Sample Date:						10/30/2018	10/30/2018	10/30/2018	10/30/2018	04/02/2019	04/02/2019	04/02/2019	04/01/2019	04/01/2019	04/01/2019	04/01/2019	04/01/2019
Depth Interval:						3-4	4-5	5-6	21-22	0-1	1-2	2-3	1-2	2-3	3-4	4-5	5-6
Laboratory:	Unit	Nonresidential 12- hr VIAC Soil Criteria				Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 93	< 88	< 94	< 110	< 21,000	< 18,000	< 17,000	< 15,000	< 20,000	< 20,000	< 21,000	< 20,000
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 46	< 44	< 47	< 53	< 66	< 59	< 56	< 50	< 64	< 65	< 67	< 63
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 46	< 44	< 47	< 53	< 66	< 59	< 56	< 50	< 64	< 65	< 67	< 63
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 46	< 44	< 47	< 53	< 66	< 59	< 56	< 50	< 64	< 65	< 67	< 63
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 46	< 44	< 47	< 53	< 66	< 59	< 56	< 50	< 64	< 65	< 67	< 63
Trichloroethene	µg/kg	12	100	4,000	660,000	< 46	< 44	< 47	< 53	< 66	< 59	< 56	< 50	< 64 UB	< 65	< 67	< 63
Vinyl chloride	µg/kg	24	40	260	34000	< 46	< 44	< 47	< 53	< 53	< 47	< 45	< 40	< 51	< 52	< 54	< 50

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
 - Outline** Value exceeds the Nonresidential Direct Contact (DC) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/kg Micrograms per kilogram
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					HPT-211	HPT-212	HPT-212	HPT-212	HPT-212	HPT-213	HPT-213	HPT-213	HPT-214	HPT-214	HPT-214	HPT-214	
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	HPT-211_18-19_040119	HPT-212_1-2_040219	HPT-212_2-3_040219	HPT-212_3-4_040219	HPT-212_4-5_040219	HPT-213_3-4_040319	HPT-213_4-5_040319	HPT-213_26-27_040319	HPT-214_1-2_040319	HPT-214_2-3_040319	HPT-214_3-4_040319	HPT-214_4-5_040319
Sample Date:						04/01/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/03/2019	04/03/2019	04/03/2019	04/03/2019	04/03/2019	04/03/2019	04/03/2019
Depth Interval:						18-19	1-2	2-3	3-4	4-5	3-4	4-5	26-27	1-2	2-3	3-4	4-5
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 21,000	< 17,000	< 17,000	< 16,000	< 17,000	< 17,000	< 17,000	< 18,000	< 17,000	< 16,000	< 19,000	< 16,000
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 67	< 53	< 54	< 50	< 54	< 54	< 55	< 59	< 56	< 51	< 61	< 51
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 67	< 53	< 54	< 50	< 54	< 54	< 55	< 59	84	170	20 J	< 51
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 67	< 53	< 54	< 50	< 54	< 54	< 55	< 59	< 56	< 51	< 61	< 51
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 67	< 53	< 54	< 50	< 54	< 54	< 55	< 59	< 56	< 51	< 61	< 51
Trichloroethene	µg/kg	12	100	4,000	660,000	< 67	< 53	< 54	< 50	< 54	< 54	< 55	< 59	35 J	74	< 61	< 51
Vinyl chloride	µg/kg	24	40	260	34000	< 53	< 42	< 43	< 40	< 43	< 43	< 44	< 47	< 45	< 41	< 49	< 41

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
 - Outline** Value exceeds the Nonresidential Direct Contact (DC) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/kg Micrograms per kilogram
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					HPT-214	HPT-215A	HPT-215A	HPT-215A	HPT-215A	HPT-215A	HPT-215A	HPT-215A	HPT-216	HPT-216	HPT-216	HPT-216	HPT-216
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	HPT-214_26- 27_040319	HPT-215A_0- 1_040619	HPT-215A_1- 2_040619	HPT-215A_2- 3_040619	HPT-215A_3- 4_040619	HPT-215A_4- 5_040619	HPT-215A_28- 29_040619	HPT-216_1- 2_040619	HPT-216_2- 3_040619	HPT-216_3- 4_040619	HPT-216_4- 5_040619	HPT-216_27- 28_040619
Sample Date:						04/03/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019
Depth Interval:						26-27	0-1	1-2	2-3	3-4	4-5	28-29	1-2	2-3	3-4	4-5	27-28
Laboratory:	Unit	Nonresidential 12- hr VIAC Soil Criteria				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 19,000	< 15,000	< 16,000	< 17,000	< 16,000	< 18,000	< 18,000	< 16,000	< 15,000	< 18,000	< 21,000	< 19,000
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 62	< 47	< 52	< 55	< 50	< 59	< 59	< 50	< 48	< 59	< 68	< 62
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 62	< 47	< 52	< 55	< 50	< 59	< 59	< 50	< 48	< 59	16 J	< 62
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 62	< 47	< 52	< 55	< 50	< 59	< 59	< 50	< 48	< 59	< 68	< 62
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 62	< 47	< 52	< 55	< 50	< 59	< 59	< 50	< 48	< 59	< 68	< 62
Trichloroethene	µg/kg	12	100	4,000	660,000	< 62	< 47	< 52	< 55	< 50	< 59	< 59	< 50	< 48	< 59	30 J	< 62
Vinyl chloride	µg/kg	24	40	260	34000	< 50	< 38	< 42	< 44	< 40	< 47	< 47	< 40	< 38	< 47	< 54	< 50

Notes:
Bold Value was detected above the laboratory reporting limit
Shaded Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
Italics Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
Red text Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
Outline Value exceeds the Nonresidential Direct Contact (DC) Criteria
J Estimated result. Less than reporting limit or matrix interference.
NA Not Analyzed
µg/kg Micrograms per kilogram
< Result less than reporting limit as shown
UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					HPT-217	HPT-217	HPT-217	HPT-217	HPT-217	HPT-218	HPT-218	HPT-218	HPT-218	HPT-218	LIFHP-129	LIFHP-129	
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSIP) Criteria	Nonresidential Direct Contact (DC) Criteria	HPT-217_1- 2_040619	HPT-217_2- 3_040619	HPT-217_3- 4_040619	HPT-217_4- 5_040619	HPT-217_28- 29_040619	HPT-218_1- 2_040719	HPT-218_2- 3_040719	HPT-218_3- 4_040719	HPT-218_4- 5_040719	HPT-218_28- 29_040719	LIFHP-129_1- 2_041419	LIFHP-129_2- 3_041419
Sample Date:						04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/07/2019	04/07/2019	04/07/2019	04/07/2019	04/07/2019	04/14/2019	04/14/2019
Depth Interval:						1-2	2-3	3-4	4-5	28-29	1-2	2-3	3-4	4-5	28-29	1-2	2-3
Laboratory:	Unit	Nonresidential 12- hr VIAC Soil Criteria				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 19,000	< 16,000	< 19,000	< 25,000	< 19,000	< 16,000	< 18,000	< 16,000	< 17,000	< 20,000	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 61	< 53	< 59	< 80	< 60	< 50	< 58	< 51	< 55	< 63	< 50	< 43
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 61	< 53	< 59	< 80	< 60	< 50	< 58	< 51	< 55	< 63	< 50	< 43
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 61	< 53	< 59	< 80	< 60	< 50	< 58	< 51	< 55	< 63	< 50	< 43
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 61	< 53	< 59	< 80	< 60	< 50	< 58	< 51	< 55	< 63	< 50	< 43
Trichloroethene	µg/kg	12	100	4,000	660,000	< 61	< 53	< 59	< 80	< 60	< 50	< 58	< 51	< 55	< 63	< 50	< 43
Vinyl chloride	µg/kg	24	40	260	34000	< 49	< 42	< 47	< 64	< 48	< 40	< 47	< 41	< 44	< 50	< 40	< 35

Notes:
Bold Value was detected above the laboratory reporting limit
Shaded Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
Italics Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
Red text Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSIP) Criteria
Outline Value exceeds the Nonresidential Direct Contact (DC) Criteria
J Estimated result. Less than reporting limit or matrix interference.
NA Not Analyzed
µg/kg Micrograms per kilogram
< Result less than reporting limit as shown
UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					LIFHP-129	LIFHP-129	LIFHP-129	LIFHP-130	LIFHP-130	LIFHP-130	LIFHP-130	LIFHP-130	LIFHP-130	LIFHP-130	LIFHP-131	LIFHP-131	LIFHP-131
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSIP) Criteria	Nonresidential Direct Contact (DC) Criteria	LIFHP-129_3-4_041419	LIFHP-129_4-5_041419	LIFHP-129_29-30_041419	LIFHP-130_1-2_041419	LIFHP-130_2-3_041419	LIFHP-130_3-4_041419	LIFHP-130_4-5_041419	LIFHP-130_5-6_041419	LIFHP-130_29-30_041419	LIFHP-131_1-2_041419	LIFHP-131_2-3_041419	LIFHP-131_3-4_041419
Sample Date:						04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019
Depth Interval:						3-4	4-5	29-30	1-2	2-3	3-4	4-5	5-6	29-30	1-2	2-3	3-4
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 64	< 61	< 58	< 49	< 53	< 44	< 51	< 57	< 57	< 54	< 58	< 50
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 64	< 61	< 58	< 49	< 53	< 44	< 51	< 57	< 57	< 54	< 58	< 50
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 64	< 61	< 58	< 49	< 53	< 44	< 51	< 57	< 57	< 54	< 58	< 50
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 64	< 61	< 58	< 49	< 53	< 44	< 51	< 57	< 57	< 54	< 58	< 50
Trichloroethene	µg/kg	12	100	4,000	660,000	< 64	< 61	< 58	< 49	< 53	< 44	< 51	< 57	< 57	< 54	< 58	< 50
Vinyl chloride	µg/kg	24	40	260	34000	< 51	< 49	< 46	< 39	< 42	< 36	< 41	< 46	< 46	< 43	< 46	< 40

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSIP) Criteria
 - Outline** Value exceeds the Nonresidential Direct Contact (DC) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/kg Micrograms per kilogram
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					LIFHP-131	LIFHP-131	LIFHP-131	LIFHP-132	LIFHP-132	LIFHP-132	LIFHP-132	LIFHP-132	LIFHP-132	LIFHP-132	LIFHP-133	LIFHP-133	LIFHP-133	
Sample Name:					LIFHP-131_4-5_041419	LIFHP-131_5-6_041419	LIFHP-131_29-30_041419	LIFHP-132_1-2_041419	LIFHP-132_3-4_041419	LIFHP-132_4-5_041419	LIFHP-132_5-6_041419	LIFHP-132_6-7_041419	LIFHP-132_29-30_041419	LIFHP-133_1-2_011920	LIFHP-133_4-5_011920	LIFHP-133_6-7_011920		
Sample Date:					04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	01/19/2020	01/19/2020	01/19/2020	
Depth Interval:					4-5	5-6	29-30	1-2	3-4	4-5	5-6	6-7	29-30	1-2	4-5	6-7		
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria	Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																		
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 17,000	< 17,000	< 16,000
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																		
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 57	< 56	< 60	< 53	< 48	< 55	< 54	< 52	< 57	< 53	< 53	< 50	< 50
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 57	< 56	< 60	< 53	< 48	< 55	< 54	20 J	< 57	< 53	< 53	< 50	< 50
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 57	< 56	< 60	< 53	< 48	< 55	< 54	< 52	< 57	< 53	< 53	< 50	< 50
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 57	< 56	< 60	< 53	< 48	< 55	< 54	< 52	< 57	< 53	< 53	< 50	< 50
Trichloroethene	µg/kg	12	100	4,000	660,000	< 57	< 56	< 60	< 53	< 48	< 55	< 54	< 52	< 57	< 53	< 53	< 50	< 50
Vinyl chloride	µg/kg	24	40	260	34000	< 46	< 45	< 48	< 43	< 38	< 44	< 43	< 41	< 45	< 43	< 42	< 40	< 40

Notes:
Bold Value was detected above the laboratory reporting limit
Shaded Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
Italics Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
Red text Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
Outline Value exceeds the Nonresidential Direct Contact (DC) Criteria
 J Estimated result. Less than reporting limit or matrix interference.
 NA Not Analyzed
 µg/kg Micrograms per kilogram
 < Result less than reporting limit as shown
 UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					LIFHP-133	LIFHP-133	LIFHP-134	LIFHP-134	LIFHP-134	LIFHP-134	LIFHP-134	LIFHP-134	LIFHP-135	LIFHP-135	LIFHP-135	LIFHP-135	LIFHP-135
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	LIFHP-133_7-8_011920	LIFHP-133_8-9_011920	LIFHP-134_1-2_012620	LIFHP-134_3-4_012620	LIFHP-134_4-5_012620	LIFHP-134_5-6_012620	LIFHP-134_6-7_012620	LIFHP-135_1-2_012620	LIFHP-135_3-4_012620	LIFHP-135_5-6_012620	LIFHP-135_6-7_012620	LIFHP-135_7-8_012620
Sample Date:						01/19/2020	01/19/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020
Depth Interval:						7-8	8-9	1-2	3-4	4-5	5-6	6-7	1-2	3-4	5-6	6-7	7-8
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 15,000	< 16,000	< 16,000	< 15,000	< 15,000	< 14,000	< 15,000	< 16,000	< 16,000	< 16,000	< 14,000	< 14,000
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 48	< 50	< 50	< 48	< 49	< 45	< 49	< 50	< 52	< 50	< 46	< 46
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 48	< 50	< 50	< 48	< 49	< 45	< 49	< 50	< 52	< 50	< 46	< 46
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 48	< 50	< 50	< 48	< 49	< 45	< 49	< 50	< 52	< 50	< 46	< 46
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 48	< 50	< 50	< 48	< 49	< 45	< 49	< 50	< 52	< 50	< 46	< 46
Trichloroethene	µg/kg	12	100	4,000	660,000	< 48	< 50	< 50	< 48	< 49	< 45	< 49	< 50	< 52	< 50	< 46	< 46
Vinyl chloride	µg/kg	24	40	260	34000	< 38	< 40	< 40	< 38	< 39	< 36	< 39	< 40	< 41	< 40	< 37	< 37

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
 - Outline** Value exceeds the Nonresidential Direct Contact (DC) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/kg Micrograms per kilogram
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					LIFHP-136	LIFHP-136	LIFHP-136	LIFHP-136	LIFHP-136	LIFHP-137	LIFHP-137	LIFHP-137	LIFHP-137	LIFHP-137	SB-131	SB-131	
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	LIFHP-136_1-2_012620	LIFHP-136_3-4_012620	LIFHP-136_9-10_012620	LIFHP-136_20-21_012620	LIFHP-136_21-22_012620	LIFHP-137_1-2_012620	LIFHP-137_5-6_012620	LIFHP-137_6-7_012620	LIFHP-137_22-23_012620	LIFHP-137_24-25_012620	SB-131_1-2_103018	SB-131_2-3_103018
Sample Date:						01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	10/30/2018	10/30/2018
Depth Interval:						1-2	3-4	9-10	20-21	21-22	1-2	5-6	6-7	22-23	24-25	1-2	2-3
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Pace Fixed Lab	Pace Fixed Lab
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 14,000	< 15,000	< 17,000	< 19,000	< 19,000	< 15,000	< 15,000	< 15,000	< 18,000	< 20,000	< 86	< 78
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 45	< 48	< 55	< 62	< 59	< 49	< 48	< 47	< 58	< 65	< 43	< 39
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 45	38 J	< 55	< 62	< 59	220	75	390	< 58	< 65	< 43	< 39
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 45	< 48	< 55	< 62	< 59	< 49	< 48	< 47	< 58	< 65	< 43	< 39
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 45	< 48	< 55	< 62	< 59	< 49	< 48	36 J	< 58	< 65	< 43	< 39
Trichloroethene	µg/kg	12	100	4,000	660,000	< 45	< 48	< 55	< 62	< 59	420	210	1,500	< 58	< 65	< 43	< 39
Vinyl chloride	µg/kg	24	40	260	34000	< 36	< 38	< 44	< 49	< 47	< 39	< 39	< 38	< 47	< 52	< 43	< 39

Notes:
Bold Value was detected above the laboratory reporting limit
Shaded Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
Italics Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
Red text Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
Outline Value exceeds the Nonresidential Direct Contact (DC) Criteria
J Estimated result. Less than reporting limit or matrix interference.
NA Not Analyzed
µg/kg Micrograms per kilogram
< Result less than reporting limit as shown
UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:						SB-131	SB-131	SB-131	SB-131	SB-132	SB-132	SB-132	SB-132	SB-132	SB-132	SB-132	SB-133
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	SB-131_3-4_103018	SB-131_4-5_103018	SB-131_5-6_103018	SB-131_19-20_103018	SB-132_1-2_10312018	SB-132_1-2_103118_ML	SB-132_2-3_103118	SB-132_3-4_103118	SB-132_4-5_103118	SB-132_5-6_103118	SB-132_21-22_103118	SB-133_1-2_103118
Sample Date:						10/30/2018	10/30/2018	10/30/2018	10/30/2018	10/31/2018	10/31/2018	10/31/2018	10/31/2018	10/31/2018	10/31/2018	10/31/2018	10/31/2018
Depth Interval:						3-4	4-5	5-6	19-20	1-2	1-2	2-3	3-4	4-5	5-6	21-22	1-2
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria				Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Mobile Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 92	< 90	< 88	< 86	< 12,000 J	< 86	< 95	< 83	< 88	< 82	< 110	< 86
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 46	< 45	< 44	< 43	< 38 J	< 43	< 48	< 41	< 44	< 41	< 54	< 43
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 46	< 45	< 44	< 43	< 38 J	< 43	< 48	< 41	< 44	75	< 54	< 43
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 46	< 45	< 44	< 43	< 38 J	< 43	< 48	< 41	< 44	< 41	< 54	< 43
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 46	< 45	< 44	< 43	< 38 J	< 43	< 48	< 41	< 44	< 41	< 54	< 43
Trichloroethene	µg/kg	12	100	4,000	660,000	< 46	< 45	< 44	< 43	< 38 J	< 43	< 48	< 41	< 44	< 41	< 54	< 43
Vinyl chloride	µg/kg	24	40	260	34000	< 46	< 45	< 44	< 43	< 31 J	< 43	< 48	< 41	< 44	< 41	< 54	< 43

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
 - Outline** Value exceeds the Nonresidential Direct Contact (DC) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/kg Micrograms per kilogram
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					SB-133	SB-133	SB-133	SB-133	SB-133	SB-133	SB-134	SB-134	SB-134	SB-134	SB-134	SB-134	
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	SB-133_2-3_103118	SB-133_3-4_103118	SB-133_4-5_103118	SB-133_5-6_103118	SB-133_26-27_103118	SB-134_1-2_1101118	SB-134_2-3_1101118	SB-134_3-4_1101118	SB-134_4-5_1101118	SB-134_5-6_1101118	SB-134_23-24_1101118	
Sample Date:						10/31/2018	10/31/2018	10/31/2018	10/31/2018	10/31/2018	11/01/2018	11/01/2018	11/01/2018	11/01/2018	11/01/2018	11/01/2018	
Depth Interval:						2-3	3-4	4-5	5-6	26-27	1-2	2-3	3-4	4-5	5-6	23-24	
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria				Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Mobile Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)																	
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 85	< 85	< 90	< 93	< 13,000	< 99	< 88	< 91	< 84	< 83	< 90	< 100
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)																	
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 42	< 43	< 45	< 46	< 41	< 50	< 44	< 46	< 42	< 41	< 45	< 52
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 42	< 43	< 45	< 46	< 41	< 50	< 44	< 46	< 42	< 41	< 45	< 52
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 42	< 43	< 45	< 46	< 41	< 50	< 44	< 46	< 42	< 41	< 45	< 52
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 42	< 43	< 45	< 46	< 41	< 50	< 44	< 46	< 42	< 41	< 45	< 52
Trichloroethene	µg/kg	12	100	4,000	660,000	< 42	< 43	< 45	< 46	13 J	< 50	< 44	47	45	55	< 45	< 52
Vinyl chloride	µg/kg	24	40	260	34000	< 42	< 43	< 45	< 46	< 32	< 50	< 44	< 46	< 42	< 41	< 45	< 52

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
 - Outline** Value exceeds the Nonresidential Direct Contact (DC) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/kg Micrograms per kilogram
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:						SB-135	SB-135	SB-135	SB-135	SB-135	SB-135	SB-135
Sample Name:			Nonresidential Drinking Water Protection (DWP) Criteria	Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria	Nonresidential Direct Contact (DC) Criteria	SB-135_1-2_110218	SB-135_2-3_110218	SB-135_3-4_110218	SB-135_4-5_110218	SB-135_5-6_110218	SB-135_19.5-20.5_110218	SB-135_28-29_110218
Sample Date:						11/02/2018	11/02/2018	11/02/2018	11/02/2018	11/02/2018	11/02/2018	11/02/2018
Depth Interval:						1-2	2-3	3-4	4-5	5-6	19.5-20.5	28-29
Laboratory:	Unit	Nonresidential 12-hr VIAC Soil Criteria				Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab
Semi-volatile Organic Compounds (SVOCs via Methods 8260B or SIM)												
1,4-Dioxane	µg/kg	31,000	7,000	5,600	2,400,000	< 92	< 110	< 110	< 92	< 88	< 110	< 89
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)												
1,1-Dichloroethene	µg/kg	650	140	2600	660000	< 46	< 56	< 53	< 46	< 44	< 53	< 45
cis-1,2-Dichloroethene	µg/kg	110	1,400	12,000	8,000,000	< 46	< 56	< 53	< 46	< 44	< 53	< 45
Tetrachloroethene	µg/kg	220	100	1,200	930,000	< 46	89	< 53	< 46	< 44	< 53	< 45
trans-1,2-Dichloroethene	µg/kg	630	2,000	30,000	12,000,000	< 46	< 56	< 53	< 46	< 44	< 53	< 45
Trichloroethene	µg/kg	12	100	4,000	660,000	< 46	< 56	< 53	< 46	< 44	< 53	< 45
Vinyl chloride	µg/kg	24	40	260	34000	< 46	< 56	< 53	< 46	< 44	< 53	< 45

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water Protection (DWP) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface Protection (GSP) Criteria
 - Outline** Value exceeds the Nonresidential Direct Contact (DC) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/kg Micrograms per kilogram
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					HPT-180	HPT-180	HPT-180	HPT-181	HPT-181	HPT-181	HPT-182	HPT-182	HPT-182	HPT-183	HPT-183
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	HPT-180_6-10_102518	HPT-180_14-18_102518	HPT-180_20-24_102518	HPT-181_6-10_102618	HPT-181_11-15_102618	HPT-181_24-28_102618	HPT-182_5-9_102918	HPT-182_13-17_102918	HPT-182_22-26_102918	HPT-183_3-8_11012018	HPT-183_9-13_11012018
Date:					10/25/2018	10/25/2018	10/25/2018	10/26/2018	10/26/2018	10/26/2018	10/29/2018	10/29/2018	10/29/2018	11/01/2018	11/01/2018
Depth Interval:					6-10	14-18	20-24	6-10	11-15	24-28	5-9	13-17	22-26	3-8	9-13
Laboratory:	Unit				Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 40	< 2.0	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 1.0	< 1.0	140	170	< 1.0	74	2.8	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0	< 1.0	26	52	< 1.0	150	6.4	< 1.0	2	< 1.0
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	< 1.0	150	360	4.9	2,500	10	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 1.0	15	11	< 1.0	< 1.0	< 1.0	< 1.0	4.9	32

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					HPT-183	HPT-184	HPT-184	HPT-184	HPT-184	HPT-185	HPT-185	HPT-185	HPT-210	HPT-210	HPT-210
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	HPT-183_14-18_110118	HPT-184_6-10_102618	HPT-184_11-15_102618	HPT-184_11-15_102618_ML	HPT-184_16-20_102618	HPT-185_4-8_103018	HPT-185_14-18_103018	HPT-185_19-23_103018	HPT-210-3-7_040119	HPT-210-8-12_040119	HPT-210-13-17_040119
Date:					11/01/2018	10/26/2018	10/26/2018	10/26/2018	10/26/2018	10/30/2018	10/30/2018	10/30/2018	04/01/2019	04/01/2019	04/01/2019
Depth Interval:					14-18	6-10	11-15	11-15	16-20	4-8	14-18	19-23	3-7	8-12	13-17
Laboratory:	Unit				Pace Fixed Lab	Pace Fixed Lab	Test America	Pace Mobile Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 20 J	< 20	< 2.0 J
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	< 13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 140	< 1.0 J
cis-1,2-Dichloroethene	µg/L	2,400	70	620	1.1	19	47	36	180	< 1.0	< 1.0	< 1.0	48 J	230	7.1 J
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 140	< 1.0 J
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	17	34	32	160	< 1.0	< 1.0	< 1.0	58	260	1.8 J
Trichloroethene	µg/L	210	5.0	200	< 1.0	56	260	200	< 1.0	< 1.0	< 1.0	< 1.0	1,400	4,400	6.3 J
Vinyl chloride	µg/L	280	2.0	13	23	< 1.0	< 13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	11 J	< 140	< 1.0 J

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					HPT-211	HPT-211	HPT-211	HPT-212	HPT-212	HPT-212	HPT-213	HPT-213	HPT-213	HPT-213	HPT-214
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	HPT-211_2-6_040219	HPT-211_7-11_040219	HPT-211_13-17_040219	HPT-212_5-9_040219	HPT-212_10-14_040219	HPT-212_18-22_040219	HPT-213_5-9_040319	HPT-213_10-14_040319	HPT-213_15-19_040319	HPT-213_20-24_040319	HPT-214_5-9_040319
Date:					04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/02/2019	04/03/2019	04/03/2019	04/03/2019	04/03/2019	04/03/2019
Depth Interval:					2-6	7-11	13-17	5-9	10-14	18-22	5-9	10-14	15-19	20-24	5-9
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.7	< 14	< 1.0	< 1.0	< 10	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	9.4	63	14	9.9	35	110	< 1.0	< 1.0	< 1.0	< 1.0	17
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.7	< 14	< 1.0	< 1.0	< 10	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	0.77 J	4.6 J	1.8	0.98 J	3.2 J	0.96 J	< 1.0	< 1.0	< 1.0	< 1.0	3.2
Trichloroethene	µg/L	210	5.0	200	45	320	1.4	7.5	220	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	37
Vinyl chloride	µg/L	280	2.0	13	< 1.7	< 14	< 1.0	3.6	9.1 J	46	< 1.0	< 1.0	< 1.0	< 1.0	10

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
 Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
 Ford Livonia Transmission Plant
 36200 Plymouth Road
 Livonia, Michigan

Location:					HPT-214	HPT-214	HPT-215A	HPT-215A	HPT-215A	HPT-216	HPT-216	HPT-217	HPT-217	HPT-217	HPT-218
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	HPT-214_10-14_040319	HPT-214_16-20_040319	HPT-215A_4-8_040619	HPT-215A_9-13_040619	HPT-215A_14-18_040619	HPT-216_5-9_040619	HPT-216_18-22_040619	HPT-217_4-8_040719	HPT-217_9-13_040719	HPT-217_16-20_040719	HPT-218_5-9_040719
Date:					04/03/2019	04/03/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/06/2019	04/07/2019	04/07/2019	04/07/2019	04/07/2019
Depth Interval:					10-14	16-20	4-8	9-13	14-18	5-9	18-22	4-8	9-13	16-20	5-9
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0 J	< 2.0 J	< 2.0	< 2.0 J	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 5.0	< 10 J	< 6.7	< 17	< 14	< 20	< 1.0 J	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	32	200 J	46	180	320	37	< 1.0 J	< 1.0	< 1.0	< 1.0	28
Tetrachloroethene	µg/L	3,300	5.0	60	< 5.0	< 10 J	< 6.7	< 17	< 14	< 20	< 1.0 J	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	4.1 J	17 J	3.9 J	14 J	3.0 J	26	< 1.0 J	< 1.0	< 1.0	< 1.0	3.9
Trichloroethene	µg/L	210	5.0	200	120	< 10 J	140	410	1.4 J	450	< 1.0 J	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/L	280	2.0	13	< 5.0	< 10 J	18	48	330	< 20	< 1.0 J	< 1.0	< 1.0	< 1.0	< 1.0

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					HPT-218	HPT-218	HPT-219	HPT-219	HPT-219	HPT-220	HPT-220	HPT-220	HPT-221	HPT-221	HPT-221
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	HPT-218_10-14_040719	HPT-218_15-19_040719	HPT-219_4.5-8.5_040919	HPT-219_9-13_040919	HPT-219_15-19_040919	HPT-220_5-9_041019	HPT-220_10-14_041019	HPT-220_15-19_041019	HPT-221_5-9_041019	HPT-221_10-14_041019	HPT-221_15-19_041019
Date:					04/07/2019	04/07/2019	04/09/2019	04/09/2019	04/09/2019	04/10/2019	04/10/2019	04/10/2019	04/10/2019	04/10/2019	04/10/2019
Depth Interval:					10-14	15-19	4.5-8.5	9-13	15-19	5-9	10-14	15-19	5-9	10-14	15-19
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	0.93 J	< 20	< 20	0.89 J	< 2.0 J	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0 J
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	< 33	< 67	< 1.0	< 67	< 100 J	< 6.7	< 10 J	< 14	< 1.0 J
cis-1,2-Dichloroethene	µg/L	2,400	70	620	1.6	< 1.0	16 J	110	1.8	33 J	150 J	140	220 J	13 J	6.5 J
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 33	< 67	< 1.0	< 67	< 100 J	< 6.7	< 10 J	< 14	< 1.0 J
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	0.19 J	31 J	210	3.4	41 J	300 J	85	3.4 J	13 J	7.7 J
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	730	2,000	< 1.0 UB	1,900 J	2,200 J	120	91 J	300	14 J
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 33	< 67	0.20 J	< 67	< 100 J	< 6.7	< 10 J	< 14	< 1.0 J

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					HPT-222	HPT-222	HPT-222	HPT-223	HPT-223	HPT-223	HPT-223	HPT-224A	HPT-224A	HPT-224A	HPT-224A
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	HPT-222_5-9_041019	HPT-222_10-14_041019	HPT-222_16-20_041019	HPT-223_5-9_041119	HPT-223_10-14_041119	HPT-223_15-19_041119	HPT-223_20-24_041119	HPT-224A_6-10_041219	HPT-224A_11-15_041219	HPT-224A_16-20_041219	HPT-224A_21-25_041219
Date:					04/10/2019	04/10/2019	04/10/2019	04/11/2019	04/11/2019	04/11/2019	04/11/2019	04/12/2019	04/12/2019	04/12/2019	04/12/2019
Depth Interval:					5-9	10-14	16-20	5-9	10-14	15-19	20-24	6-10	11-15	16-20	21-25
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0 J	< 2.0	< 2.0 J	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 2.0	< 10	< 1.0	< 3.3	< 6.7	< 10 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	0.61 J	2.5 J	3.1	6.5	10	270 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	< 2.0	< 10	< 1.0	< 3.3	< 6.7	< 10 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	0.40 J	3.4 J	3.5	1.5 J	10	120 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	54	270	14	82	130	42 J	0.37 J	< 1.0	< 1.0	0.32 J	< 1.0
Vinyl chloride	µg/L	280	2.0	13	< 2.0	< 10	< 1.0	< 3.3	< 6.7	< 10 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					LIFHP-129	LIFHP-129	LIFHP-129	LIFHP-130	LIFHP-130	LIFHP-130	LIFHP-131	LIFHP-131	LIFHP-131	LIFHP-132	LIFHP-132
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	LIFHP-129_5-9_041419	LIFHP-129_10-14_041419	LIFHP-129_15-19_041419	LIFHP-130_6-10_041419	LIFHP-130_11-15_041419	LIFHP-130_16-20_041419	LIFHP-131_6-10_041419	LIFHP-131_11-15_041419	LIFHP-131_16-20_041419	LIFHP-132_7-11_041419	LIFHP-132_12-16_041419
Date:					04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019	04/14/2019
Depth Interval:					5-9	10-14	15-19	6-10	11-15	16-20	6-10	11-15	16-20	7-11	12-16
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	0.93 J	< 2.0	< 2.0 J	0.97 J	< 2.0	< 2.0 J	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 13	< 25	< 5.0	< 1.0	< 1.0	< 1.0 J	< 2.5	< 2.5	< 1.0 J	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	94	120	< 5.0	< 1.0	< 1.0	< 1.0 J	37	34	< 1.0 J	1.5	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	< 13	< 25	< 5.0	< 1.0	< 1.0	< 1.0 J	< 2.5	< 2.5	< 1.0 J	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 13	< 25	< 5.0	< 1.0	< 1.0	< 1.0 J	< 2.5	< 2.5	< 1.0 J	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	< 13	< 25	< 5.0	< 1.0	< 1.0	< 1.0 J	< 2.5	< 2.5	< 1.0 J	< 1.0	< 1.0
Vinyl chloride	µg/L	280	2.0	13	320	610	110	0.55 J	1.4	1.5 J	63	79	0.83 J	< 1.0	< 1.0

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					LIFHP-132	LIFHP-133	LIFHP-133	LIFHP-134	LIFHP-134	LIFHP-134	LIFHP-135	LIFHP-135	LIFHP-136	LIFHP-136	LIFHP-136
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	LIFHP-132_17-21_041419	LIFHP-133_10-14_011920	LIFHP-133_15-19_011920	LIFHP-134_8-12_012620	LIFHP-134_13-17_012620	LIFHP-134_18-22_012620	LIFHP-135_11-15_012620	LIFHP-135_16-20_012620	LIFHP-136_11-15_012620	LIFHP-136_16-20_012620	LIFHP-136_21-25_012620
Date:					04/14/2019	01/19/2020	01/19/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020	01/26/2020
Depth Interval:					17-21	10-14	15-19	8-12	13-17	18-22	11-15	16-20	11-15	16-20	21-25
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	0.87 J	< 2.0	< 2.0	0.94 J	6.3	< 2.0 J	1.1 J	< 2.0 J	1.8 J	1.1 J	1.3 J
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J	< 1.0	< 1.0 J	< 1.0 J	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	0.37 J	1.1	< 1.0	< 1.0	< 1.0 J	< 1.0	< 1.0 J	0.66 J	< 1.0	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J	< 1.0	< 1.0 J	< 1.0 J	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J	< 1.0	< 1.0 J	< 1.0 J	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 J	< 1.0	< 1.0 J	< 1.0 J	< 1.0	< 1.0
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 1.0	9.5	< 1.0	< 1.0 J	< 1.0	< 1.0 J	0.30 J	< 1.0	< 1.0

Notes:
Bold Value was detected above the laboratory reporting limit
Shaded Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
Italics Value exceeds the Nonresidential Drinking Water (DW) Criteria
Red text Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 J Estimated result. Less than reporting limit or matrix interference.
 NA Not Analyzed
 µg/L Micrograms per liter
 < Result less than reporting limit as shown
 UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					LIFHP-137	LIFHP-137	LIFHP-137	SB-131	SB-131	SB-131	SB-132	SB-132	SB-132	SB-133	SB-133
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	LIFHP-137_8-12_012620	LIFHP-137_13-17_012620	LIFHP-137_21-25_012620	SB-131_5-9_103018	SB-131_5-9_103018_ML	SB-131_14-18_103018	SB-132_5-9_103118	SB-132_13-17_103118	SB-132_22-26_103118	SB-133_6-10_103118	SB-133_11-15_103118
Date:					01/26/2020	01/26/2020	01/26/2020	10/30/2018	10/30/2018	10/30/2018	10/31/2018	10/31/2018	10/31/2018	10/31/2018	10/31/2018
Depth Interval:					8-12	13-17	21-25	5-9	5-9	14-18	5-9	13-17	22-26	6-10	11-15
Laboratory:	Unit				Test America	Test America	Test America	Test America	Pace Mobile Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	1.3 J	< 2.0	< 2.0 J	1.7 J	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0 J	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	13 J	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0	40	160	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0 J	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	1.1 J	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0	9.9	94	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	0.28 J	< 1.0	< 1.0 J	0.20 J	< 1.0	< 1.0	43	510	< 1.0	1.2	< 1.0
Vinyl chloride	µg/L	280	2.0	13	6.6 J	< 1.0	< 1.0 J	< 1.0	< 1.0	< 1.0	47	< 1.0	< 1.0	< 1.0	< 1.0

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					SB-133	SB-134	SB-134	SB-134	SB-135	SB-135	SB-135	SB-135	VAP-38	VAP-38	VAP-38
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	SB-133 16-20_103118	SB-134 6-10_110118	SB-134 11-15_110118	SB-134 24-28_110118	SB-135 1-5_110218	SB-135 6-10_110218	SB-135 11-15_110218	SB-135 16-20_110218	VAP-38 5-9_121019	VAP-38 11-15_121019	VAP-38 16-20_121019
Date:					10/31/2018	11/01/2018	11/01/2018	11/01/2018	11/02/2018	11/02/2018	11/02/2018	11/02/2018	12/10/2019	12/10/2019	12/10/2019
Depth Interval:					16-20	6-10	11-15	24-28	1-5	6-10	11-15	16-20	5-9	11-15	16-20
Laboratory:	Unit				Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Pace Fixed Lab	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	NA	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	3.8	31	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	2.4	57	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	< 1.0	47	270	1.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					VAP-39	VAP-39	VAP-39	VAP-39	VAP-40	VAP-40	VAP-40	VAP-41	VAP-41	VAP-41	VAP-41
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	VAP-39_4.5-8.5_121019	VAP-39_9-13_121019	VAP-39_14-18_121019	VAP-39_18.5-22.5_121019	VAP-40_5-9_121019	VAP-40_11-15_121019	VAP-40_16-20_121019	VAP-41_5-9_121219	VAP-41_9.5-13.5_121219	VAP-41_14-18_121219	VAP-41_19-23_121219
Date:					12/10/2019	12/10/2019	12/10/2019	12/10/2019	12/10/2019	12/10/2019	12/10/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019
Depth Interval:					4.5-8.5	9-13	14-18	18.5-22.5	5-9	11-15	16-20	5-9	9.5-13.5	14-18	19-23
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	3.0	18	< 1.0	9.2	210	190	16	0.65 J	19	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	6.8	28	< 1.0	17	360	330	3.7	0.45 J	17	< 1.0
Trichloroethene	µg/L	210	5.0	200	6.9	240	780	< 1.0	180	620	310	89	88	35	< 1.0
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 2.0	< 1.0	< 1.0	0.77 J	2	0.54 J	< 1.0	0.39 J	< 1.0

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					VAP-42	VAP-42	VAP-42	VAP-42	VAP-43	VAP-43	VAP-43	VAP-43	VAP-44	VAP-44	VAP-44
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	VAP-42_5-9_121219	VAP-42_10-14_121219	VAP-42_15-19_121219	VAP-42_20-24_121219	VAP-43_5-9_121219	VAP-43_9.5-13.5_121219	VAP-43_14-18_121219	VAP-43_19-23_121219	VAP-44_5-9_121219	VAP-44_10-14_121219	VAP-44_15-19_121219
Date:					12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019
Depth Interval:					5-9	10-14	15-19	20-24	5-9	9.5-13.5	14-18	19-23	5-9	10-14	15-19
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.6	26	0.31 J	< 1.0	0.74 J	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.2	27	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	22	280	310	< 1.0	4.7	64	< 1.0
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.37 J	< 1.0	< 1.0	< 1.0	< 1.0

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 2
Northwest Area Vertical Aquifer Profile Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					VAP-44	VAP-45	VAP-45	VAP-45	VAP-45	VAP-46	VAP-46	VAP-46	VAP-46	VAP-47	VAP-47
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	VAP-44_20-24_121219	VAP-45_5-9_121219	VAP-45_10-14_121219	VAP-45_15-19_121219	VAP-45_20-24_121219	VAP-46_5-9_121119	VAP-46_10-14_121119	VAP-46_15-19_121119	VAP-46_20-24_121119	VAP-47_5-9_121119	VAP-47_10-14_121119
Date:					12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/11/2019	12/11/2019	12/11/2019	12/11/2019	12/11/2019	12/11/2019
Depth Interval:					20-24	5-9	10-14	15-19	20-24	5-9	10-14	15-19	20-24	5-9	10-14
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)															
1,4-Dioxane	µg/L	1,200,000	350	280	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260)															
1,1-Dichloroethene	µg/L	8,600	7.0	130	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 1.0	0.49 J	14	< 1.0	< 1.0	5.9	62	10	< 1.0	0.27 J
Tetrachloroethene	µg/L	3,300	5.0	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0	0.49 J	16	< 1.0	0.49 J	8.2	120	21	< 1.0	0.26 J
Trichloroethene	µg/L	210	5.0	200	< 1.0	3.4	29	500	0.70 J	23 J	690	1,900	4.5	2	32
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 1.0	0.39 J	< 1.0	< 1.0	< 2.0	< 5.0	0.56 J	< 1.0	< 1.0

- Notes:**
- Bold** Value was detected above the laboratory reporting limit
 - Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
 - Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
 - Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
 - J Estimated result. Less than reporting limit or matrix interference.
 - NA Not Analyzed
 - µg/L Micrograms per liter
 - < Result less than reporting limit as shown
 - UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Location:					VAP-47	VAP-47
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	VAP-47_15-19_121119	VAP-47_20-24_121119
Date:					12/11/2019	12/11/2019
Depth Interval:					15-19	20-24
Laboratory:	Unit				Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)						
1,4-Dioxane	µg/L	1,200,000	350	280	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260)						
1,1-Dichloroethene	µg/L	8,600	7.0	130	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	2.4	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	1.8	< 1.0
Trichloroethene	µg/L	210	5.0	200	6.6	0.39 J
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result. Less than reporting limit or matrix interference.
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-15-59D	MW-15-59D	MW-15-59D	MW-15-59D	MW-15-59D
Sample Name:		Nonresidential 12-	Nonresidential	Nonresidential	MW-15-59D-	MW-15-	MW-15-59D-	MW-15-	MW-15-
Date:		hr Groundwater in	Drinking Water	Groundwater	020618	59D_051518	080918	59D_103118	59D_030519
Depth Interval:		Contact (GWIC)	(DW) Criteria	Surface Water	02/06/2018	05/15/2018	08/09/2018	10/31/2018	03/05/2019
Laboratory:	Unit	Criteria	Criteria	Interface (GSI)	94-99	94-99	94-99	94-99	94-99
				Criteria	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 UB
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-15-59D	MW-15-59D	MW-15-59D	MW-15-59D	MW-124
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	MW-15-59D_061319	MW-15-59D_092719	MW-15-59D_112219	MW-15-59D_022120	MW-124_042319
Date:					06/13/2019	09/27/2019	11/22/2019	02/21/2020	04/23/2019
Depth Interval:					94-99	94-99	94-99	94-99	5-10
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 1.0	< 1.0	< 1.0	1.7
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	0.19 J
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 1.0	< 1.0	0.32 J

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-124	MW-124	MW-124	MW-124	MW-194
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	MW-124_061319	MW-124_093019	MW-124_111519	MW-124_022020	MW-194_112019
Date:					06/13/2019	09/30/2019	11/15/2019	02/20/2020	11/20/2019
Depth Interval:					5-10	5-10	5-10	5-10	12-17
Laboratory:	Unit	Criteria	Criteria	Criteria	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	< 2.0	1.5 J
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	1.8	2.1	2.3	1.8	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	0.26 J	0.24 J	0.27 J	0.20 J	< 1.0
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/L	280	2.0	13	0.40 J	< 1.0	0.19 J	0.27 J	< 1.0

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-194	MW-194S	MW-194S	MW-195S	MW-195S
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	MW-194_021020	MW-194S_112019	MW-194S_021020	MW-195S_112019	MW-195S_021020
Date:					02/10/2020	11/20/2019	02/10/2020	11/20/2019	02/10/2020
Depth Interval:					12-17	2-7	2-7	2-7	2-7
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	1.7 J	< 2.0	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	< 1.0	< 10	< 100
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 1.0	< 1.0	120	82 J
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 1.0	< 10	< 100
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0	< 1.0	150	100
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	< 1.0	3,400	2,300
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 1.0	16	< 100

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-196	MW-196	MW-196S	MW-196S	MW-197S
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	MW-196_112019	MW-196_021120	MW-196S_112019	MW-196S_021120	MW-197S_112519
Date:					11/20/2019	02/11/2020	11/20/2019	02/11/2020	11/25/2019
Depth Interval:					12-17	12-17	2-7	2-7	3-8
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	0.73 J	< 25	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	210	250	68	51	10
Tetrachloroethene	µg/L	3,300	5.0	60	< 2.0	< 25	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	55	65	1.7	1.3	0.43 J
Trichloroethene	µg/L	210	5.0	200	490	520	78	39	14
Vinyl chloride	µg/L	280	2.0	13	< 2.0	< 25	< 1.0	< 1.0	2.1

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-197S	MW-198	MW-198	MW-198S	MW-198S
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	MW-197S_021120 02/11/2020 3-8 Test America	MW-198_112519 11/25/2019 12-17 Test America	MW-198_021220 02/12/2020 12-17 Test America	MW-198S_112019 11/20/2019 2.5-7.5 Test America	MW-198S_021220 02/12/2020 2.5-7.5 Test America
Date:	Unit								
Depth Interval:									
Laboratory:									
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	0.23 J	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	2,400	70	620	14	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	0.89 J	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	31	< 1.0	< 1.0	0.43 J	0.27 J
Vinyl chloride	µg/L	280	2.0	13	2.2	< 1.0	< 1.0	< 1.0	< 1.0

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-199S	MW-199S	MW-202	MW-202	MW-202S
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	MW-199S_112519	MW-199S_021220	MW-202_123019	MW-202_020620	MW-202S_123019
Date:					11/25/2019	02/12/2020	12/30/2019	02/06/2020	12/30/2019
Depth Interval:					2-7	2-7	12-17	12-17	3.5-8.5
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	2.6	2.9	NA	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	< 1.0	< 1.0	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 UB
Tetrachloroethene	µg/L	3,300	5.0	60	< 1.0	< 1.0	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/L	280	2.0	13	0.33 J	0.32 J	< 1.0	< 1.0	< 1.0

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-202S	MW-203	MW-203	MW-203S	MW-203S
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	MW-202S_020620	MW-203_122719	MW-203_020720	MW-203S_122719	MW-203S_020720
Date:					02/06/2020	12/27/2019	02/07/2020	12/27/2019	02/07/2020
Depth Interval:					3.5-8.5	13-18	13-18	3-8	3-8
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	NA	NA	NA	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 40 UB	< 40	< 1.7 UB	1.0 J
Tetrachloroethene	µg/L	3,300	5.0	60	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	29 J	21 J	1.0 J	2.3
Trichloroethene	µg/L	210	5.0	200	< 1.0	670	670	43	44
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 40	< 40	< 1.7	< 1.7

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-204	MW-204	MW-204S	MW-204S	MW-205
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	MW-204_010320	MW-204_020720	MW-204S_122719	MW-204S_020720	MW-205_010320
Date:					01/03/2020	02/07/2020	12/27/2019	02/07/2020	01/03/2020
Depth Interval:					12-17	12-17	4-9	4-9	12-17
Laboratory:	Unit				Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	NA	NA	NA	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 2.5 UB	< 2.5	17	7.5	< 1.0
Tetrachloroethene	µg/L	3,300	5.0	60	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	1.7 J	< 2.5	1.8	0.70 J	< 1.0
Trichloroethene	µg/L	210	5.0	200	61	67	37	21	< 1.0
Vinyl chloride	µg/L	280	2.0	13	< 2.5	< 2.5	< 1.7	< 1.7	< 1.0

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-205	MW-205S	MW-205S	MW-206	MW-206
Sample Name:		Nonresidential 12-	Nonresidential	Nonresidential	MW-205_020720	MW-205S_123019	MW-205S_020720	MW-206_010320	MW-206_020620
Date:		hr Groundwater in	Drinking Water	Groundwater	02/07/2020	12/30/2019	02/07/2020	01/03/2020	02/06/2020
Depth Interval:		Contact (GWIC)	(DW) Criteria	Surface Water	12-17	4.5-9.5	4.5-9.5	14-19	14-19
Laboratory:	Unit	Criteria	Criteria	Interface (GSI)	Test America	Test America	Test America	Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)									
1,4-Dioxane	µg/L	1,200,000	350	280	NA	NA	NA	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)									
1,1-Dichloroethene	µg/L	8,600	7.0	130	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 1.0	< 1.0	< 67 UB	< 67 UB
Tetrachloroethene	µg/L	3,300	5.0	60	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0	< 1.0	97	71
Trichloroethene	µg/L	210	5.0	200	< 1.0	< 1.0	< 1.0	1,200	950
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0	< 1.0	< 67	< 67

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

Table 3
Northwest Area Monitoring Well Groundwater Analytical Results Summary
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location:					MW-206S	MW-206S
Sample Name:		Nonresidential 12-hr Groundwater in Contact (GWIC) Criteria	Nonresidential Drinking Water (DW) Criteria	Nonresidential Groundwater Surface Water Interface (GSI) Criteria	MW-206S_010320	MW-206S_020620
Date:					01/03/2020	02/06/2020
Depth Interval:					4.5-9.5	4.5-9.5
Laboratory:	Unit				Test America	Test America
Semi-volatile Organic Compounds (SVOCs via Methods 8260 SIM)						
1,4-Dioxane	µg/L	1,200,000	350	280	NA	NA
Volatile Organic Compounds (VOCs via Methods 8260 or 8265)						
1,1-Dichloroethene	µg/L	8,600	7.0	130	NA	NA
cis-1,2-Dichloroethene	µg/L	2,400	70	620	< 1.0	< 1.0 UB
Tetrachloroethene	µg/L	3,300	5.0	60	NA	NA
trans-1,2-Dichloroethene	µg/L	10,000	100	1,500	< 1.0	< 1.0
Trichloroethene	µg/L	210	5.0	200	0.71 J	< 1.0 UB
Vinyl chloride	µg/L	280	2.0	13	< 1.0	< 1.0

Notes:

- Bold** Value was detected above the laboratory reporting limit
- Shaded** Value exceeds the Nonresidential Volatilization to Indoor Air (12-hr) Groundwater in Contact (GWIC) Criteria
- Italics** Value exceeds the Nonresidential Drinking Water (DW) Criteria
- Red text** Value exceeds the Nonresidential Groundwater Surface Water Interface (GSI) Criteria
- J Estimated result, less than reporting limit
- NA Not Analyzed
- µg/L Micrograms per liter
- < Result less than reporting limit as shown
- UB Compound detected in the laboratory method blank. Result was determined to be non-detect.

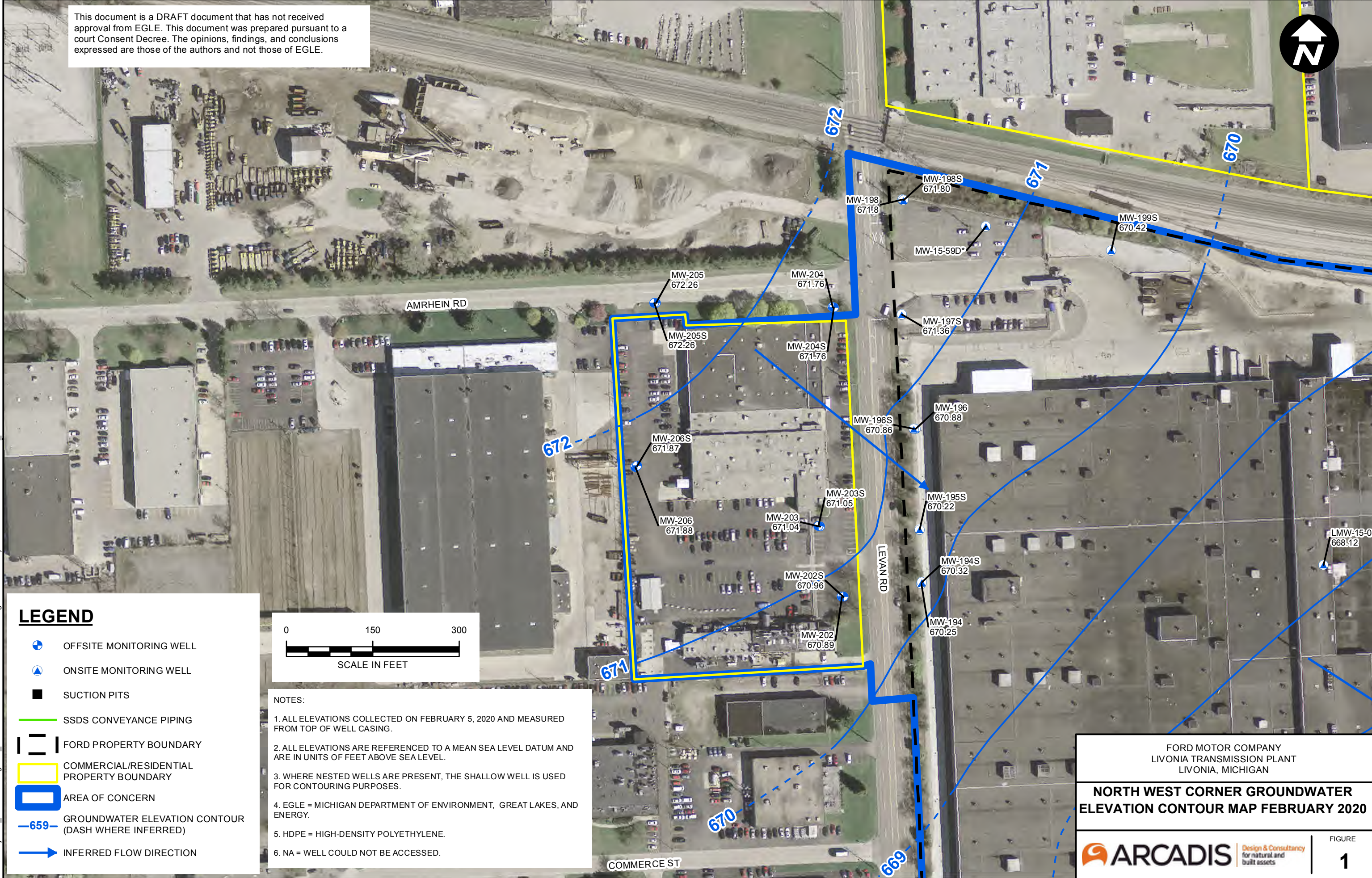
FIGURES



This document is a DRAFT document that has not received approval from EGLE. This document was prepared pursuant to a court Consent Decree. The opinions, findings, and conclusions expressed are those of the authors and not those of EGLE.

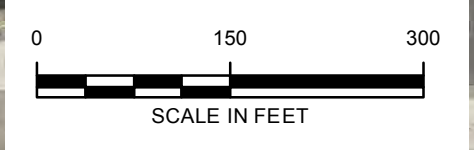


CITY: Novi DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY PROJECT NUMBER: 30016352.0004 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Z:\GISProjects\ENV\Novi\Brighton_Mi\FordLivonia\GISdocs\2020-04\Figure 2 - Site Layout On-site and Off-site GWE_NWcorner.mxd PLOTTED: 4/28/2020 12:40:04 PM BY: ms.miller



LEGEND

- OFFSITE MONITORING WELL
- ONSITE MONITORING WELL
- SUCTION PITS
- SSDS CONVEYANCE PIPING
- FORD PROPERTY BOUNDARY
- COMMERCIAL/RESIDENTIAL PROPERTY BOUNDARY
- AREA OF CONCERN
- GROUNDWATER ELEVATION CONTOUR (DASH WHERE INFERRED)
- INFERRED FLOW DIRECTION



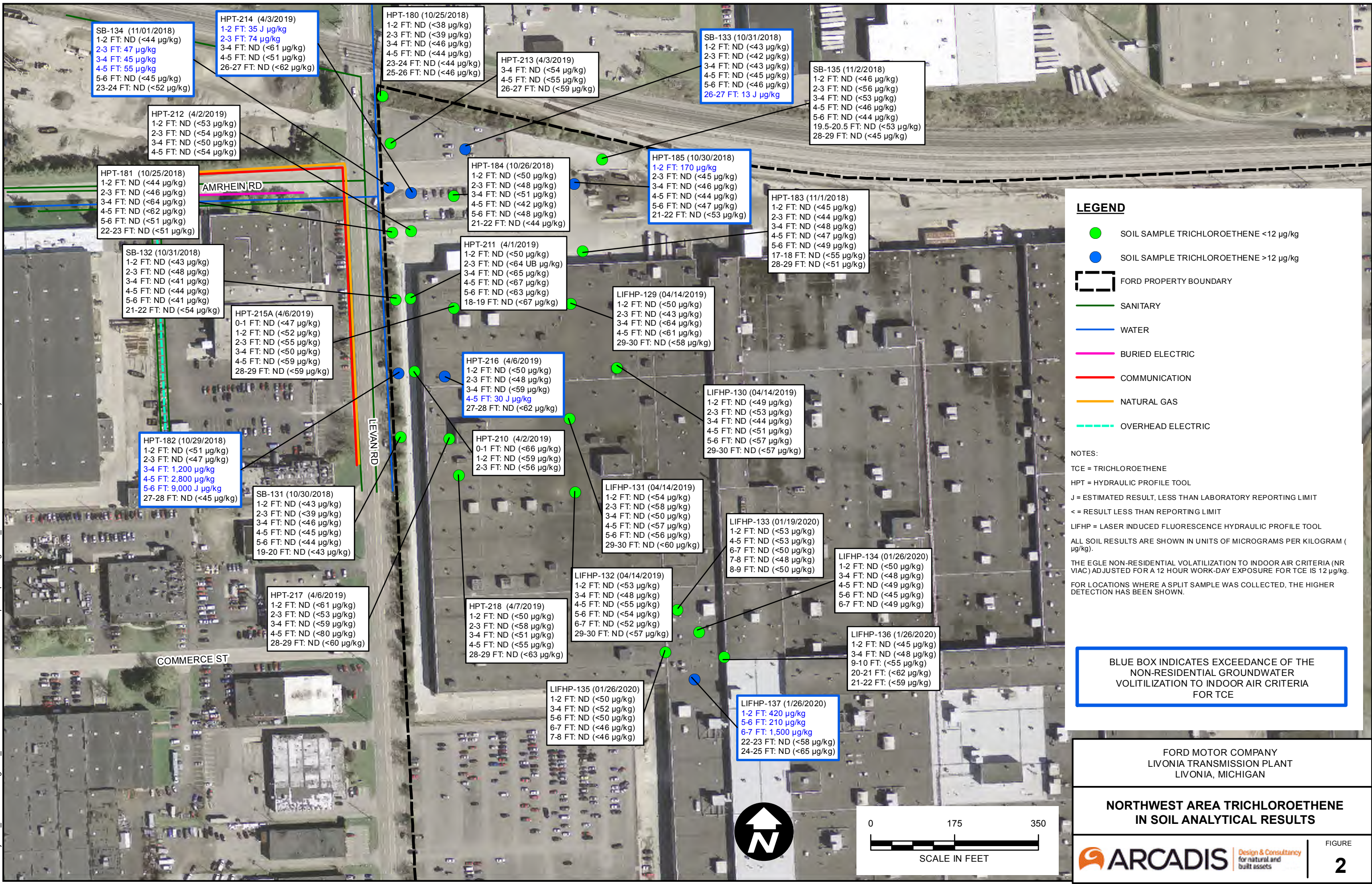
- NOTES:
1. ALL ELEVATIONS COLLECTED ON FEBRUARY 5, 2020 AND MEASURED FROM TOP OF WELL CASING.
 2. ALL ELEVATIONS ARE REFERENCED TO A MEAN SEA LEVEL DATUM AND ARE IN UNITS OF FEET ABOVE SEA LEVEL.
 3. WHERE NESTED WELLS ARE PRESENT, THE SHALLOW WELL IS USED FOR CONTOURING PURPOSES.
 4. EGLE = MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY.
 5. HDPE = HIGH-DENSITY POLYETHYLENE.
 6. NA = WELL COULD NOT BE ACCESSED.

FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

**NORTH WEST CORNER GROUNDWATER
ELEVATION CONTOUR MAP FEBRUARY 2020**

Design & Consultancy
for natural and
built assets

FIGURE
1



SB-134 (11/01/2018)
 1-2 FT: ND (<44 µg/kg)
 2-3 FT: 47 µg/kg
 3-4 FT: 45 µg/kg
 4-5 FT: 55 µg/kg
 5-6 FT: ND (<45 µg/kg)
 23-24 FT: ND (<52 µg/kg)

HPT-214 (4/3/2019)
 1-2 FT: 35 J µg/kg
 2-3 FT: 74 µg/kg
 3-4 FT: ND (<61 µg/kg)
 4-5 FT: ND (<51 µg/kg)
 26-27 FT: ND (<62 µg/kg)

HPT-180 (10/25/2018)
 1-2 FT: ND (<38 µg/kg)
 2-3 FT: ND (<39 µg/kg)
 3-4 FT: ND (<46 µg/kg)
 4-5 FT: ND (<44 µg/kg)
 23-24 FT: ND (<44 µg/kg)
 25-26 FT: ND (<46 µg/kg)

HPT-213 (4/3/2019)
 3-4 FT: ND (<54 µg/kg)
 4-5 FT: ND (<55 µg/kg)
 26-27 FT: ND (<59 µg/kg)

SB-133 (10/31/2018)
 1-2 FT: ND (<43 µg/kg)
 2-3 FT: ND (<42 µg/kg)
 3-4 FT: ND (<43 µg/kg)
 4-5 FT: ND (<45 µg/kg)
 5-6 FT: ND (<46 µg/kg)
 26-27 FT: 13 J µg/kg

SB-135 (11/2/2018)
 1-2 FT: ND (<46 µg/kg)
 2-3 FT: ND (<56 µg/kg)
 3-4 FT: ND (<53 µg/kg)
 4-5 FT: ND (<46 µg/kg)
 5-6 FT: ND (<44 µg/kg)
 19.5-20.5 FT: ND (<53 µg/kg)
 28-29 FT: ND (<45 µg/kg)

HPT-212 (4/2/2019)
 1-2 FT: ND (<53 µg/kg)
 2-3 FT: ND (<54 µg/kg)
 3-4 FT: ND (<50 µg/kg)
 4-5 FT: ND (<54 µg/kg)

HPT-181 (10/25/2018)
 1-2 FT: ND (<44 µg/kg)
 2-3 FT: ND (<46 µg/kg)
 3-4 FT: ND (<64 µg/kg)
 4-5 FT: ND (<62 µg/kg)
 5-6 FT: ND (<51 µg/kg)
 22-23 FT: ND (<51 µg/kg)

HPT-184 (10/26/2018)
 1-2 FT: ND (<50 µg/kg)
 2-3 FT: ND (<48 µg/kg)
 3-4 FT: ND (<51 µg/kg)
 4-5 FT: ND (<42 µg/kg)
 5-6 FT: ND (<48 µg/kg)
 21-22 FT: ND (<44 µg/kg)

HPT-185 (10/30/2018)
 1-2 FT: 170 µg/kg
 2-3 FT: ND (<45 µg/kg)
 3-4 FT: ND (<46 µg/kg)
 4-5 FT: ND (<44 µg/kg)
 5-6 FT: ND (<47 µg/kg)
 21-22 FT: ND (<53 µg/kg)

HPT-183 (11/1/2018)
 1-2 FT: ND (<45 µg/kg)
 2-3 FT: ND (<44 µg/kg)
 3-4 FT: ND (<48 µg/kg)
 4-5 FT: ND (<47 µg/kg)
 5-6 FT: ND (<49 µg/kg)
 17-18 FT: ND (<55 µg/kg)
 28-29 FT: ND (<51 µg/kg)

SB-132 (10/31/2018)
 1-2 FT: ND (<43 µg/kg)
 2-3 FT: ND (<48 µg/kg)
 3-4 FT: ND (<41 µg/kg)
 4-5 FT: ND (<44 µg/kg)
 5-6 FT: ND (<41 µg/kg)
 21-22 FT: ND (<54 µg/kg)

HPT-215A (4/6/2019)
 0-1 FT: ND (<47 µg/kg)
 1-2 FT: ND (<52 µg/kg)
 2-3 FT: ND (<55 µg/kg)
 3-4 FT: ND (<50 µg/kg)
 4-5 FT: ND (<59 µg/kg)
 28-29 FT: ND (<59 µg/kg)

HPT-211 (4/1/2019)
 1-2 FT: ND (<50 µg/kg)
 2-3 FT: ND (<64 UB µg/kg)
 3-4 FT: ND (<65 µg/kg)
 4-5 FT: ND (<67 µg/kg)
 5-6 FT: ND (<63 µg/kg)
 18-19 FT: ND (<67 µg/kg)

LIFHP-129 (04/14/2019)
 1-2 FT: ND (<50 µg/kg)
 2-3 FT: ND (<43 µg/kg)
 3-4 FT: ND (<64 µg/kg)
 4-5 FT: ND (<61 µg/kg)
 29-30 FT: ND (<58 µg/kg)

HPT-216 (4/6/2019)
 1-2 FT: ND (<50 µg/kg)
 2-3 FT: ND (<48 µg/kg)
 3-4 FT: ND (<59 µg/kg)
 4-5 FT: 30 J µg/kg
 27-28 FT: ND (<62 µg/kg)

LIFHP-130 (04/14/2019)
 1-2 FT: ND (<49 µg/kg)
 2-3 FT: ND (<53 µg/kg)
 3-4 FT: ND (<44 µg/kg)
 4-5 FT: ND (<51 µg/kg)
 5-6 FT: ND (<57 µg/kg)
 29-30 FT: ND (<57 µg/kg)

HPT-182 (10/29/2018)
 1-2 FT: ND (<51 µg/kg)
 2-3 FT: ND (<47 µg/kg)
 3-4 FT: 1,200 µg/kg
 4-5 FT: 2,800 µg/kg
 5-6 FT: 9,000 J µg/kg
 27-28 FT: ND (<45 µg/kg)

SB-131 (10/30/2018)
 1-2 FT: ND (<43 µg/kg)
 2-3 FT: ND (<39 µg/kg)
 3-4 FT: ND (<46 µg/kg)
 4-5 FT: ND (<45 µg/kg)
 5-6 FT: ND (<44 µg/kg)
 19-20 FT: ND (<43 µg/kg)

HPT-210 (4/2/2019)
 0-1 FT: ND (<66 µg/kg)
 1-2 FT: ND (<59 µg/kg)
 2-3 FT: ND (<56 µg/kg)

LIFHP-131 (04/14/2019)
 1-2 FT: ND (<54 µg/kg)
 2-3 FT: ND (<58 µg/kg)
 3-4 FT: ND (<50 µg/kg)
 4-5 FT: ND (<57 µg/kg)
 5-6 FT: ND (<56 µg/kg)
 29-30 FT: ND (<60 µg/kg)

LIFHP-133 (01/19/2020)
 1-2 FT: ND (<53 µg/kg)
 4-5 FT: ND (<53 µg/kg)
 6-7 FT: ND (<50 µg/kg)
 7-8 FT: ND (<48 µg/kg)
 8-9 FT: ND (<50 µg/kg)

LIFHP-134 (01/26/2020)
 1-2 FT: ND (<50 µg/kg)
 3-4 FT: ND (<48 µg/kg)
 4-5 FT: ND (<49 µg/kg)
 5-6 FT: ND (<45 µg/kg)
 6-7 FT: ND (<49 µg/kg)

HPT-217 (4/6/2019)
 1-2 FT: ND (<61 µg/kg)
 2-3 FT: ND (<53 µg/kg)
 3-4 FT: ND (<59 µg/kg)
 4-5 FT: ND (<80 µg/kg)
 28-29 FT: ND (<60 µg/kg)

HPT-218 (4/7/2019)
 1-2 FT: ND (<50 µg/kg)
 2-3 FT: ND (<58 µg/kg)
 3-4 FT: ND (<51 µg/kg)
 4-5 FT: ND (<55 µg/kg)
 28-29 FT: ND (<63 µg/kg)

LIFHP-132 (04/14/2019)
 1-2 FT: ND (<53 µg/kg)
 3-4 FT: ND (<48 µg/kg)
 4-5 FT: ND (<55 µg/kg)
 5-6 FT: ND (<54 µg/kg)
 6-7 FT: ND (<52 µg/kg)
 29-30 FT: ND (<57 µg/kg)

LIFHP-136 (1/26/2020)
 1-2 FT: ND (<45 µg/kg)
 3-4 FT: ND (<48 µg/kg)
 9-10 FT: (<55 µg/kg)
 20-21 FT: (<62 µg/kg)
 21-22 FT: (<59 µg/kg)

LIFHP-135 (01/26/2020)
 1-2 FT: ND (<50 µg/kg)
 3-4 FT: ND (<52 µg/kg)
 5-6 FT: ND (<50 µg/kg)
 6-7 FT: ND (<46 µg/kg)
 7-8 FT: ND (<46 µg/kg)

LIFHP-137 (1/26/2020)
 1-2 FT: 420 µg/kg
 5-6 FT: 210 µg/kg
 6-7 FT: 1,500 µg/kg
 22-23 FT: ND (<58 µg/kg)
 24-25 FT: ND (<65 µg/kg)

LEGEND

- SOIL SAMPLE TRICHLOROETHENE <12 µg/kg
- SOIL SAMPLE TRICHLOROETHENE >12 µg/kg
- ▭ FORD PROPERTY BOUNDARY
- SANITARY
- WATER
- BURIED ELECTRIC
- COMMUNICATION
- NATURAL GAS
- OVERHEAD ELECTRIC

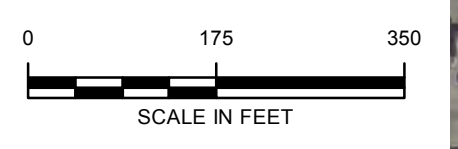
NOTES:

TCE = TRICHLOROETHENE
 HPT = HYDRAULIC PROFILE TOOL
 J = ESTIMATED RESULT, LESS THAN LABORATORY REPORTING LIMIT
 < = RESULT LESS THAN REPORTING LIMIT
 LIFHP = LASER INDUCED FLUORESCENCE HYDRAULIC PROFILE TOOL
 ALL SOIL RESULTS ARE SHOWN IN UNITS OF MICROGRAMS PER KILOGRAM (µg/kg).
 THE EGLE NON-RESIDENTIAL VOLATILIZATION TO INDOOR AIR CRITERIA (NR VIAC) ADJUSTED FOR A 12 HOUR WORK-DAY EXPOSURE FOR TCE IS 12 µg/kg.
 FOR LOCATIONS WHERE A SPLIT SAMPLE WAS COLLECTED, THE HIGHER DETECTION HAS BEEN SHOWN.

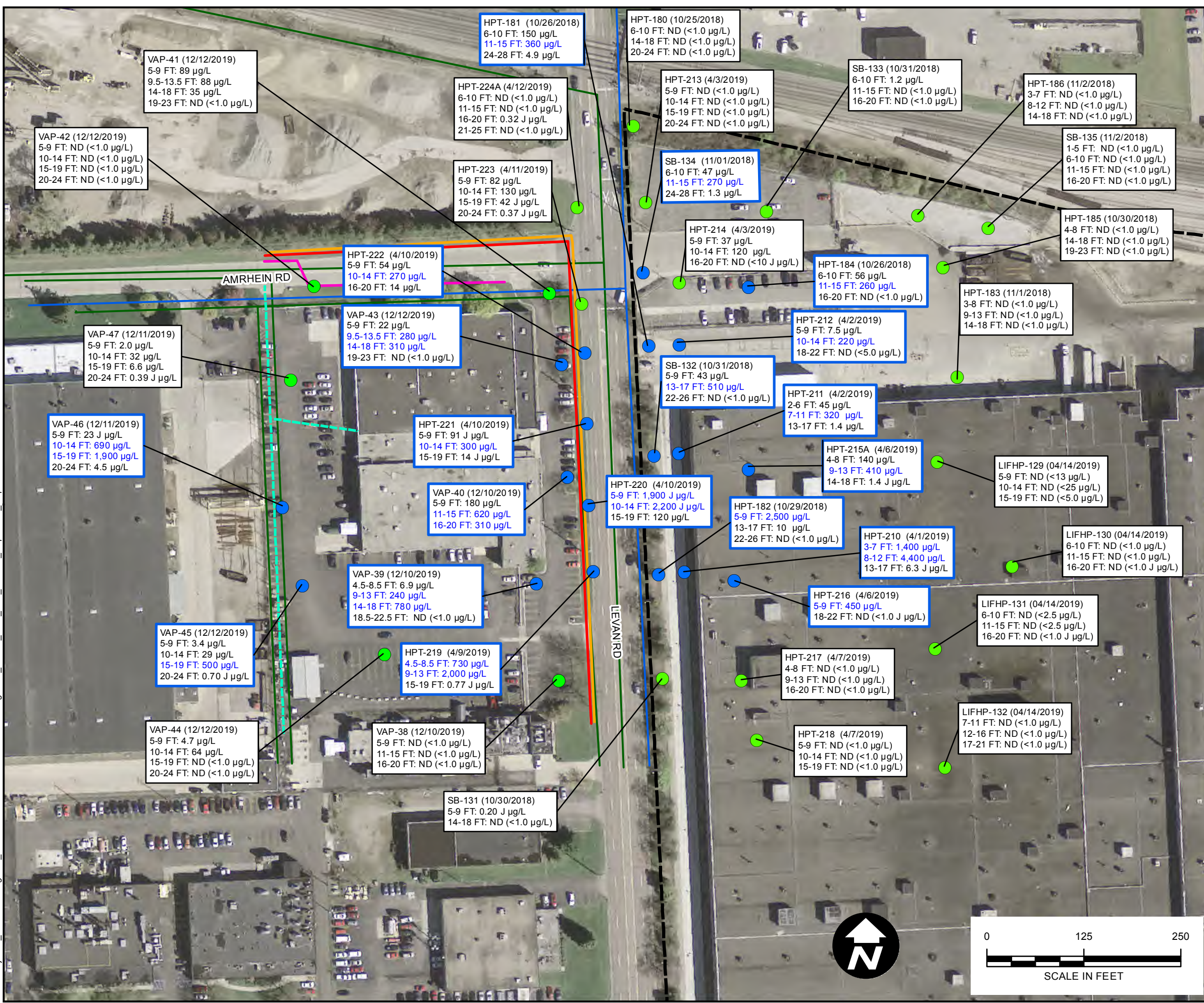
BLUE BOX INDICATES EXCEEDANCE OF THE NON-RESIDENTIAL GROUNDWATER VOLITILIZATION TO INDOOR AIR CRITERIA FOR TCE

FORD MOTOR COMPANY
 LIVONIA TRANSMISSION PLANT
 LIVONIA, MICHIGAN

NORTHWEST AREA TRICHLOROETHENE IN SOIL ANALYTICAL RESULTS



CITY: Novi; DIV: ENV; DB: MG; PROJECT NUMBER: M001454.0007.0004; COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
 Z:\GIS\Projects\ENV\Novi\Brighton_MitFordLivoniaGISdocs\2020-02\Figure 1_Offsite_VAP_Results_Expanded_Vap1B.mxd PLOTTED: 2/19/2020 5:29:26 PM BY: msmiller



LEGEND

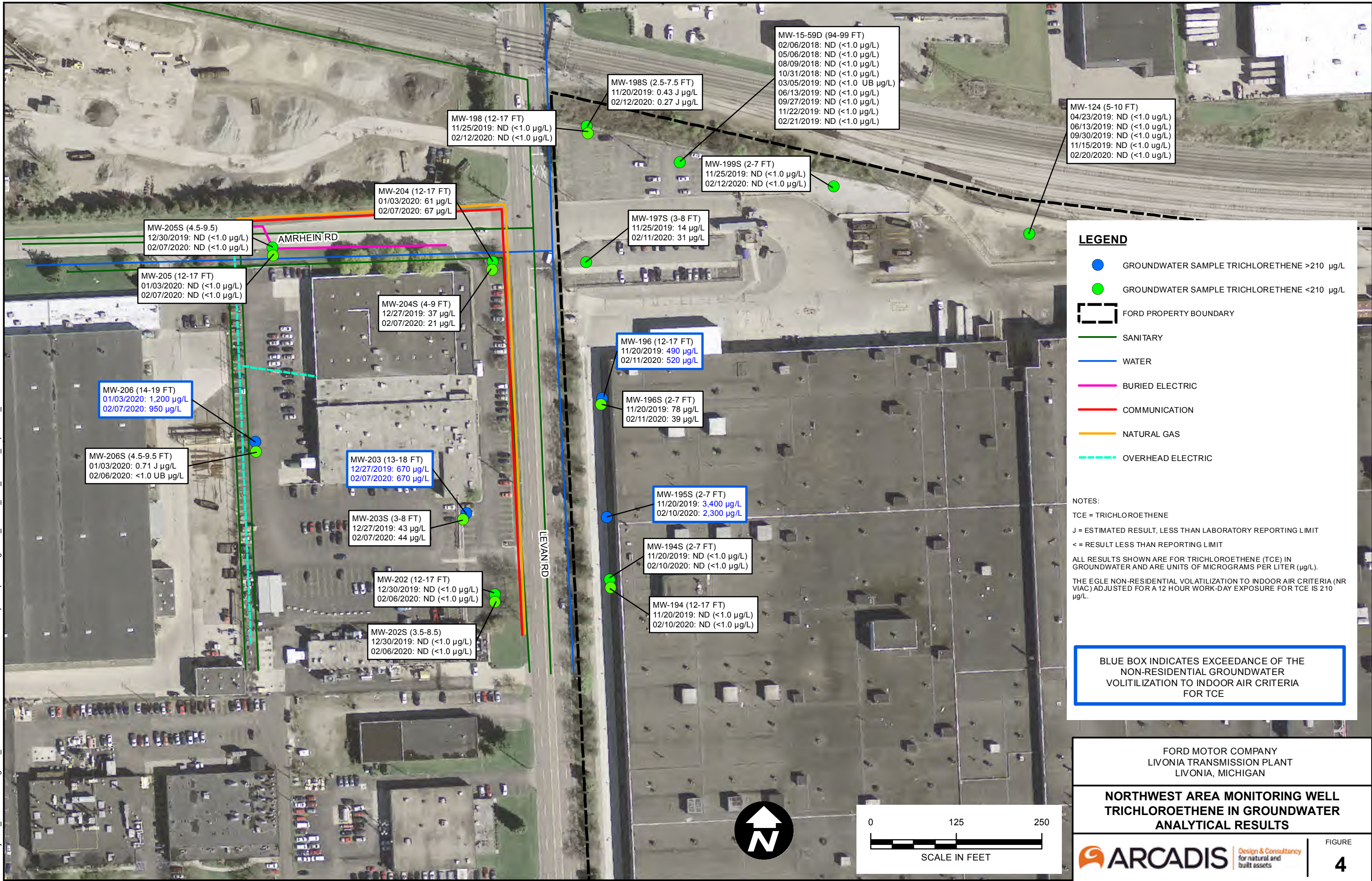
- GROUNDWATER SAMPLE TRICHLOROETHENE <210 µg/L
- GROUNDWATER SAMPLE TRICHLOROETHENE >210 µg/L
- FORD PROPERTY BOUNDARY
- SANITARY
- WATER
- BURIED ELECTRIC
- COMMUNICATION
- NATURAL GAS
- - - OVERHEAD ELECTRIC

NOTES:
 VAP = VERTICAL AQUIFER PROFILE
 HPT = HYDRAULIC PROFILE TOOL
 J = ESTIMATED RESULT, LESS THAN LABORATORY REPORTING LIMIT
 < = RESULT LESS THAN REPORTING LIMIT
 LIFHP = LASER INDUCED FLUORESCENCE HYDRAULIC PROFILE TOOL
 ALL RESULTS SHOWN ARE FOR TRICHLOROETHENE (TCE) IN GROUNDWATER AND ARE UNITS OF MICROGRAMS PER LITER (µg/L).
 THE EGLE NON-RESIDENTIAL VOLATILIZATION TO INDOOR AIR CRITERIA (NR VIAC) ADJUSTED FOR A 12 HOUR WORK-DAY EXPOSURE FOR TCE IS 210 µg/L.
 THE EGLE NON-RESIDENTIAL DRINKING WATER CRITERIA (NRDW) IS 5 µg/L.

BLUE BOX INDICATES EXCEEDANCE OF THE NON-RESIDENTIAL GROUNDWATER VOLITILIZATION TO INDOOR AIR CRITERIA FOR TCE

FORD MOTOR COMPANY
 LIVONIA TRANSMISSION PLANT
 LIVONIA, MICHIGAN

**NORTHWEST AREA VERTICAL AQUIFER
 PROFILE TRICHLOROETHENE IN
 GROUNDWATER ANALYTICAL RESULTS**



LEGEND

- GROUNDWATER SAMPLE TRICHLOROETHENE >210 µg/L
- GROUNDWATER SAMPLE TRICHLOROETHENE <210 µg/L
- FORD PROPERTY BOUNDARY
- SANITARY
- WATER
- BURIED ELECTRIC
- COMMUNICATION
- NATURAL GAS
- OVERHEAD ELECTRIC

NOTES:
 TCE = TRICHLOROETHENE
 J = ESTIMATED RESULT, LESS THAN LABORATORY REPORTING LIMIT
 < = RESULT LESS THAN REPORTING LIMIT
 ALL RESULTS SHOWN ARE FOR TRICHLOROETHENE (TCE) IN GROUNDWATER AND ARE UNITS OF MICROGRAMS PER LITER (µg/L).
 THE EGLE NON-RESIDENTIAL VOLATILIZATION TO INDOOR AIR CRITERIA (NR VIAC) ADJUSTED FOR A 12 HOUR WORK-DAY EXPOSURE FOR TCE IS 210 µg/L.

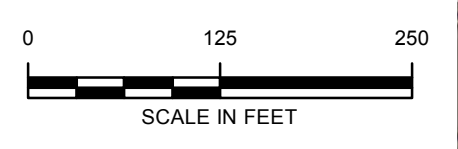
BLUE BOX INDICATES EXCEEDANCE OF THE NON-RESIDENTIAL GROUNDWATER VOLITILIZATION TO INDOOR AIR CRITERIA FOR TCE

FORD MOTOR COMPANY
 LIVONIA TRANSMISSION PLANT
 LIVONIA, MICHIGAN

NORTHWEST AREA MONITORING WELL TRICHLOROETHENE IN GROUNDWATER ANALYTICAL RESULTS

ARCADIS Design & Consultancy for natural and built assets

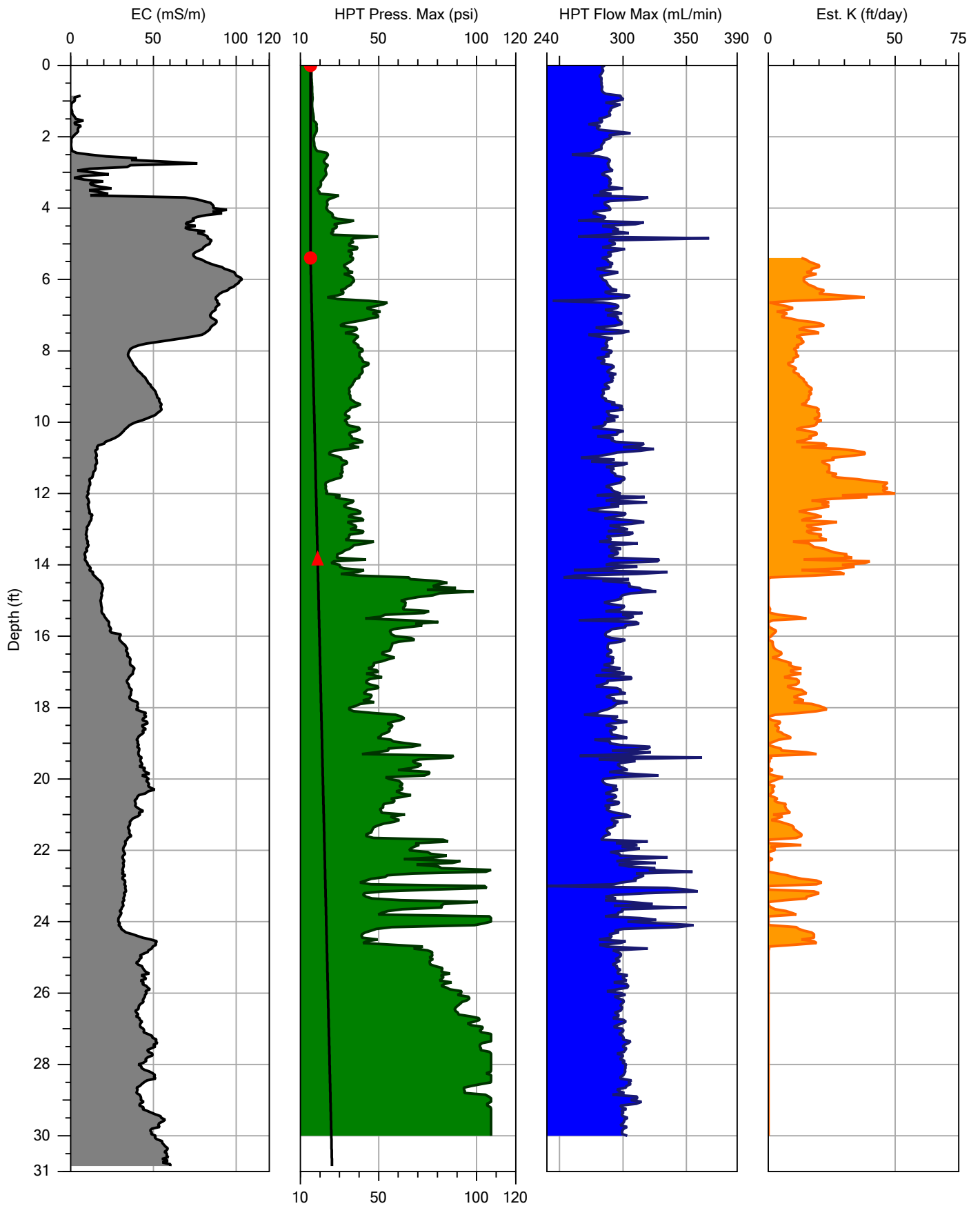
FIGURE
4



APPENDIX A

Investigative Logs





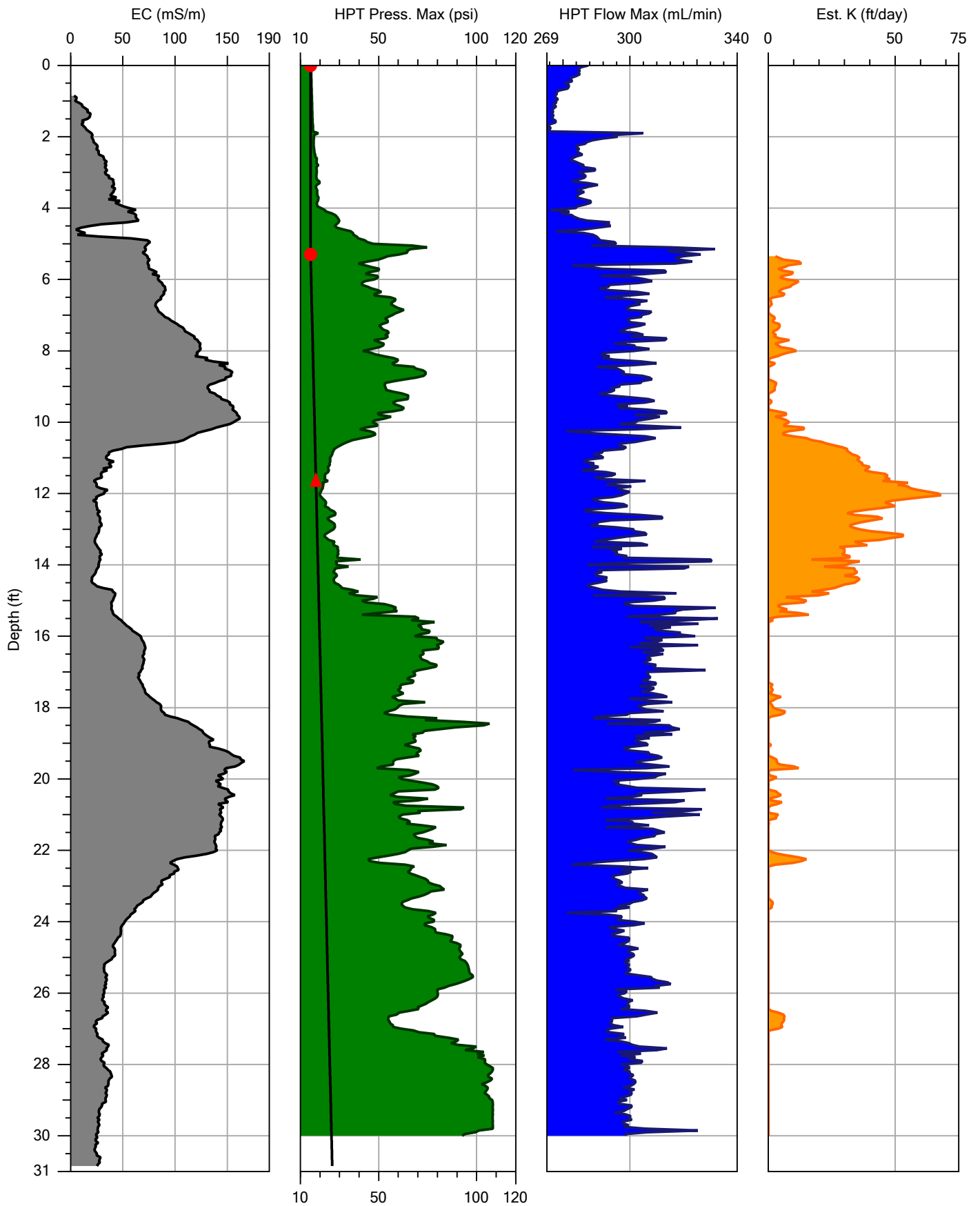
A.... Piezometric Pressure (psi)



Company: Dakota Technologies
 Project ID: Ford Livonia Transmission Plant

Operator: AK/EM
 Client: Arcadis

File:	HPT-180.HPT
Date:	10/24/2018
Location:	Livonia, MI

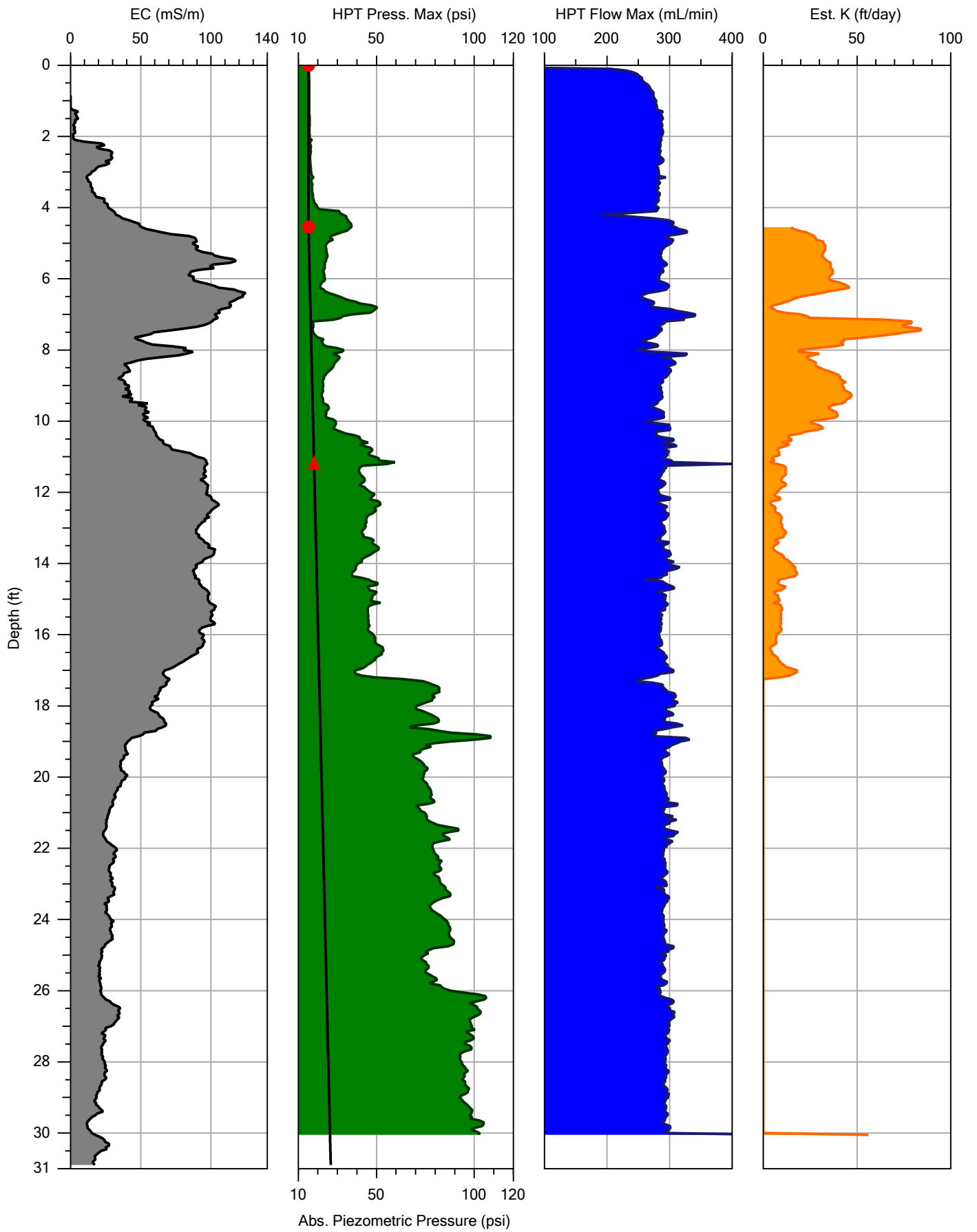


A.... Piezometric Pressure (psi)



Company: Dakota Technologies	Operator: AK/EM
Project ID: Ford Livonia Transmission Plant	Client: Arcadis

File: HPT-181.HPT
Date: 10/24/2018
Location: Livonia, MI



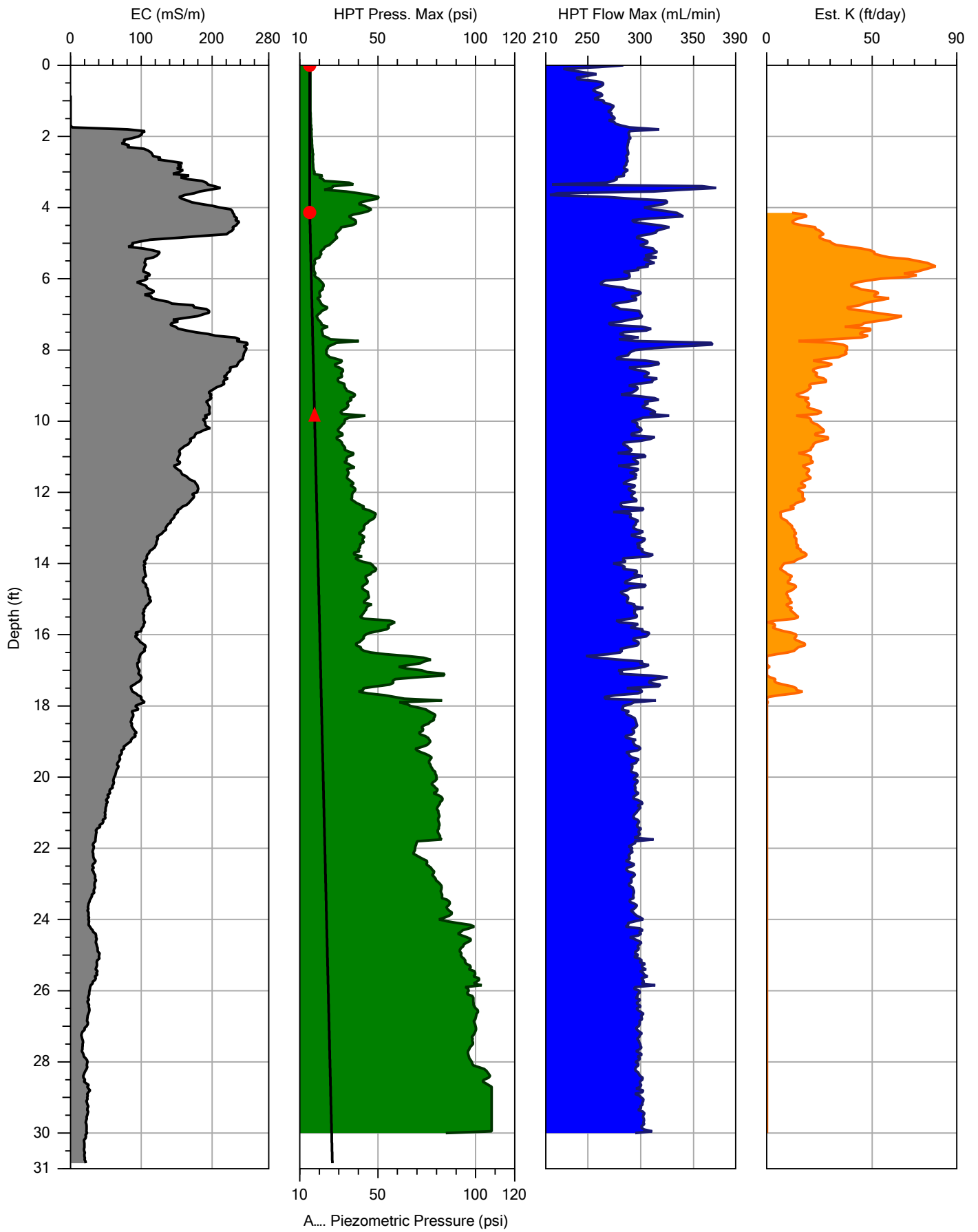
Abs. Piezometric Pressure (psi)



Company: Dakota Technologies
 Project ID: Ford Livonia Transmission Plant

Operator: AK/EM
 Client: Arcadis

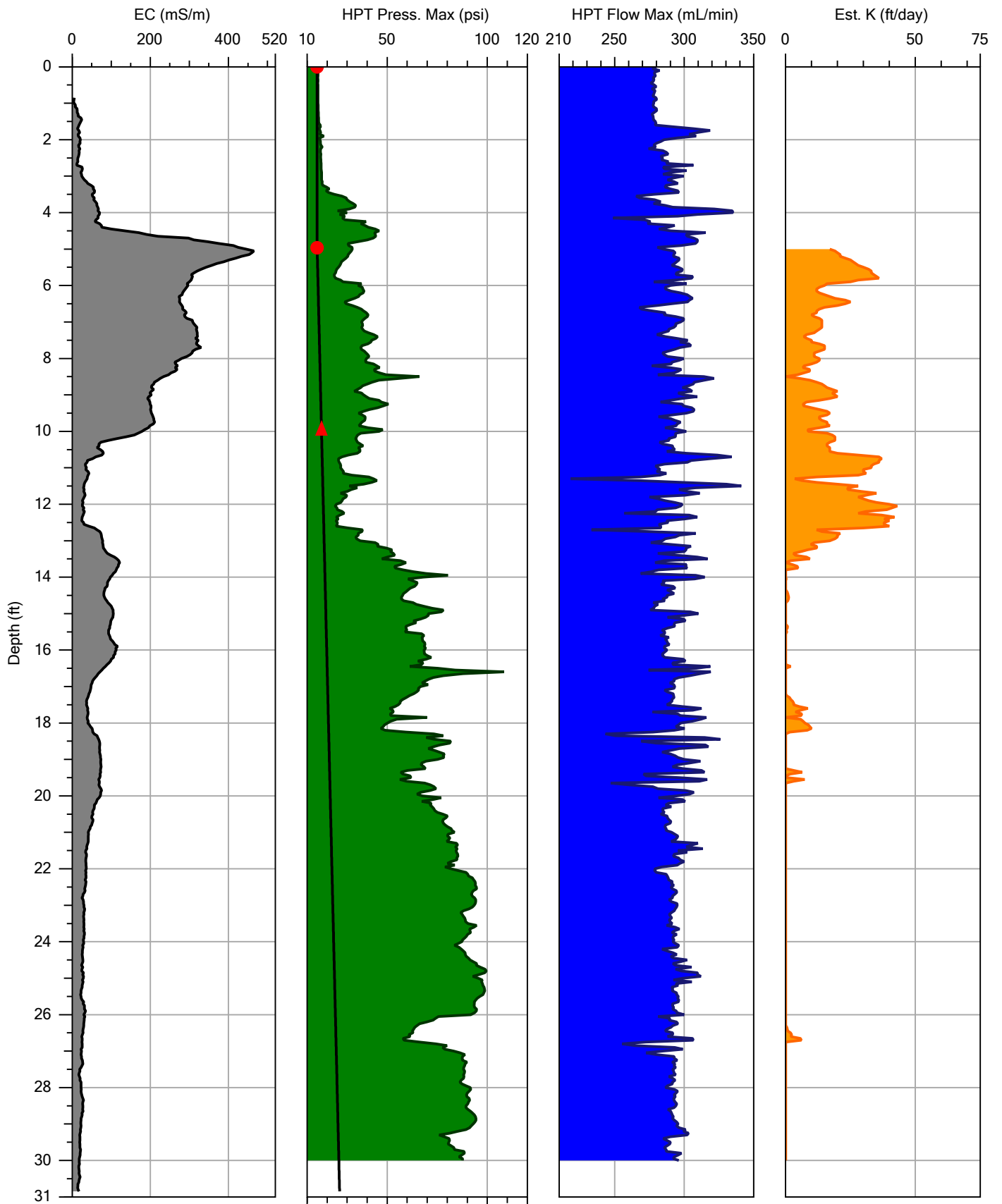
File:	HPT-182.HPT
Date:	10/25/2018
Location:	Livonia, MI



Company: Dakota Technologies
 Project ID: Ford Livonia Transmission Plant

Operator: AK/EM
 Client: Arcadis

File:	HPT-183.HPT
Date:	10/25/2018
Location:	Livonia, MI



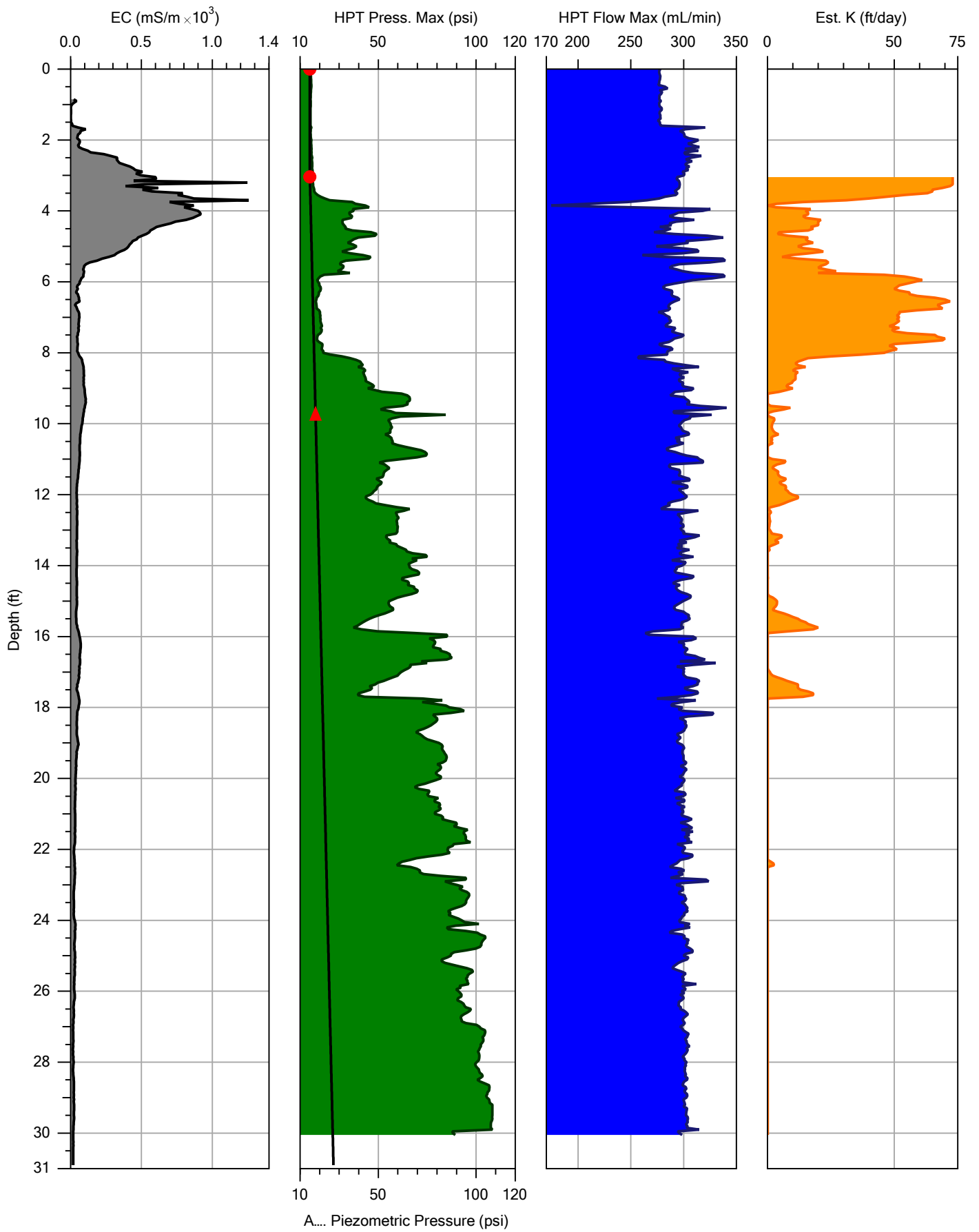
A.... Piezometric Pressure (psi)



Company: Dakota Technologies
 Project ID: Ford Livonia Transmission Plant

Operator: AK/EM
 Client: Arcadis

File:	HPT-184.HPT
Date:	10/26/2018
Location:	Livonia, MI



A.... Piezometric Pressure (psi)



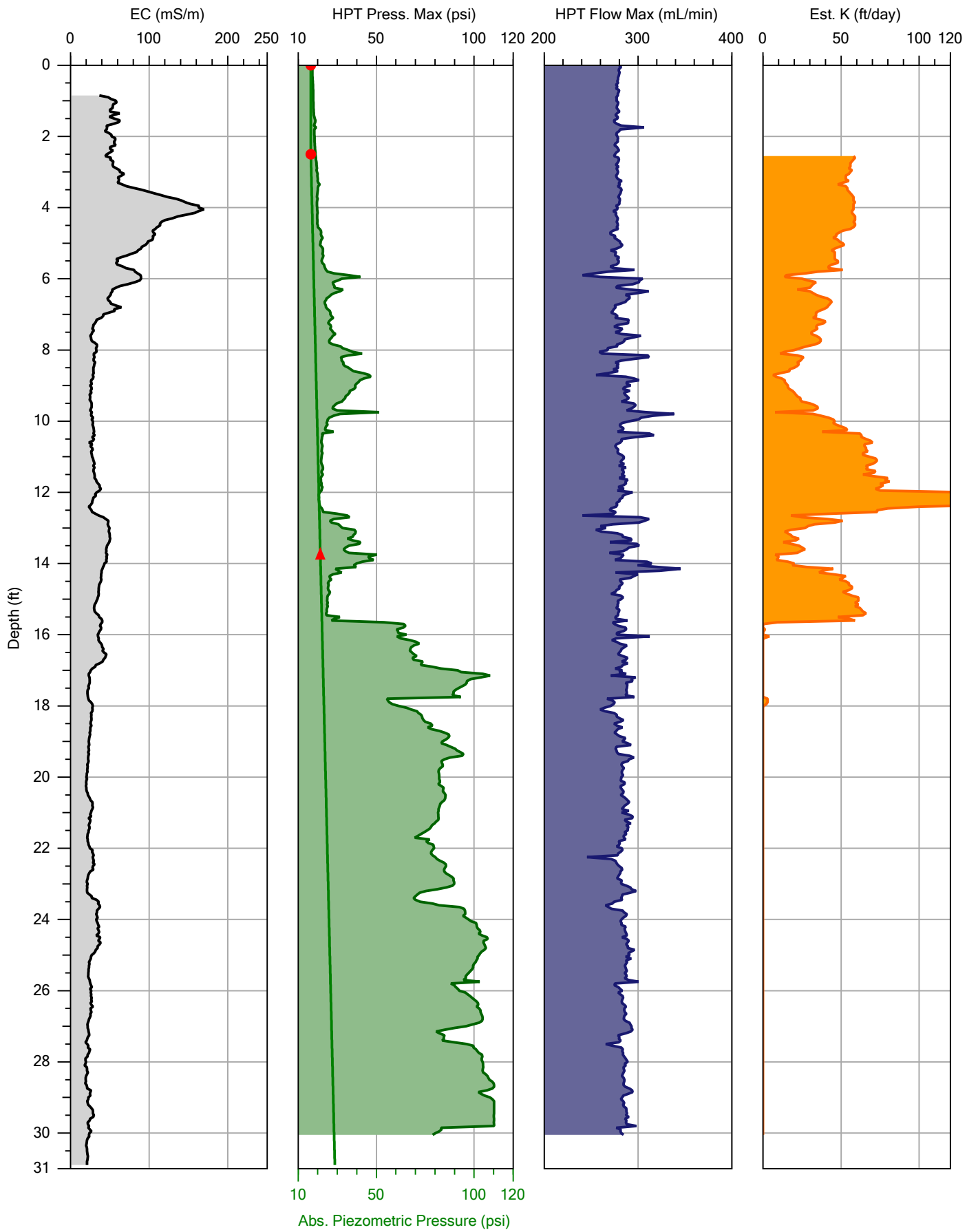
Company:
Dakota Technologies

Project ID:
Ford Livonia Transmission Plant

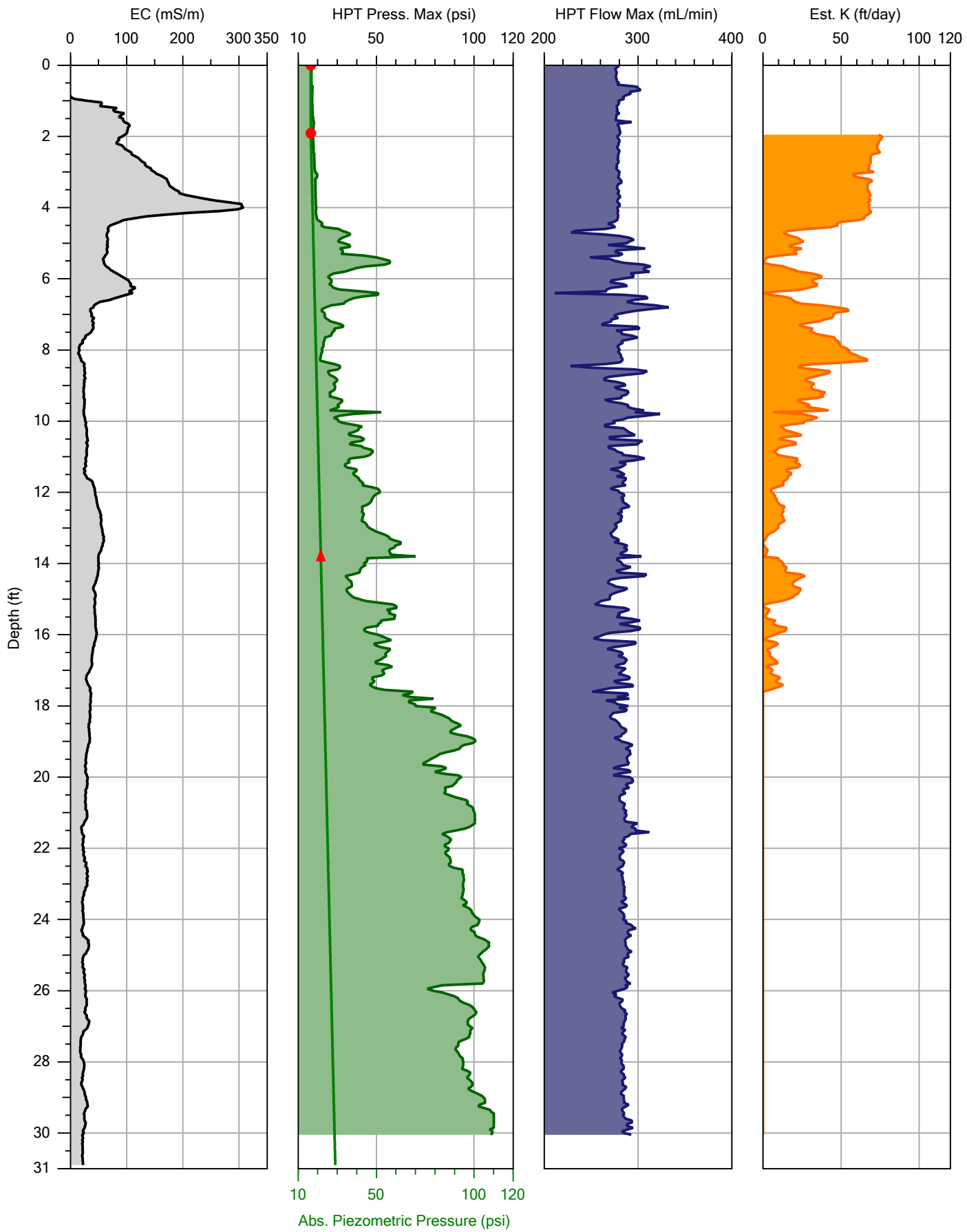
Operator:
AK/EM

Client:
Arcadis


File:	HPT-185.HPT
Date:	10/26/2018
Location:	Livonia, MI

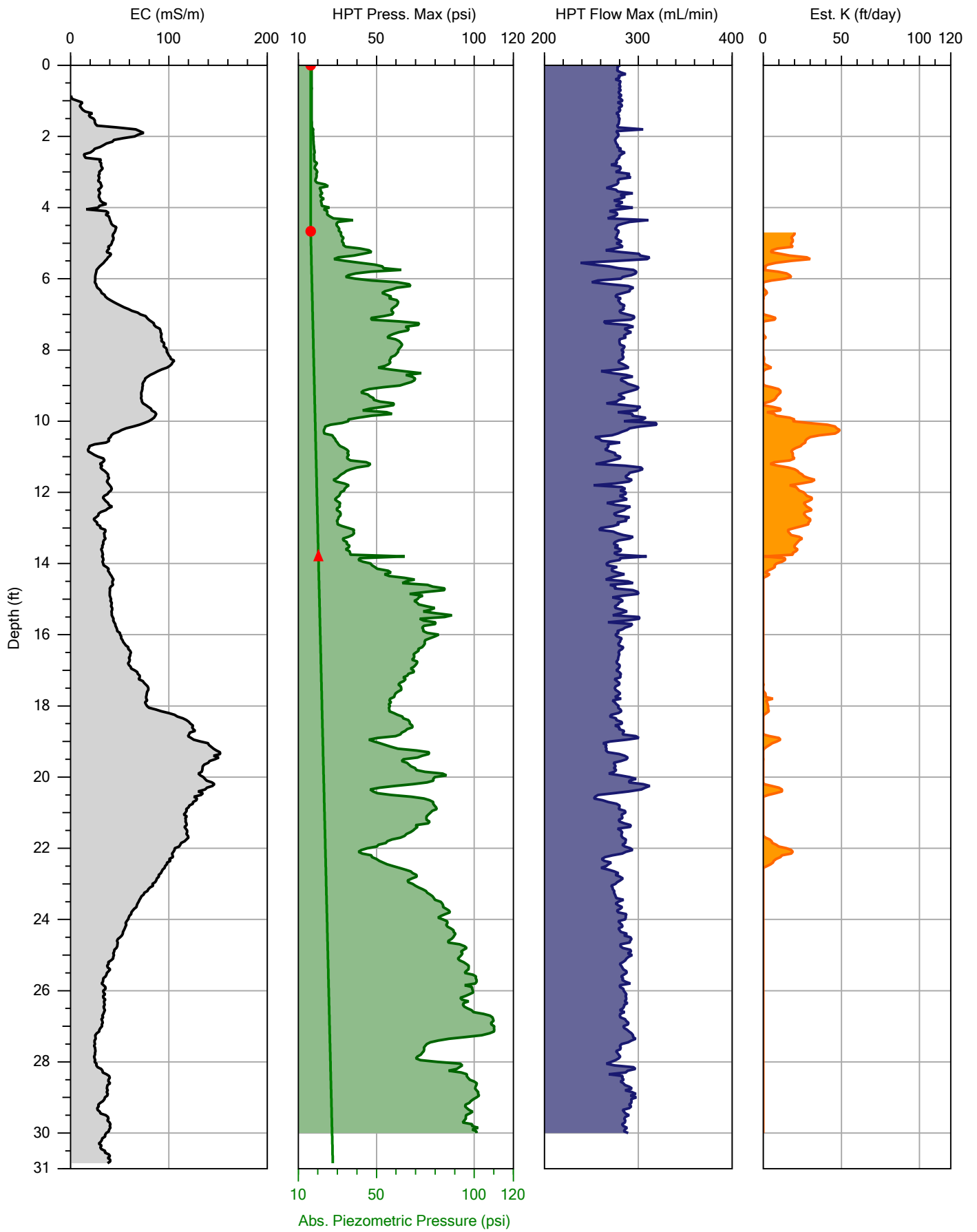


		File:	HPT-210.HPT
		Company:	Dakota Technologies
		Operator:	EM/AK
Project ID:	0092.19	Client:	Arcadis
Date:	4/1/2019	Location:	Livonia, MI



Abs. Piezometric Pressure (psi)

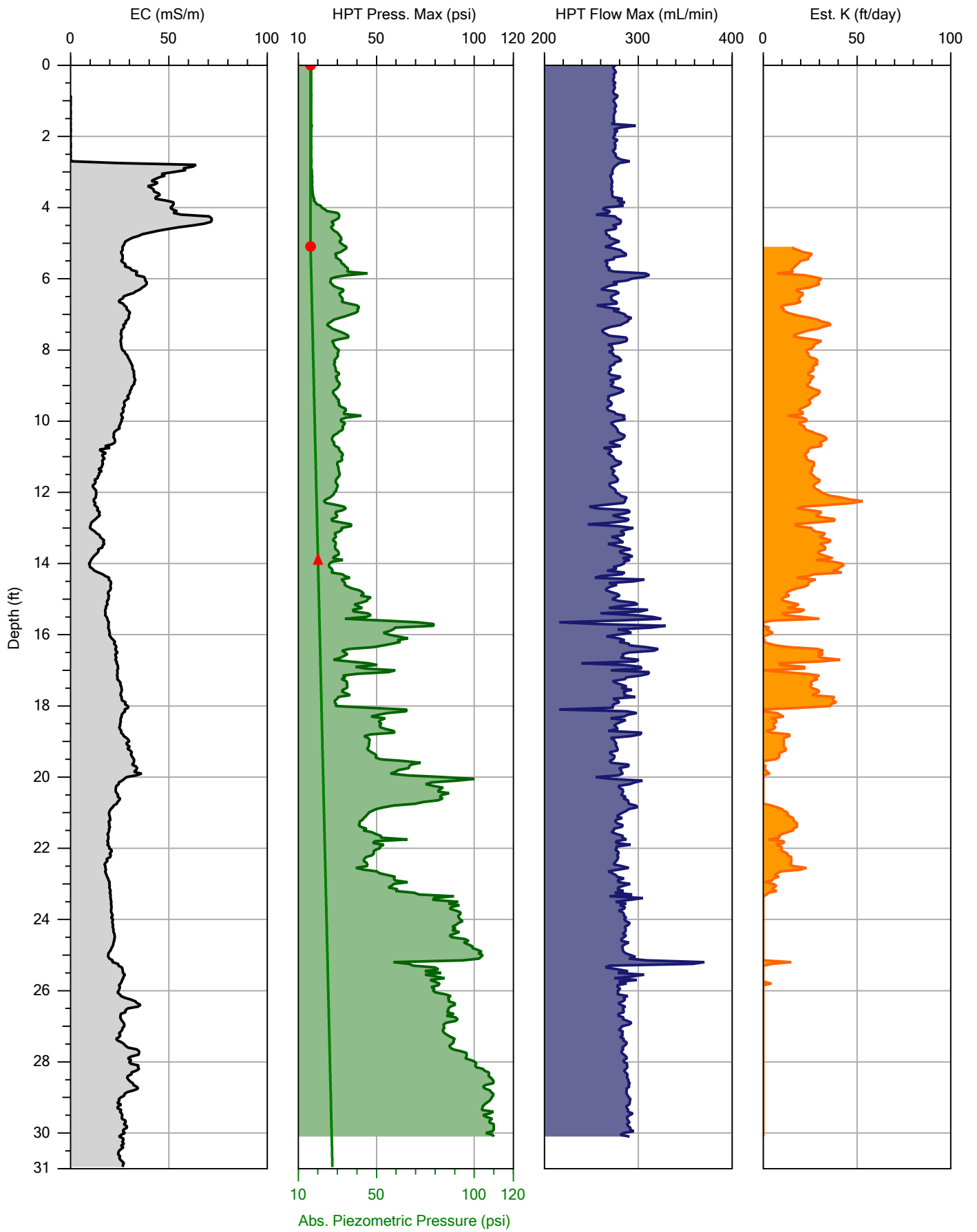
		File: HPT-211.HPT
		Date: 4/1/2019
Company: Dakota Technologies	Operator: EM/AK	Location: Livonia, MI
Project ID: 0092.19	Client: Arcadis	



Company: Dakota Technologies
 Project ID: 0092.19

Operator: EM/AK
 Client: Arcadis

File:	HPT-212.HPT
Date:	4/2/2019
Location:	Livonia, MI



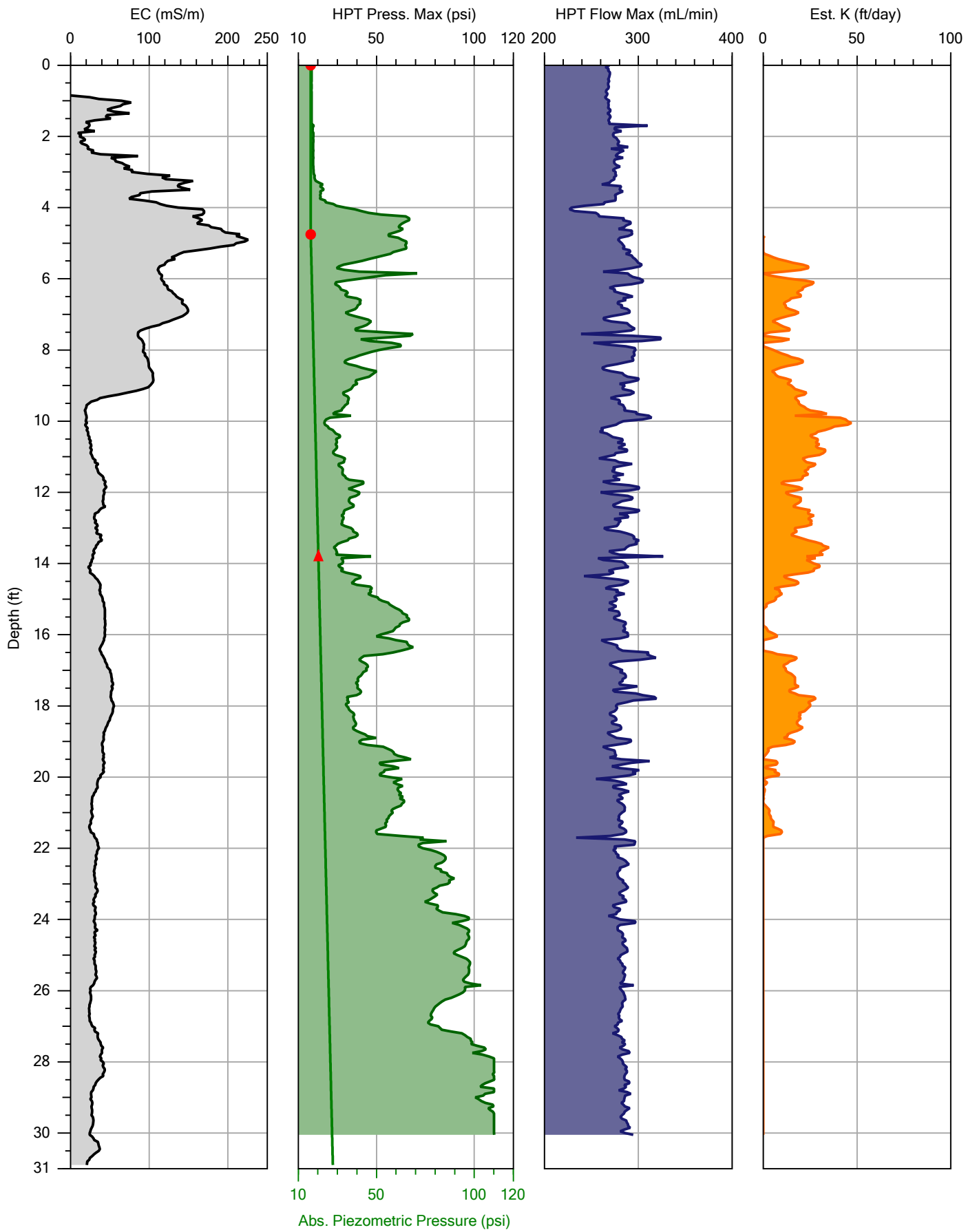
Abs. Piezometric Pressure (psi)



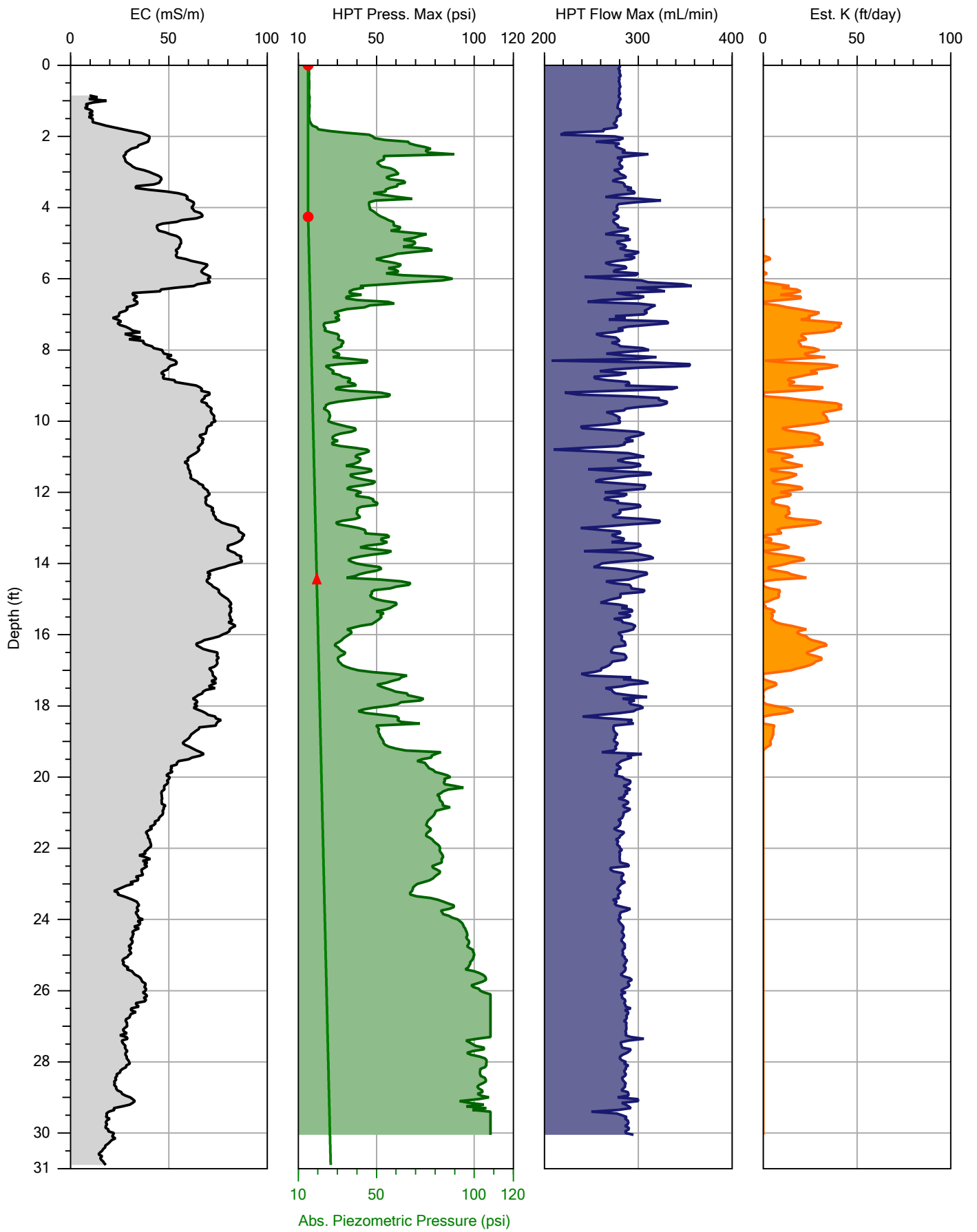
Company: Dakota Technologies
 Project ID: 0092.19

Operator: EM/AK
 Client: Arcadis

File:	HPT-213.HPT
Date:	4/2/2019
Location:	Livonia, MI



		File:	HPT-214.HPT
		Company:	Dakota Technologies
		Operator:	EM/AK
		Date:	4/3/2019
Project ID:	0092.19	Client:	Arcadis
		Location:	Livonia, MI



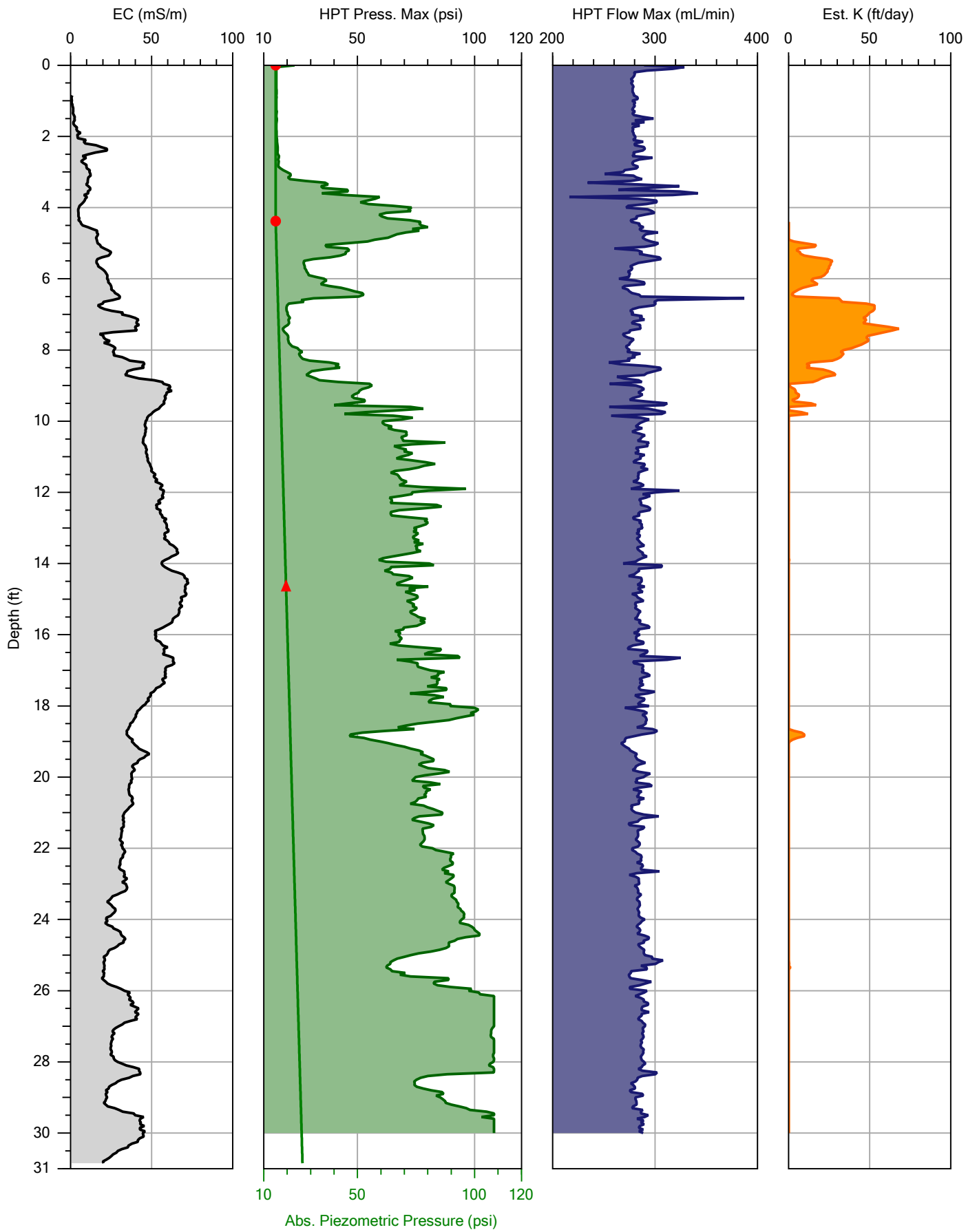
Abs. Piezometric Pressure (psi)



Company:
Dakota Technologies
Project ID:
0092.19

Operator:
EM/AK
Client:
Arcadis

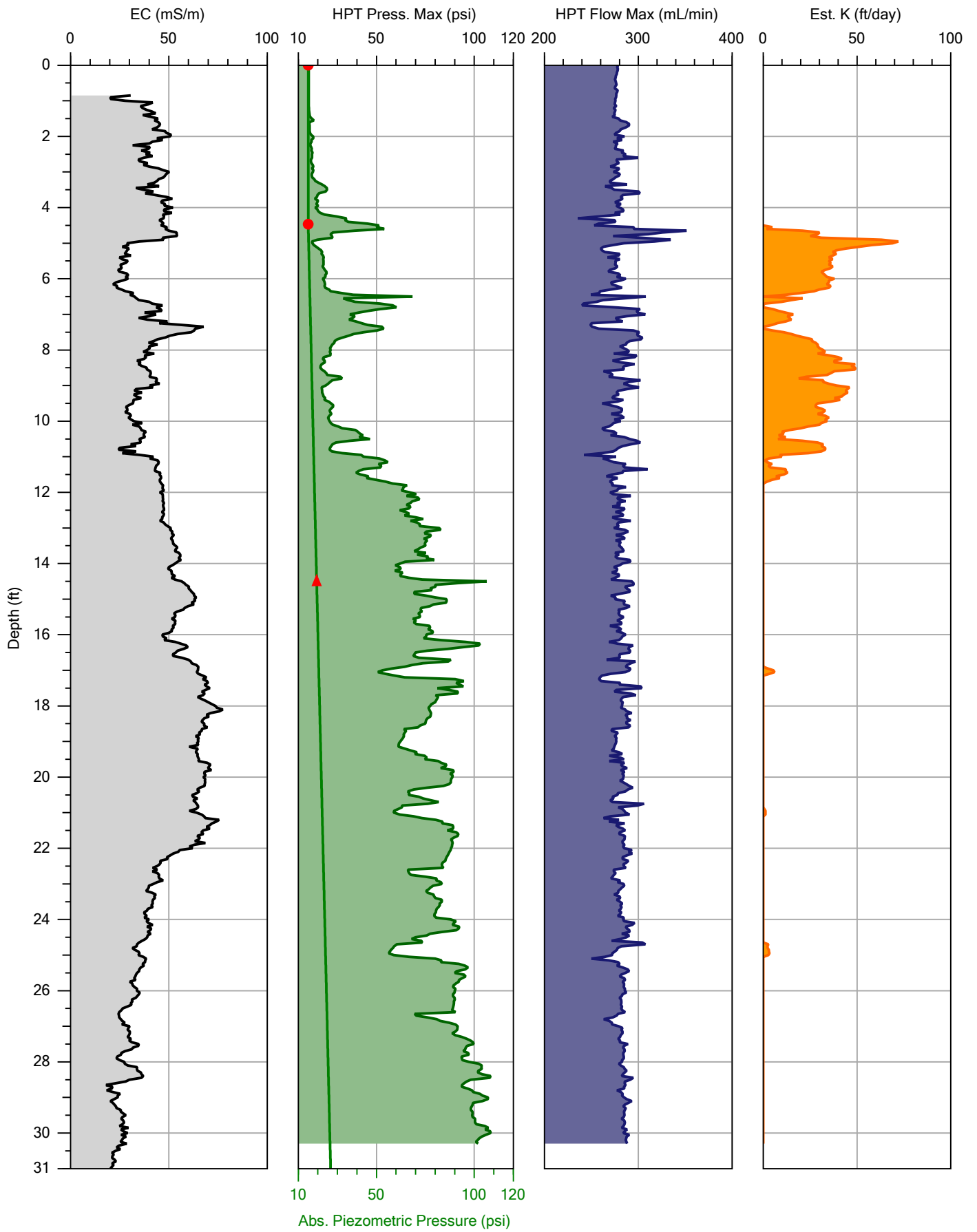
File:	HPT-215A.HPT
Date:	4/6/2019
Location:	Livonia, MI



Company: Dakota Technologies
 Project ID: 0092.19

Operator: EM/AK
 Client: Arcadis

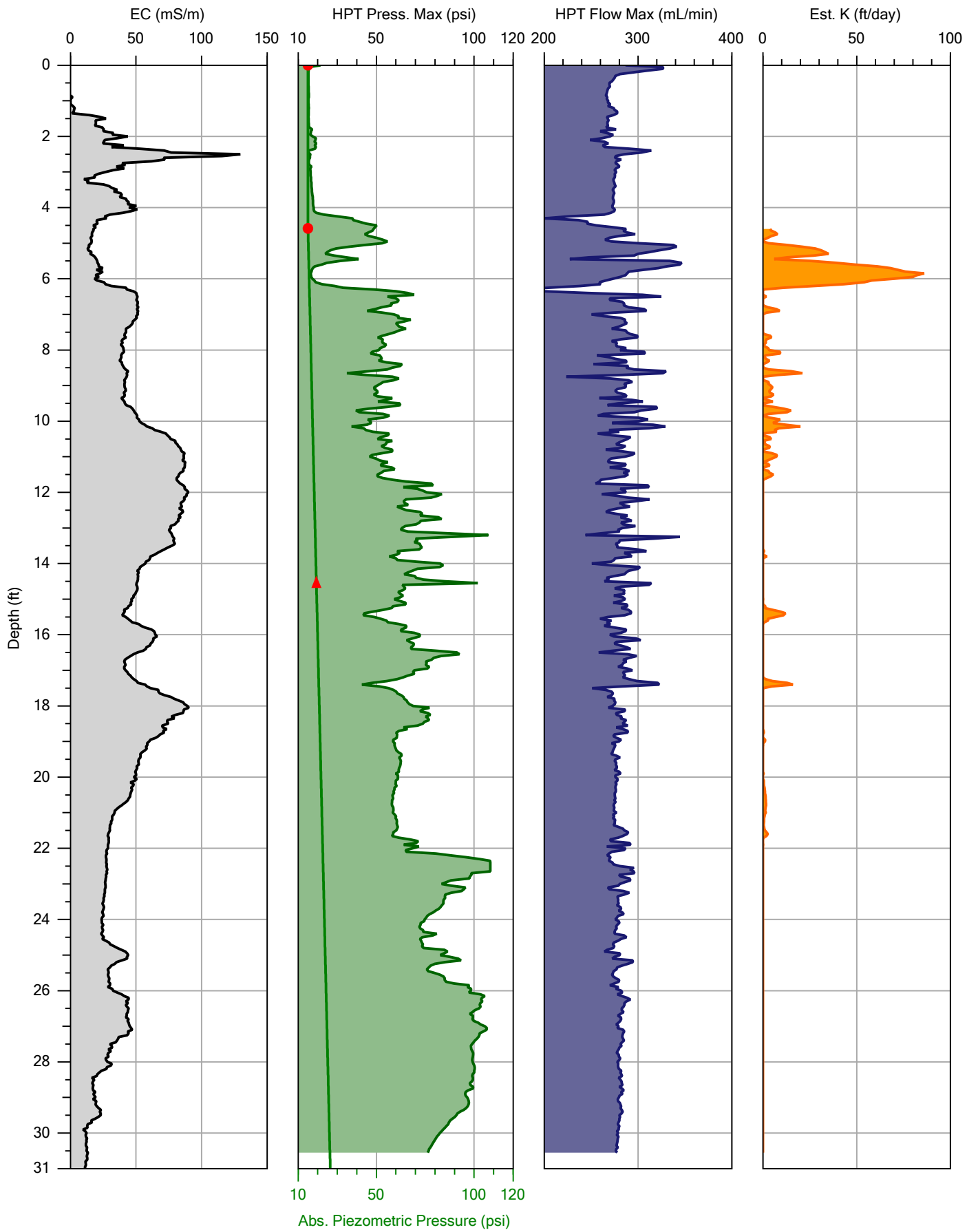
File:	HPT-216.HPT
Date:	4/6/2019
Location:	Livonia, MI



Company:	Dakota Technologies
Project ID:	0092.19

Operator:	EM/AK
Client:	Arcadis

File:	HPT-217.HPT
Date:	4/6/2019
Location:	Livonia, MI



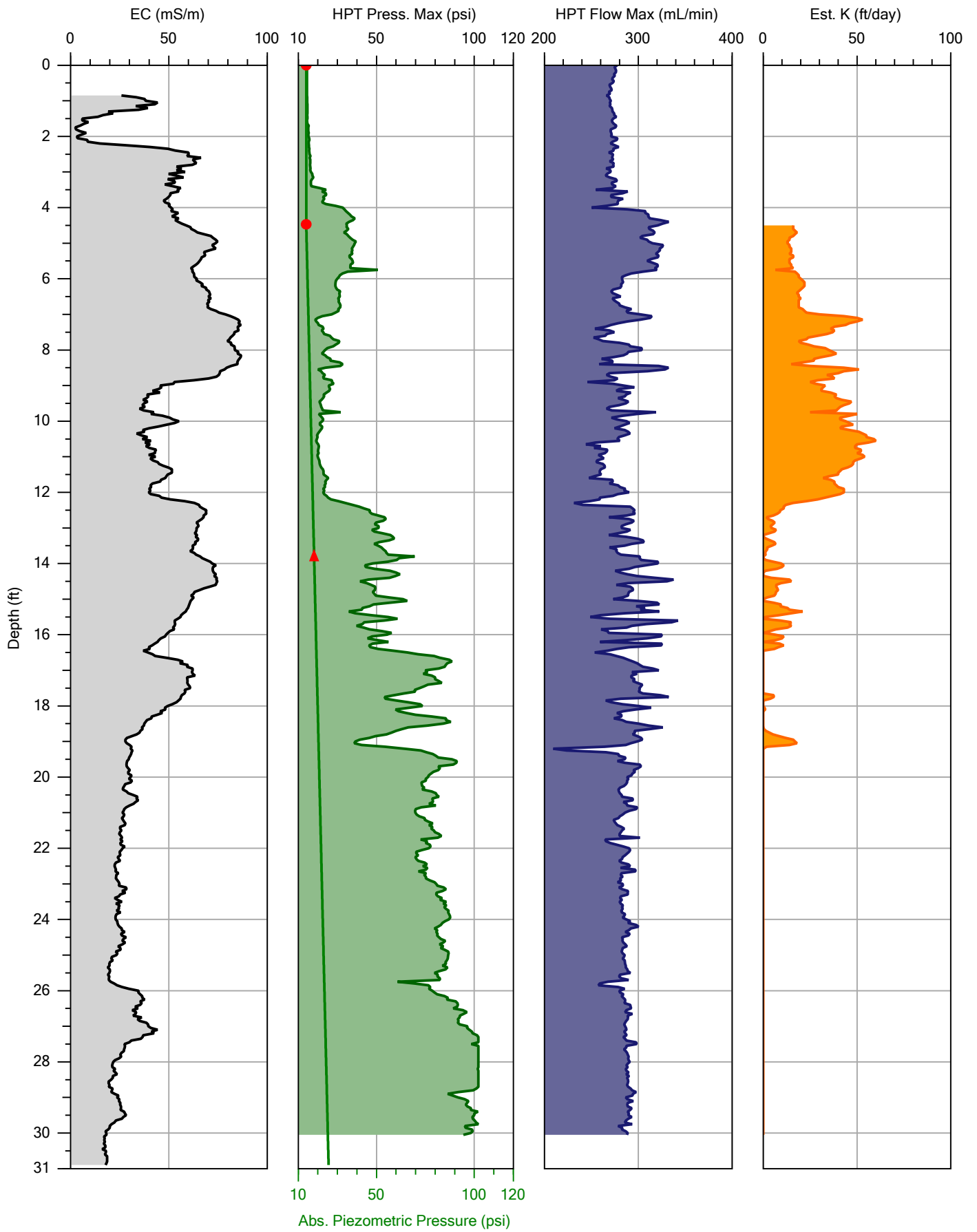
Abs. Piezometric Pressure (psi)



Company: Dakota Technologies
 Project ID: 0092.19

Operator: EM/AK
 Client: Arcadis

File:	HPT-218.HPT
Date:	4/7/2019
Location:	Livonia, MI



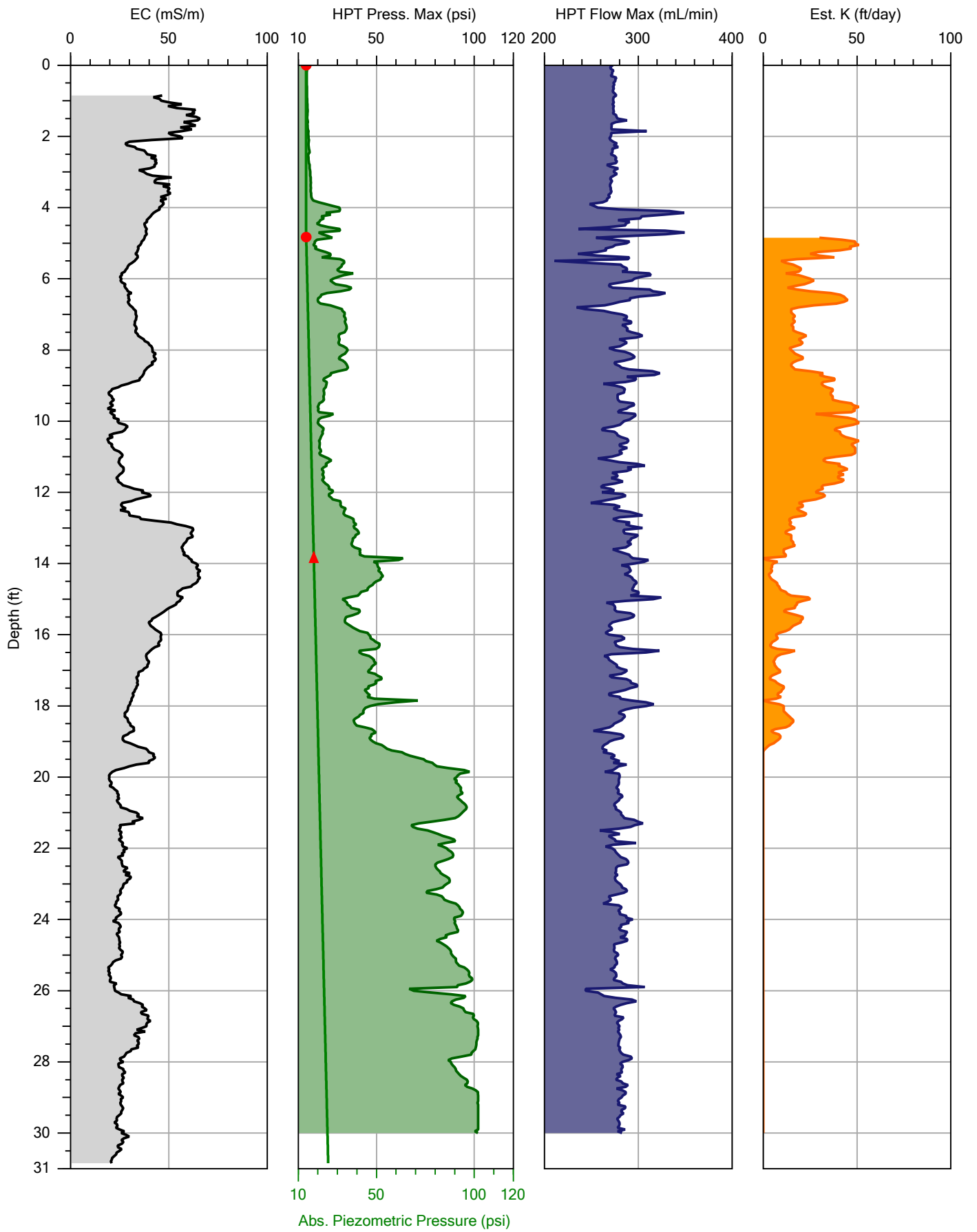
Abs. Piezometric Pressure (psi)



Company:	Dakota Technologies
Project ID:	0092.19

Operator:	EM/AK
Client:	Arcadis

File:	HPT-219.HPT
Date:	4/9/2019
Location:	Livonia, MI



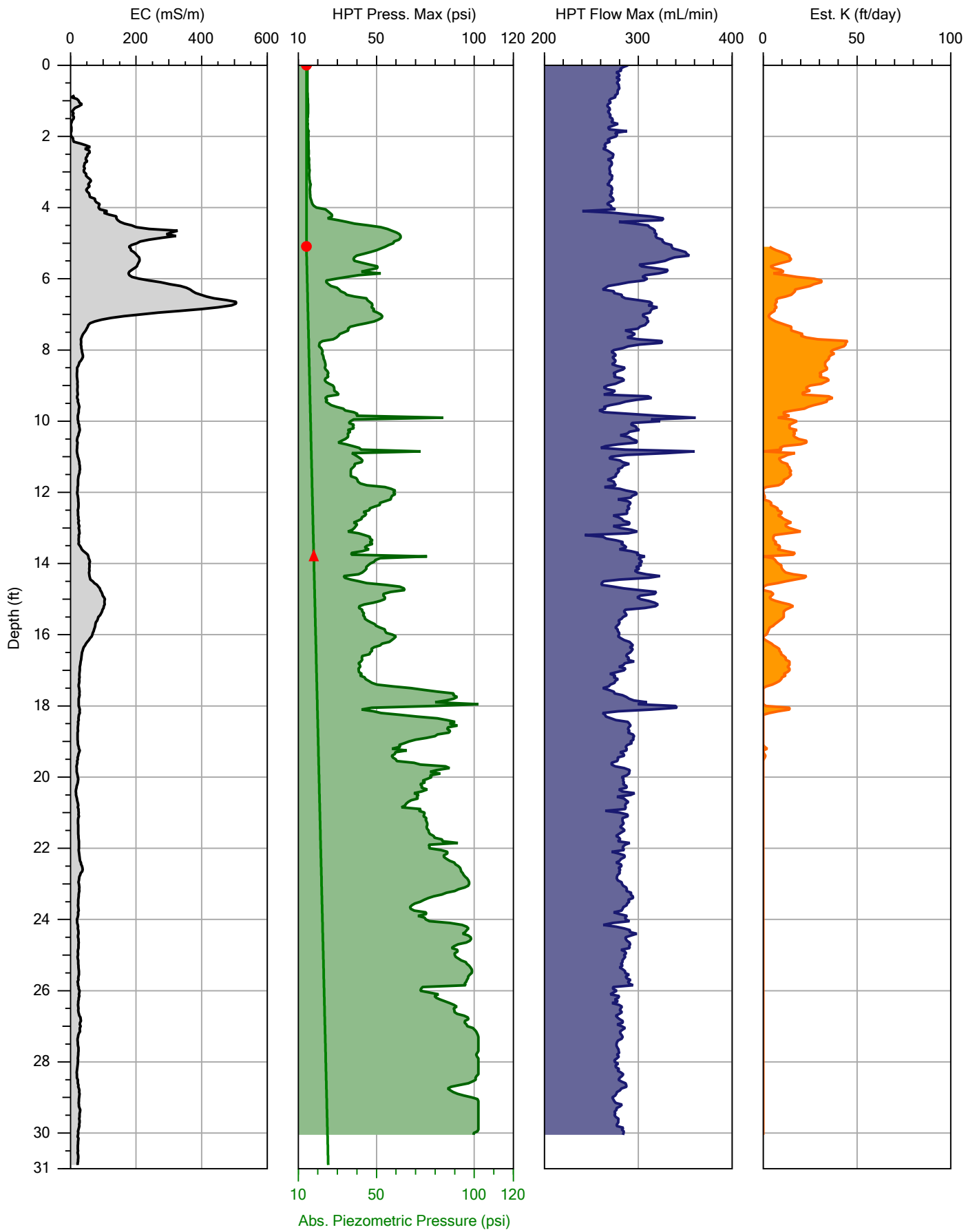
Abs. Piezometric Pressure (psi)



Company: Dakota Technologies
 Project ID: 0092.19

Operator: EM/AK
 Client: Arcadis

File:	HPT-220.HPT
Date:	4/9/2019
Location:	Livonia, MI



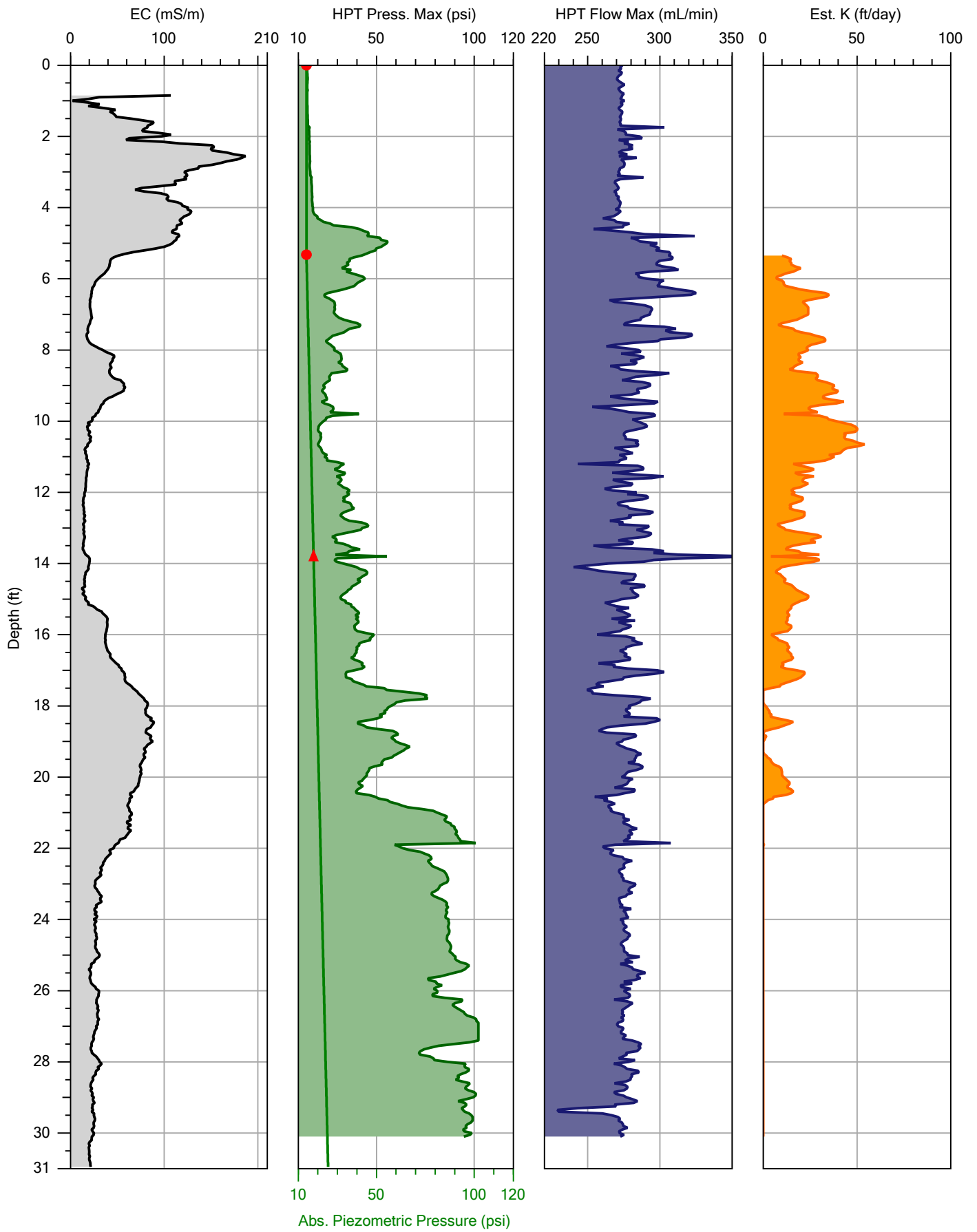
Company:
Dakota Technologies

Project ID:
0092.19

Operator:
EM/AK

Client:
Arcadis

File:	HPT-221.HPT
Date:	4/10/2019
Location:	Livonia, MI



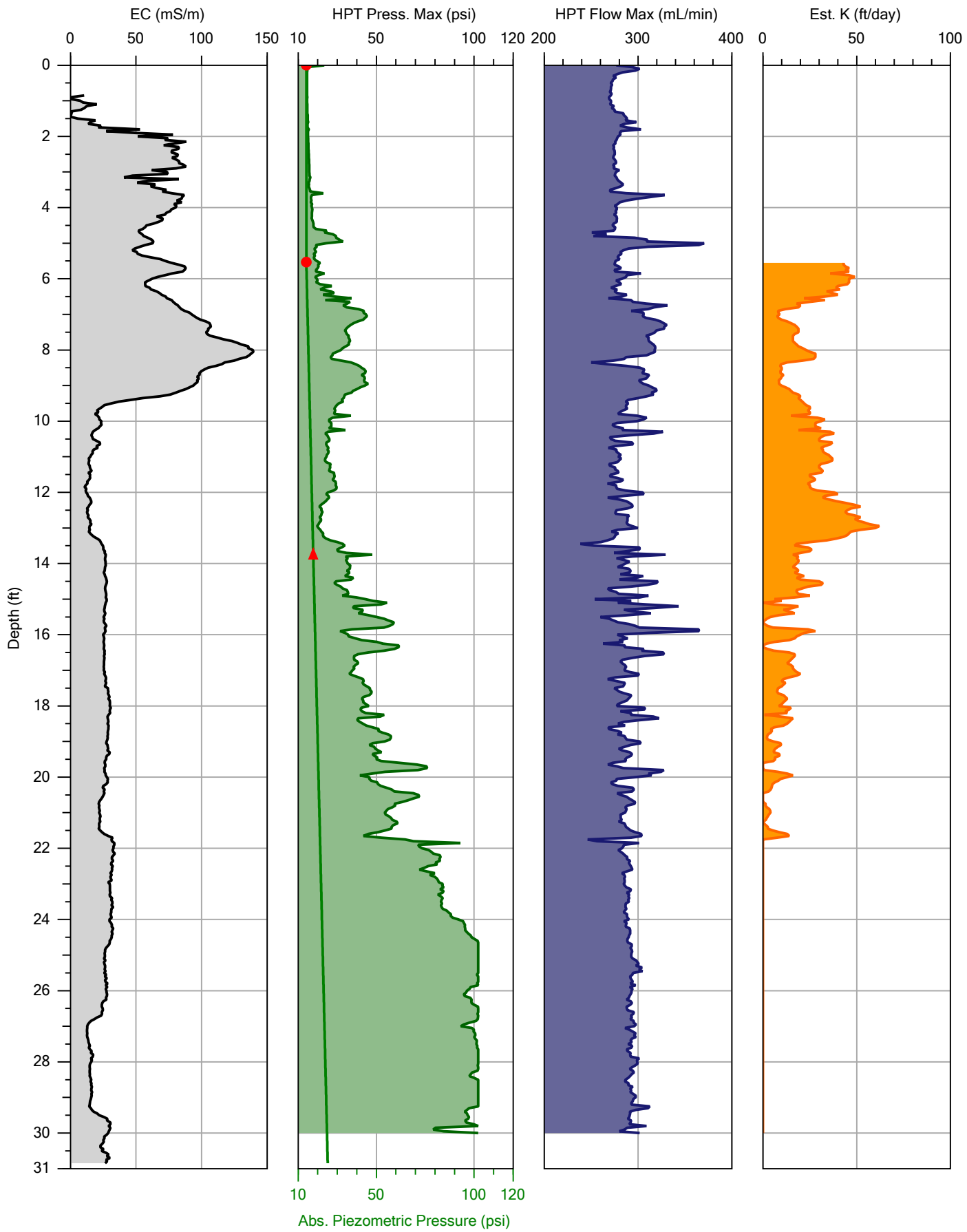
Abs. Piezometric Pressure (psi)



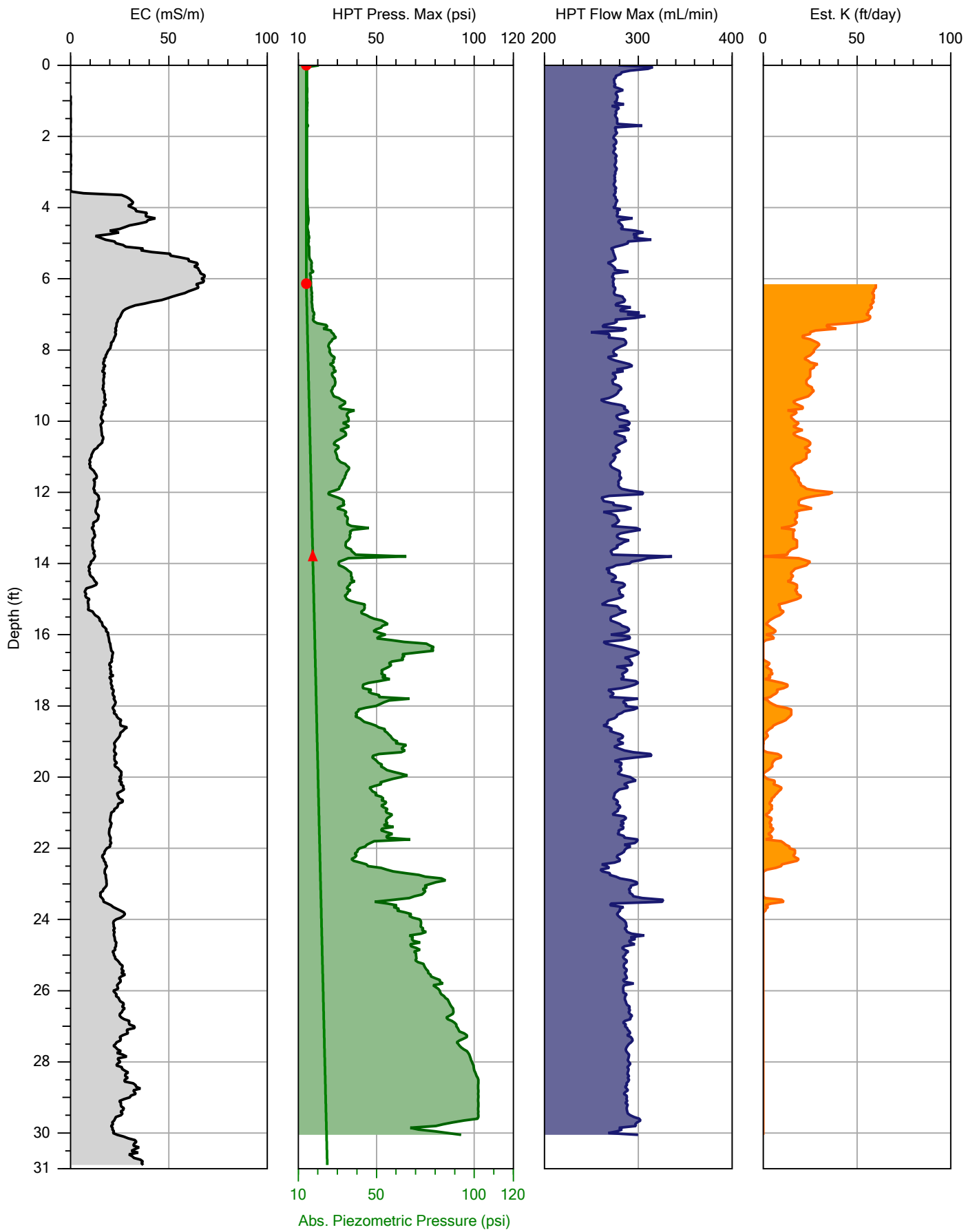
Company: Dakota Technologies
 Project ID: 0092.19

Operator: EM/AK
 Client: Arcadis

File:	HPT-222.HPT
Date:	4/10/2019
Location:	Livonia, MI



		File:	HPT-223.HPT
		Company:	Dakota Technologies
		Operator:	EM/AK
Project ID:	0092.19	Client:	Arcadis
		Date:	4/11/2019
		Location:	Livonia, MI



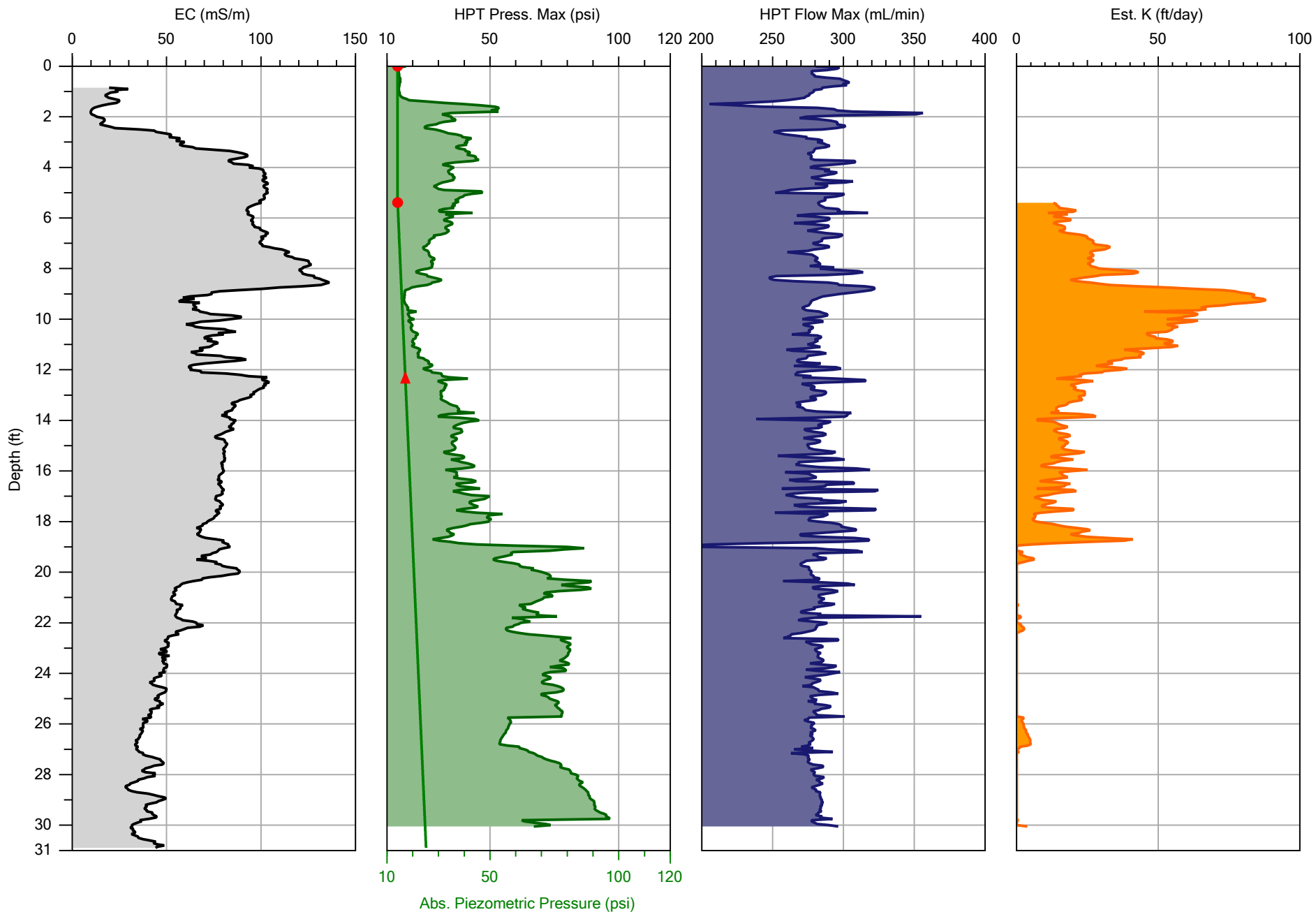
Abs. Piezometric Pressure (psi)



Company: Dakota Technologies
 Project ID: 0092.19

Operator: EM/AK
 Client: Arcadis

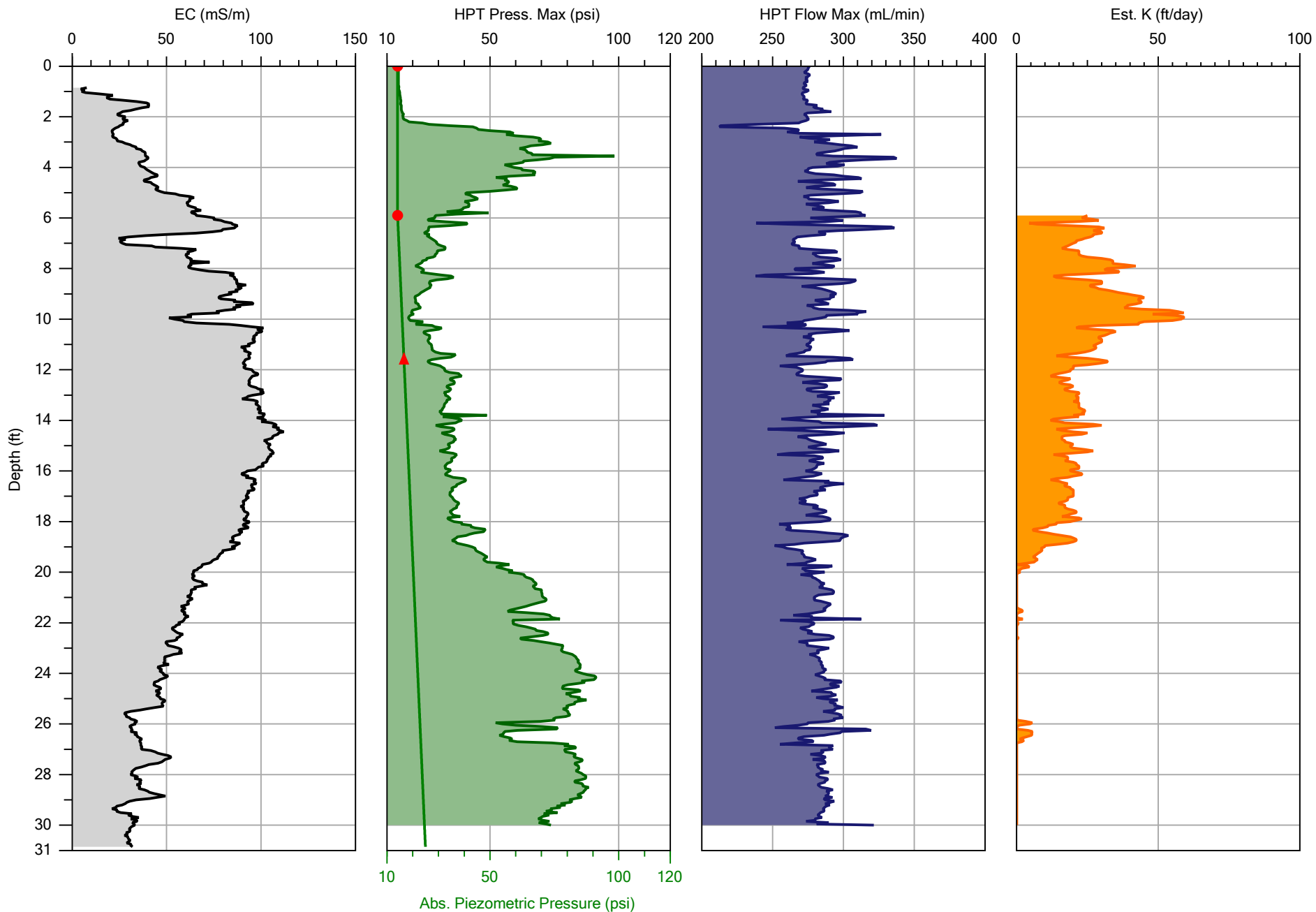
File:	HPT-224A.HPT
Date:	4/11/2019
Location:	Livonia, MI



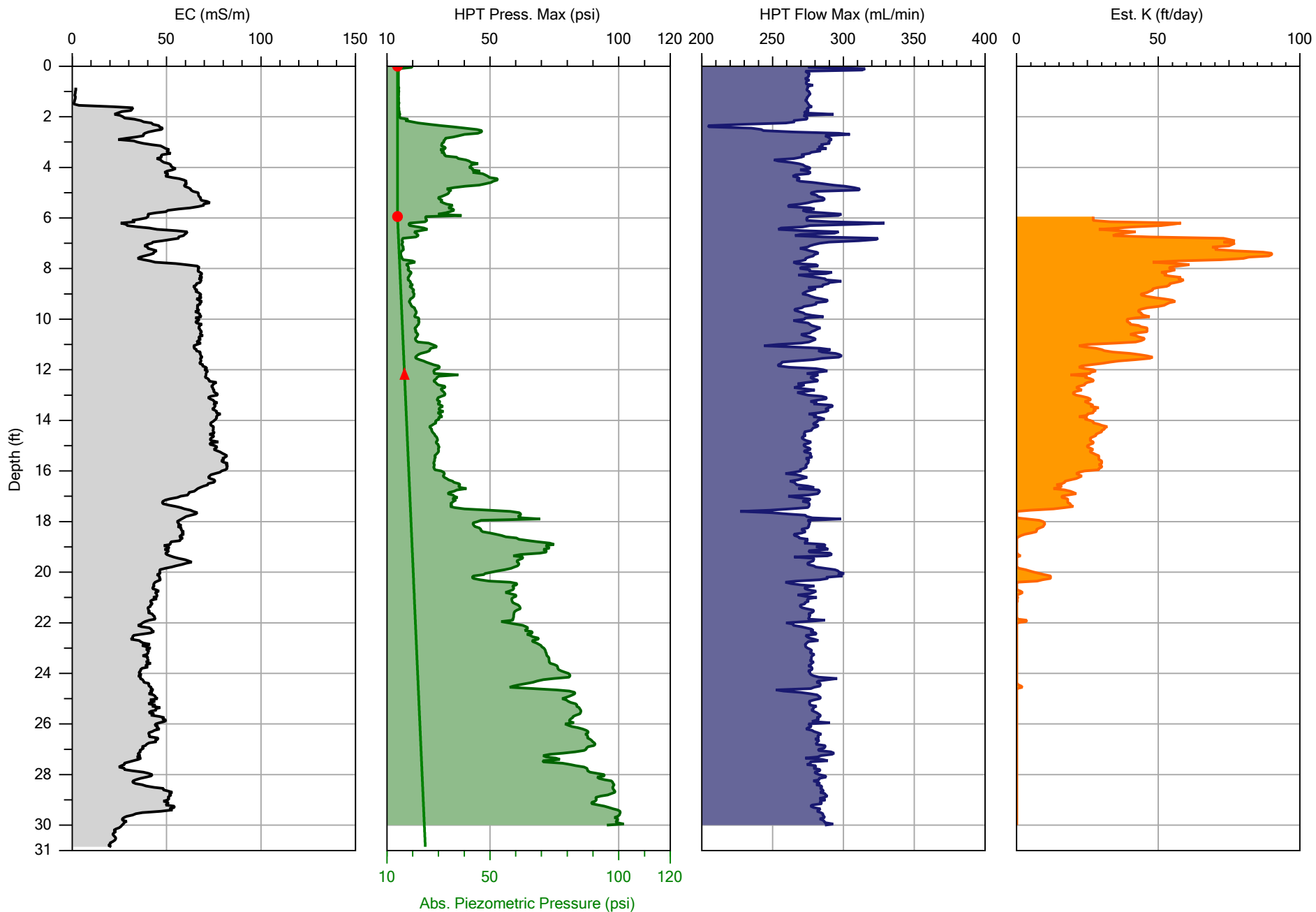
Abs. Piezometric Pressure (psi)



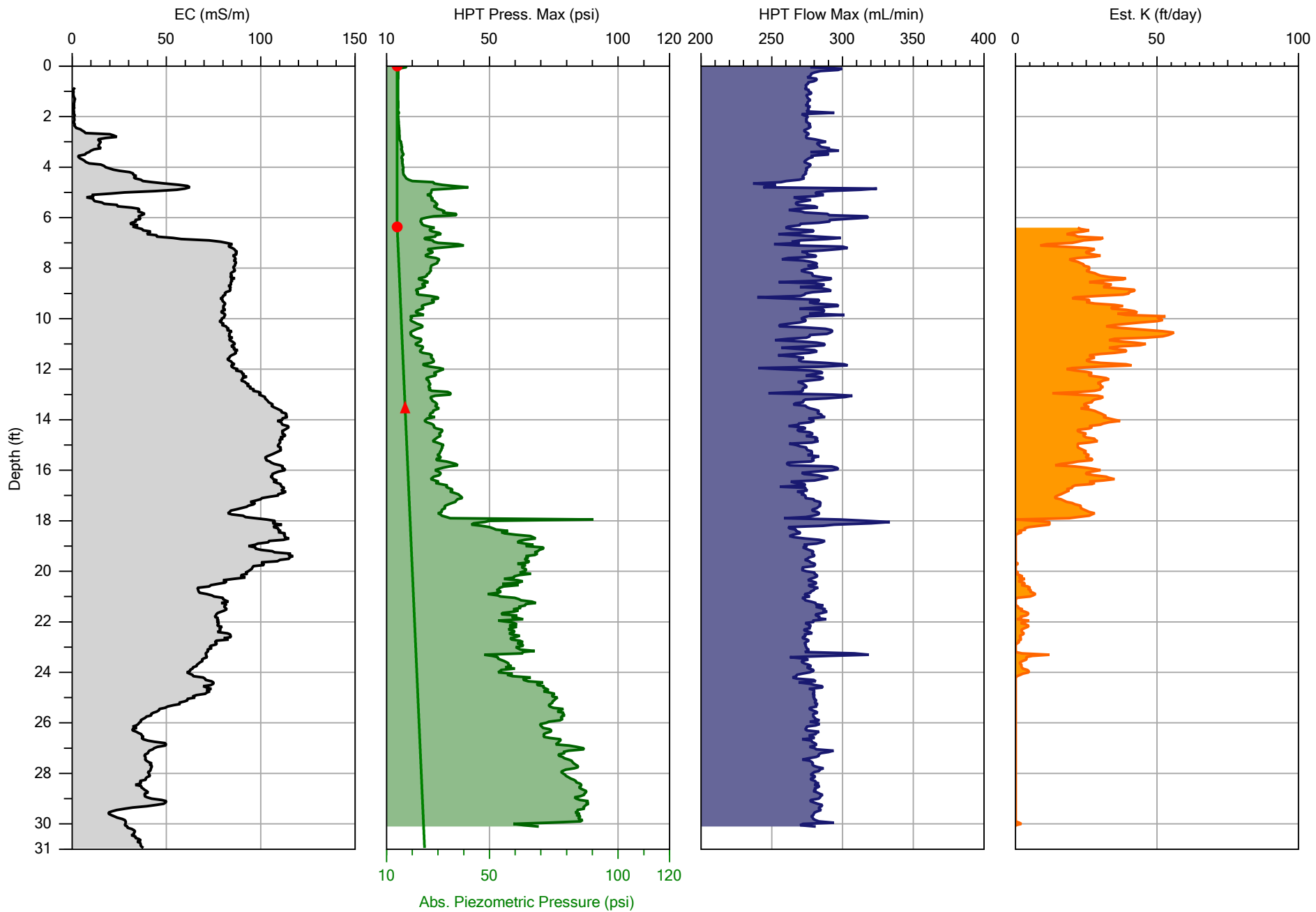
Company:	Dakota Technologies	Operator:	EM/AK	File:	LIFHP-129.HPT
Project ID:	0092.19	Client:	Arcadis	Date:	4/13/2019
				Location:	Livonia, MI



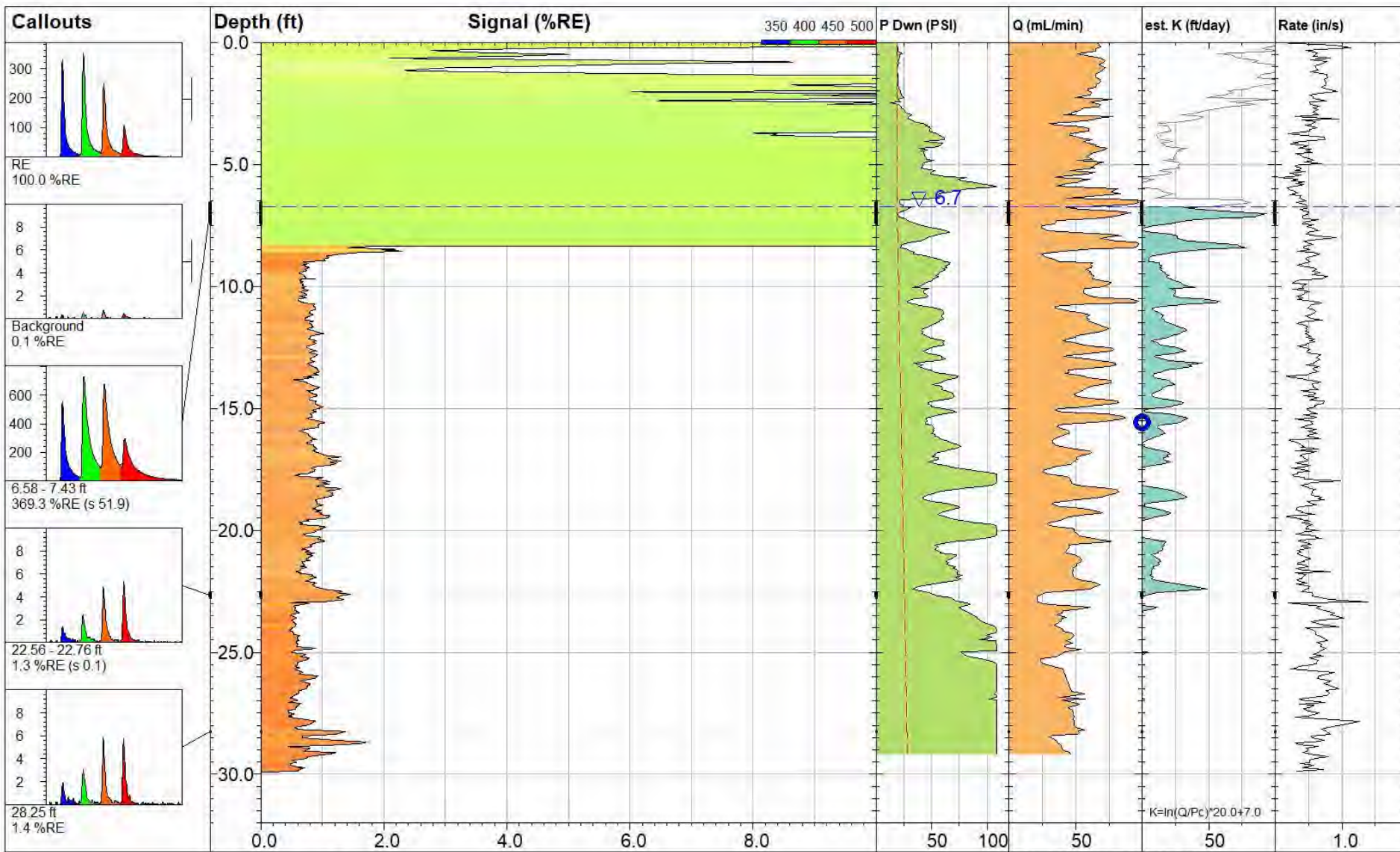
Company: Dakota Technologies		Operator: EM/AK	File: LIFHP-130.HPT
Project ID: 0092.19		Client: Arcadis	Date: 4/13/2019
			Location: Livonia, MI




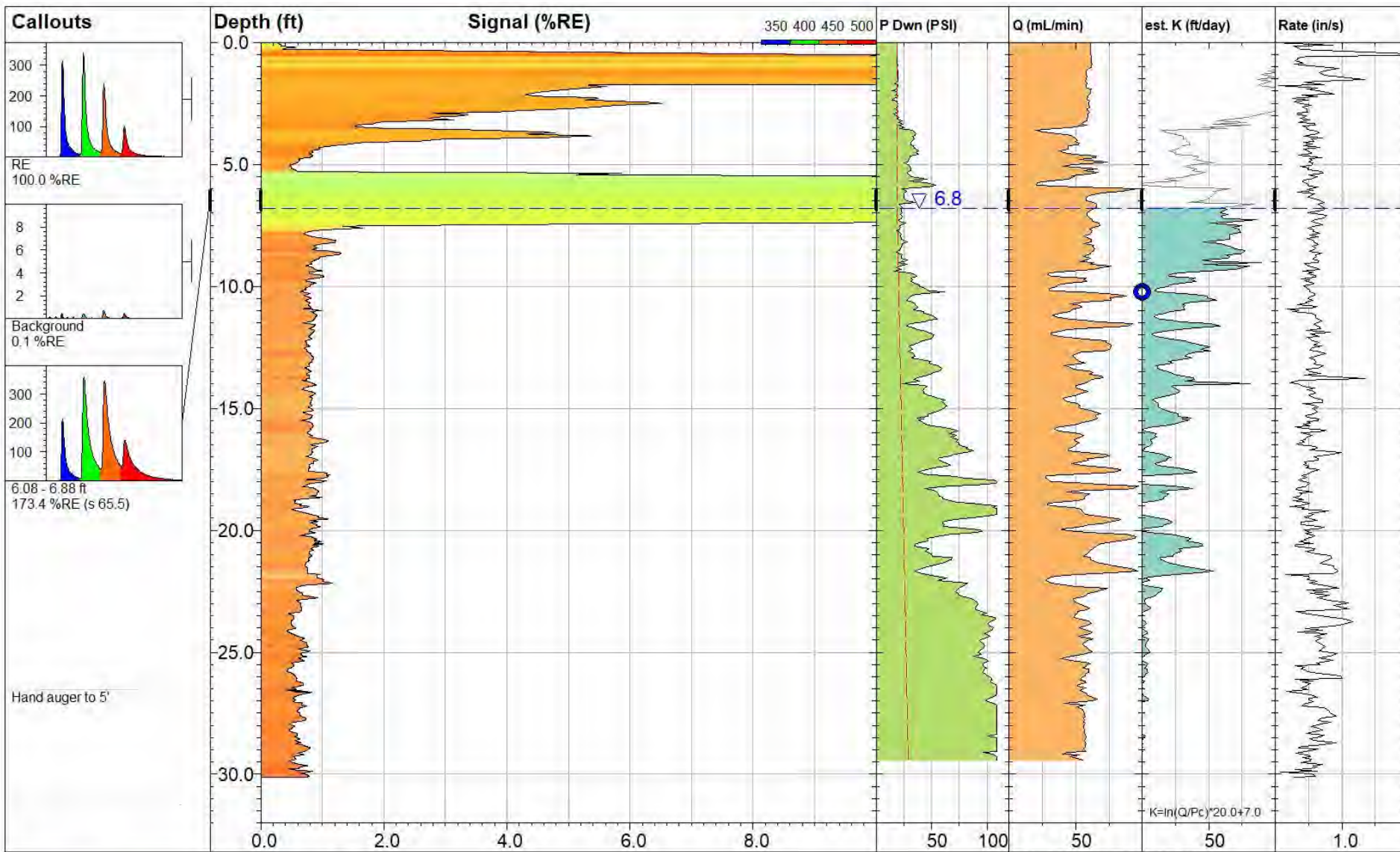
Company: Dakota Technologies		Operator: EM/AK	File: LIFHP-131.HPT
Project ID: 0092.19		Client: Arcadis	Date: 4/13/2019
			Location: Livonia, MI




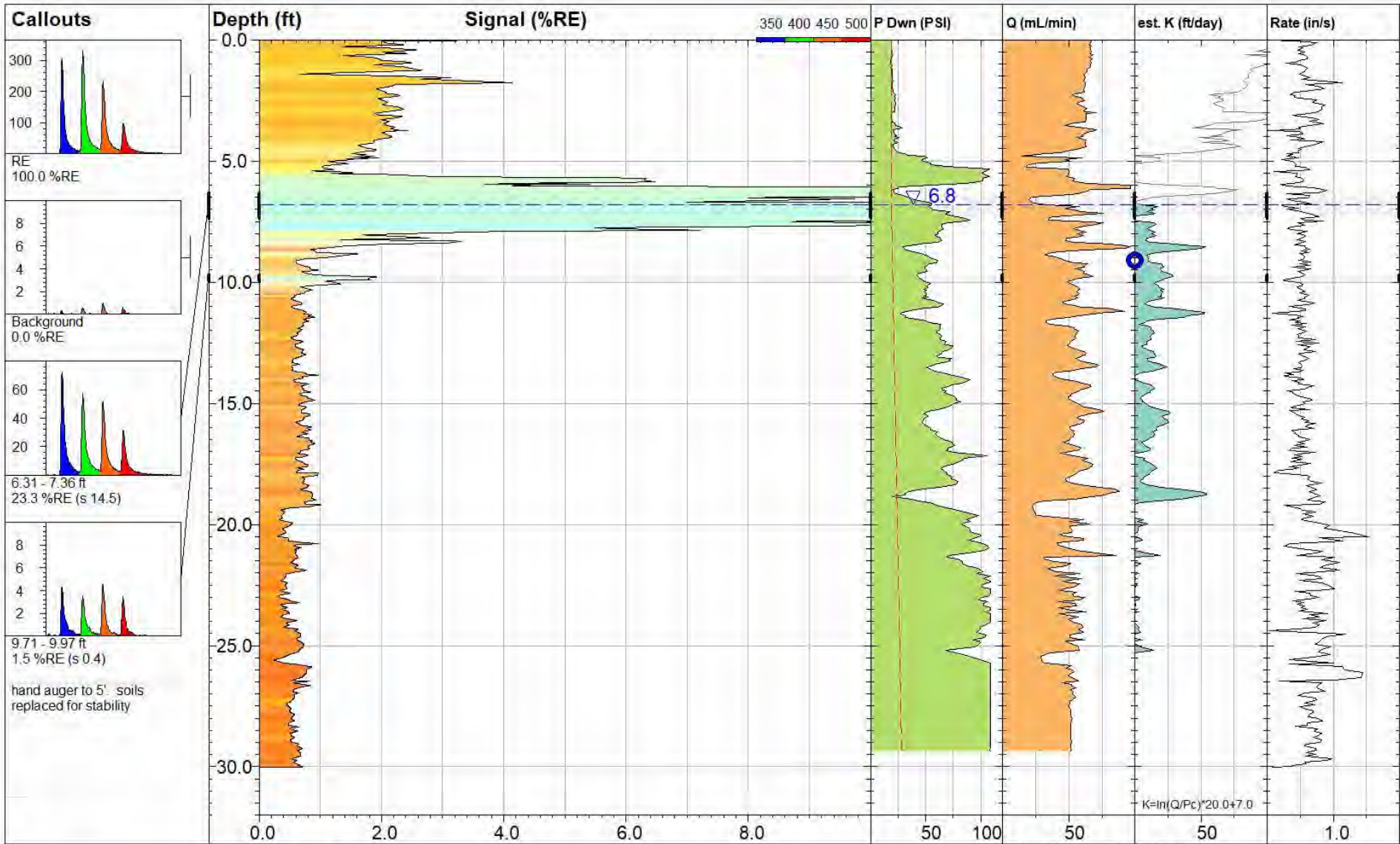
Company: Dakota Technologies		Operator: EM/AK	File: LIFHP-132.HPT
Project ID: 0092.19		Client: Arcadis	Date: 4/13/2019
			Location: Livonia, MI




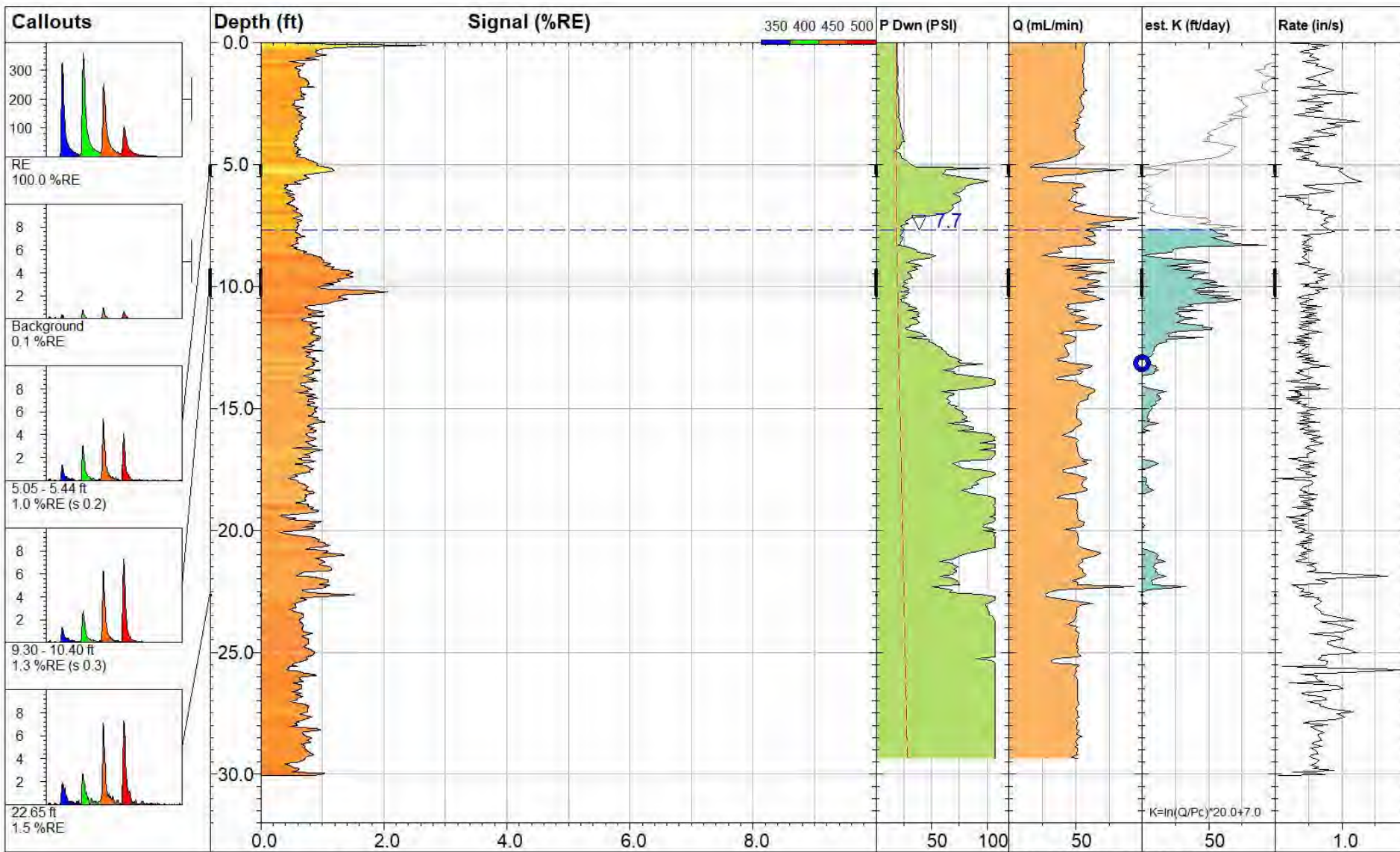
 DAKOTA TECHNOLOGIES <small>WWW.DAKOTATECHNOLOGIES.COM</small>	LIFHP-133		UVOST® By Dakota <small>www.DakotaTechnologies.com</small>		
	Site: Ford LTP		Y Coord. (Lat-N) / System: Unavailable / NA		Final depth: 29.90 ft
	Client / Job: Arcadis / 0018.20		X Coord. (Lng-E) / Fix: Unavailable / NA		Max signal: 440.4 %RE @ 7.00 ft
	Operator / Unit: A. Kirsch / UVOST1013		Elevation: Unavailable		Date & Time: 2020-01-19 11:35 EST




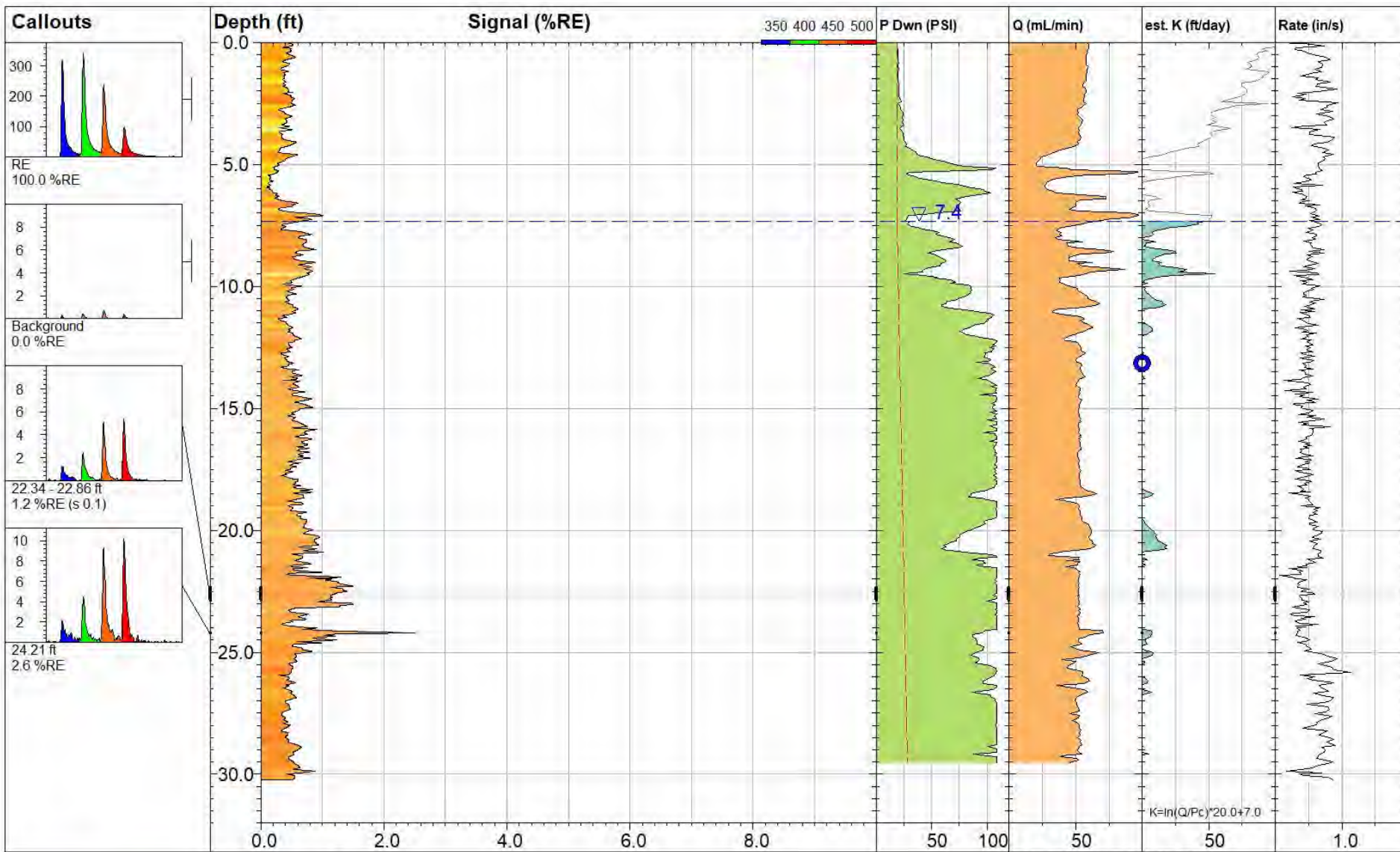
 DAKOTA TECHNOLOGIES <small>WWW.DAKOTATECHNOLOGIES.COM</small>	LIFHP-134		UVOST® By Dakota <small>www.DakotaTechnologies.com</small>		
	<i>Site:</i> Ford LTP		<i>Y Coord. (Lat-N) / System:</i> Unavailable / NA		
	<i>Client / Job:</i> Arcadis / 0018.20		<i>X Coord. (Lng-E) / Fix:</i> Unavailable / NA		
	<i>Operator / Unit:</i> A. Kirsch / UVOST1013		<i>Elevation:</i> Unavailable		
		<i>Final depth:</i> 30.12 ft		<i>Max signal:</i> 269.7 %RE @ 6.55 ft	
		<i>Date & Time:</i> 2020-01-19 17:58 EST			




 DAKOTA TECHNOLOGIES <small>WWW.DAKOTATECHNOLOGIES.COM</small>	LIFHP-135		UVOST® By Dakota <small>www.DakotaTechnologies.com</small>		
	<i>Site:</i> Ford LTP		<i>Y Coord. (Lat-N) / System:</i> Unavailable / NA		<i>Final depth:</i> 30.03 ft
	<i>Client / Job:</i> Arcadis / 0018.20		<i>X Coord. (Lng-E) / Fix:</i> Unavailable / NA		<i>Max signal:</i> 57.9 %RE @ 7.04 ft
<i>Operator / Unit:</i> A. Kirsch / UVOST1013		<i>Elevation:</i> Unavailable		<i>Date & Time:</i> 2020-01-25 15:55 EST	



 DAKOTA TECHNOLOGIES <small>WWW.DAKOTATECHNOLOGIES.COM</small>	LIFHP-136		UVOST® By Dakota <small>www.DakotaTechnologies.com</small>		
	<i>Site:</i> Ford LTP		<i>Y Coord. (Lat-N) / System:</i> Unavailable / NA		
	<i>Client / Job:</i> Arcadis / 0018.20		<i>X Coord. (Lng-E) / Fix:</i> Unavailable / NA		
	<i>Operator / Unit:</i> A. Kirsch / UVOST1013		<i>Elevation:</i> Unavailable		
		<i>Final depth:</i> 30.06 ft		<i>Max signal:</i> 2.7 %RE @ 0.12 ft	
		<i>Date & Time:</i> 2020-01-26 12:44 EST			



 DAKOTA TECHNOLOGIES <small>WWW.DAKOTATECHNOLOGIES.COM</small>	LIFHP-137		UVOST® By Dakota <small>www.DakotaTechnologies.com</small>		
	<i>Site:</i> Ford LTP		<i>Y Coord. (Lat-N) / System:</i> Unavailable / NA		
	<i>Client / Job:</i> Arcadis / 0018.20		<i>X Coord. (Lng-E) / Fix:</i> Unavailable / NA		
	<i>Operator / Unit:</i> A. Kirsch / UVOST1013		<i>Elevation:</i> Unavailable		
		<i>Final depth:</i> 30.24 ft		<i>Max signal:</i> 2.6 %RE @ 24.21 ft	
		<i>Date & Time:</i> 2020-01-26 11:37 EST			



Boring No.: HPT-180

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/25/2018 Logger: A. Reibel

Project Number: MI001454 Date Completed: 10/25/2018 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 34° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1				HPT-180_1-2_102518 @ 1026	0.3	(0.0-0.3') ASPHALT.		Borehole backfilled with native material	
2			60	HPT-180_2-3_102518 @ 1028	0.3	(0.3-0.8') CONCRETE, crushed; rocks.			
3				HPT-180_3-4_102518 @ 1030	0.3	(0.8-2.0') SILT, nonplastic, rapid dilatancy; some gravel, large to small, angular to subrounded; trace fine sand; dry; brown (10YR 4/3).			
4				HPT-180_4-5_102518 @ 1032	0.3	(2.0-3.0') SAND, fine; little silt; little granules to pebbles, large to small, subrounded to subangular; dry; dark brown (10YR 3/3).			
5					0.3	(3.0-5.0') SAND, fine to medium; trace silt; large granules to pebbles, small; dry to moist; yellowish brown (10YR 5/4). Note: Little silt at 4.0' bgs and change in color to dark brown (10YR 3/3).			
6					0.0	(5.0-11.4') SAND, fine; little silt; well sorted; moist to wet; grayish brown (10YR 5/2).			
7			40		0.0				
8					0.0				
9					0.0				
10					0.0				
11			54		0.0				
12					0.0	(11.4-12.0') SAND, medium to very coarse, angular to subrounded; trace silt; trace granules; poorly sorted; wet; grayish brown (10YR 5/2).			
13					0.0	(12.0-13.0') SAND, fine; some silt; well sorted; wet; grayish brown (10YR 5/2).			
14			0		NA	(13.0-15.0') No Recovery.			
15					0.0				
16					0.0	(15.0-17.3') SAND, very fine to fine; some silt; well sorted; wet; dark gray (10YR 4/1).			
17			48		0.0				
18					0.0	(17.3-22.8') SAND, very fine; and SILT; moist; dark gray (10YR 4/1).			
19					0.0				
20					0.0	Note: Wet again at 19.0' bgs.			

Drilling Co.: Dakota Technologies

Sampling Method: Dual Tube

Driller: Robert Stewart

Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push

Water Level Start (ft. bgs.): 5.3

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface;

Converted to Well: Yes No

Surface Elev.: 671.5

North Coord.: 320507.6

East Coord.: 13384064.0



Boring No.: HPT-180

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/25/2018 Logger: A. Reibel

Project Number: MI001454 Date Completed: 10/25/2018 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 34° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		36		0.0		(17.3-22.8') SAND, very fine; and SILT; moist; dark gray (10YR 4/1).	Borehole backfilled with native material	[Redacted]
22					0.0				
23					0.0				
24	X		36	HPT-180_23-24_102518 @ 1155	0.0		(22.8-25.0') SILT; trace fine sand; wet; dark gray (10YR 4/1).	Borehole backfilled with native material	[Redacted]
25					0.0				
26	X		60	HPT-180_25-26_102518 @ 1157	0.0		(25.0-30.0') CLAY, high plasticity; very soft; dark gray (10YR 4/1). Note: Medium soft 28.0-30.0' bgs.	Borehole backfilled with native material	[Redacted]
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31							End of boring at 30.0' bgs.		
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected: 6-10' / DUP-27 @ 1230, 14-18' @ 1210, 20-24' @ 1150. Shake Tests: 21-22' (-), 24-25'(-).

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-181

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/25/2018 Logger: A. Reibel

Project Number: MI001454 Date Completed: 10/25/2018 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 40° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1				HPT-181_1-2_102518 @ 1426	4.2		(0.0-0.4') ASPHALT. (0.4-2.0') SILT; little fine sand; dry; dark brown (10YR 3/3).		
2			60	HPT-181_2-3_102518 @ 1428	1.4		(2.0-3.0') SAND, medium to fine; little silt; trace granules to pebbles, small, subrounded; poorly sorted; moist; dark yellowish brown (10YR 4/6).		
3				HPT-181_3-4_102518 @ 1430	0.7		(3.0-5.0') SAND, medium to fine; some silt; moist; dark brown (10YR 3/3). Note: Organic matter (roots) 3.0-4.0' bgs.		
4				HPT-181_4-5_102518 @ 1432	1.0				
5				HPT-181_5-6_102518 @ 1502	0.0		(5.0-12.0') SAND, fine; little silt; well sorted; moist to wet; gray (10YR 5/1).		
6					0.0				
7			0		0.0				
8					0.0				
9					0.0		Note: Some silt at 9.0' bgs.		
10					0.0			Borehole backfilled with native material	
11			0		0.0				
12					0.0				
13					0.0		(12.0-12.5') SAND, very fine and SILT; wet; dark gray (10YR 4/1).		
14			0		NA		(12.5-13.0') SAND, medium to very coarse; subangular to subrounded; little silt; trace granules to pebbles, small, subangular to subrounded; poorly sorted; wet; dark gray (10YR 4/1).		
15					NA		(13.0-20.0') No Recovery, liners jammed in rods.		
16					NA				
17					NA				
18			0		NA				
19					NA				
20					NA				

Drilling Co.: Dakota Technologies

Sampling Method: Dual Tube

Driller: Robert Stewart

Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push

Water Level Start (ft. bgs.): 9.0

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface;

Converted to Well: Yes No

Surface Elev.: 671.5

North Coord.: 320223.6

East Coord.: 13384083.9



Boring No.: HPT-181

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/25/2018 Logger: A. Reibel
 Project Number: MI001454 Date Completed: 10/25/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 40° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		60	HPT-181_22-23_102518 @ 1622	0.0	(20.0-22.0') SAND, very fine to fine; and SILT; wet; dark gray (10YR 4/1).	Borehole backfilled with native material		
22					0.0	(22.0-30.0') CLAY, high plasticity, no dilatancy; very soft to medium stiff; dark gray.			
23					0.0				
24					0.0				
25					0.0				
26	X		60		0.0				
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31						End of boring at 30.0' bgs.			
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected: 6-10, 11-15, 24-28. Shake Tests: 22-23' (-), 21-22'(-).

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-182

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/29/2018 Logger: C. RevtemanProject Number: MI001454 Date Completed: 10/29/2018 Editor: C. CiscoProject Location: Livonia, MI Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-1.5') SAND, fine to coarse; trace gravel; dry; brown.	Borehole backfilled with native material	
2			36		0.0		(1.5-2.0') SAND, fine; tan; dry to moist.		
3					0.0		(2.0-5.5') SAND, fine; wet; brown to gray.		
4					0.0				
5					0.0				
6					0.0		(5.5-6.0') SAND, fine; wet; gray.		
7			48		0.0		(6.0-10.0') SAND, medium to coarse; trace gravel, trace sand, fine; wet; brown. Note: Coarse sand 2" gray layer, 1" gray fine sand, trace fine sand.		
8					0.0				
9					0.0				
10					0.0				
11					0.0		(10.0-16.5') SAND, fine; trace medium sand; wet; gray.		
12					0.0				
13			54		0.0				
14					0.0		Note: At 14.0-15.0' bgs, 5" sand layers, trace dark gray.		
15					0.0				
16					0.0				
17					0.0		(16.5-17.0') SAND, fine to medium; wet; gray.		
18			54		0.0		(17.0-17.5') CLAY; trace sand; soft; gray.		
19					0.0		(17.5-19.0') SAND; trace sand, fine; trace clay; wet; gray.		
20					0.0		(19.0-20.0') CLAY; trace sand, medium; soft; gray.		

Drilling Co.: Dakota TechnologiesSampling Method: Dual TubeDriller: Robert StewartSampling Interval: ContinuousDrilling Method: Hand Auger / GeoprobeWater Level Start (ft. bgs.): NADrilling Fluid: NoneWater Level Finish (ft. btoc.): NARemarks: ' / ft = feet; " / in = inch; bgs = below ground surface;Converted to Well: Yes NoSurface Elev.: 671.5North Coor.: 319928.8East Coor.: 13384096.6



Boring No.: HPT-182

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/29/2018 Logger: C. Revteman
 Project Number: MI001454 Date Completed: 10/29/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		48		0.0		(19.0-20.0') CLAY; trace sand, medium; soft; gray.	Borehole backfilled with native material	
22					0.0		Note: At 21.0' bgs, 2" fine sand, dry, gray.		
23					0.0				
24					0.0				
25					0.0		Note: Trace gravel present from 25-30' bgs.		
26	X		48	HPT-182_27-28_102918 @ 1445	0.0			Borehole backfilled with native material	
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31							End of boring at 30.0' bgs.		
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

SOIL BORING LOG: 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\HMC\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ - ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-183

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2018 Logger: A. Westhuis

Project Number: MI001454 Date Completed: 11/01/2018 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 45° F, Cloudy/Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					NA		(0.0-1.0') CONCRETE.		
2			60	HPT-183_1-2_110118 @ 1335	0.0		(1.0-2.0') SAND, very fine to fine, subrounded; little granules to medium pebbles, subrounded; some silt; poorly sorted; moist; grayish brown (10YR 5/2). Note: Little brick and concrete fragments. Fill material.		
3				HPT-183_2-3_110118 @ 1340	0.2		(2.0-8.0') SAND, very fine to fine, subrounded; some silt; well sorted; moist to wet; grayish brown (10YR 5/2).		
4				HPT-183_3-4_110118 @ 1345	0.0				
5				HPT-183_4-5_110118 @ 1350	0.0		Note: Boring appeared wet at 4.0' bgs.		
6				HPT-183_5-6_110118 @ 1355	0.0				
7			60		0.0				
8					0.0				
9					0.0		(8.0-10.0') SAND, coarse to very coarse, subangular; little granules to small pebbles, subangular; little silt; poorly sorted; wet; grayish brown (10YR 5/2).		
10					0.0				
11					0.0		(10.0-17.0') SAND, very fine to fine, subrounded; some silt; well sorted; wet; grayish brown (10YR 5/2).		
12			42		0.0				
13					0.0				
14					0.0				
15					0.0				
16					0.0				
17			60	HPT-183_17-18_110118 @ 1425	0.0		(17.0-30.0') CLAY, high plasticity, no dilatancy; some silt; moist; medium stiff; gray (10YR 5/1).		
18					0.0				
19					0.0				
20					0.0				

Borehole backfilled with native material

Drilling Co.: Dakota Technologies

Sampling Method: Dual Tube

Driller: Robert Stewart

Sampling Interval: Continuous

Drilling Method: Hand Auger / Geoprobe

Water Level Start (ft. bgs.): 4.0

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface;

Converted to Well: Yes No

Surface Elev.: 671.5

North Coord.: 320183.8

East Coord.: 13384481.9



Boring No.: HPT-183

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2018 Logger: A. Westhuis
 Project Number: MI001454 Date Completed: 11/01/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 45° F, Cloudy/Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60		0.0		(17.0-30.0') CLAY, high plasticity, no dilatancy; some silt; moist; medium stiff; gray (10YR 5/1).	Borehole backfilled with native material	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26			60	HPT-183_28-29_110118 @ 1430	0.0		End of boring at 30.0' bgs.		
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected: 14-18' @ 1450, 9-13' @ 1505, 3-8' @ 1520.

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MI\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ - ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-184

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/26/2018 Logger: A. Reibel
 Project Number: MI001454 Date Completed: 10/26/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 49° F, Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
0.0					0.0		(0.0-0.4') Asphalt.		
1				HPT-184_1-2_102618 @ 1232	0.0		(0.4-1.0') SAND, fine to very fine; some silt; trace granules, subrounded to subangular; poorly sorted; dry to moist; dark brown (10YR 3/3).		
2			60	HPT-184_2-3_102618 @ 1234	0.0		(1.0-11.4') SAND, fine; little silt; well sorted; dry to wet; dark yellowish brown (10YR 4/6). Note: Change in color to yellowish brown (10YR 5/6) at 2.0' bgs.		
3				HPT-184_3-4_102618 @ 1236	0.0				
4				HPT-184_4-5_102618 @ 1238	0.0				
5				HPT-184_5-6_102618 @ 1240	0.0		Note: Change in color to brown (10YR 5/3) at 5.0' bgs.		
6					0.0				
7			44		0.0		Note: Change in color to gray (10YR 5/1) at 7.0' bgs.		
8					0.0				
9					0.0		Note: 2" silt seam at 8.9' bgs. Some silt beginning at 9.0' bgs.		
10					0.0			Borehole backfilled with native material	
11					0.0				
12			60		0.0		(11.4-13.7') SAND, medium to very coarse, angular to subrounded; little granules to small pebbles, subangular to subrounded; trace silt; poorly sorted; wet; gray (10YR 5/1)		
13					0.0				
14					0.0		(13.7-19.7') SAND, fine; some silt; well sorted; wet; grayish brown (10YR 5/2).		
15					0.0				
16					0.0				
17			60		0.0				
18					0.0				
19					0.0				
20					0.0				

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: Robert Stewart Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
 Surface Elev.: 671.5
 North Coord.: 320299.6
 East Coord.: 13384212.3

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-184

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/26/2018 Logger: A. Reibel
 Project Number: MI001454 Date Completed: 10/26/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 49° F, Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			60	HPT-184_21-22_102618 @ 1302	0.0		(19.7-30.0') CLAY, high plasticity, no dilatancy; dry to moist; soft; medium stiff; dark gray (10YR 4/1).	Borehole backfilled with native material	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26					0.0				
27			58		0.0		End of boring at 30.0' bgs.		
28					0.0				
29					0.0				
30					0.0				
31					0.0				
32					0.0				
33	0.0								
34	0.0								
35	0.0								
36	0.0								
37	0.0								
38	0.0								
39	0.0								
40	0.0								
41	0.0								

Remarks: VAP Samples Collected: 6-10' @ 1400, 11-15' @ 1345, 16-20' @ 1315. Shake Tests: 18-19' (-), 21-22'(-).

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-185

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/30/2018 Logger: C. RevtemanProject Number: MI001454 Date Completed: 10/30/2018 Editor: C. CiscoProject Location: Livonia, MI Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.6') CONCRETE.		Borehole backfilled with native material	
					0.0	(0.6-1.0') FILL: SAND, fine to medium; tan.			
2			42		0.0	(1.0-3.0') SAND, fine to coarse; moist; some medium gravel; black.			
3					0.5	(2.5-3.0') SAND, fine; some brick. Note: Slight odor present.			
4					0.0	(3.0-5.0') SAND, fine; moist to wet; dark gray.			
5					0.0				
6					0.0	(5.0-6.5') SAND, fine to medium; wet; dark gray.			
7					0.0	Note: At 6.0' bgs, 2" clay; soft.			
8			48		0.0	(6.5-8.5') SAND, medium to coarse, subangular; trace gravel up to 3/4"; wet; tan to gray.			
9					0.0				
10					0.0	(8.5-17.0') SAND, fine; trace sand, medium; wet; tan to gray.			
11					0.0				
12					0.0				
13			54		0.0				
14					0.0				
15					0.0	Note: From 15-17' bgs, trace sand layers <5" thick, trace gravel, fine.			
16					0.0				
17					0.0	Note: Sand, fine to medium present from 16.5-17.0' bgs.			
18			54		0.0	(17.0-20.0') SAND; and CLAY; trace sand, fine; soft; gray.			
19					0.0				
20					0.0	Note: At 17.0-19.0' bgs, <1" trace fine sand layer.			

Drilling Co.: Dakota TechnologiesSampling Method: Dual TubeDriller: Robert StewartSampling Interval: ContinuousDrilling Method: Hand Auger / GeoprobeWater Level Start (ft. bgs.): NADrilling Fluid: NoneWater Level Finish (ft. btoc.): NARemarks: ' / ft = feet; " / in = inch; bgs = below ground surface;Converted to Well: Yes NoSurface Elev.: 671.5North Coord.: 320324.9East Coord.: 13384463.8



Boring No.: HPT-185

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/30/2018 Logger: C. Revteman
 Project Number: MI001454 Date Completed: 10/30/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			54		0.0		(20.0-30.0') CLAY; some sand; very soft; gray.	Borehole backfilled with native material	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26			60		0.0		Note: From 27.0-30.0' bgs, transition to reddish gray, trace gravel.	Borehole backfilled with native material	
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31							End of boring at 30.0' bgs.		
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: _____

SOIL BORING LOG: 2013 \\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-210

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/01/2019 Logger: C. Weaver

Project Number: MI001454 Date Completed: 04/01/2019 Editor: C. Cicso

Project Location: Livonia, MI

Weather Conditions: 30° F

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1				HPT-210_0-1_040219 @ 09:00	0.0	(0-0.5') CONCRETE.		(0.0-0.5') Cement	
2			60	HPT-210_0-1_040219 @ 09:00	0.0	(0.5-2.0') SAND, medium to coarse, subrounded to subangular; some pebbles, large; moderately sorted; dry to moist; brown (10YR 4/3).			
3				HPT-210_0-1_040219 @ 09:00	0.0	(2.0-4.0') SAND, fine to medium, subangular; some silt, low plasticity, rapid dilatancy; well sorted; moist to wet; gray (10YR 6/1).			
4					0.0				
5					0.0	(4.0-5.0') SILT, medium plasticity, rapid dilatancy; some clay; wet; soft; grayish brown (10YR 5/2).			
6				HPT-210_3-7_040119 @ 18:55	0.0	(5.0-7.0') SILT, medium plasticity, rapid dilatancy; little clay; well sorted; grayish brown (10YR 5/2).			
7					0.0				
8			41		0.0	(7.0-11.0') SAND, fine to coarse, subrounded to subangular; little silt; trace granules, small to medium; poorly sorted; wet; grayish brown (10YR 5/2).			
9					0.6				
10					0.5				
11				HPT-210_8-12_040119 @ 18:40	0.0	(5.0-7.0') SILT, medium plasticity, rapid dilatancy; little clay; well sorted; grayish brown (10YR 5/2).		(0.5-30.0') Backfilled with Bentonite	
12					2.0	(11.0-11.3') SILT, medium plasticity, rapid dilatancy; trace clay; well sorted; wet; grayish brown (10YR 5/2).			
13			44		1.6	(11.3-13.0') SAND, fine to coarse, subrounded to subangular; little granules, small; trace pebbles, small; poorly sorted; wet; yellowish brown (10YR 5/4).			
14					0.0	(13.0-18.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; wet; gray (10YR 6/1).			
15					0.0				
16				HPT-210_13-17_040119 @ 18:25	0.0	(18.0-18.5') SILT, medium plasticity, rapid dilatancy; little clay; well sorted; wet; gray (10YR 6/1).			
17					0.0				
18			48		0.0	(18.0-18.5') SILT, medium plasticity, rapid dilatancy; little clay; well sorted; wet; gray (10YR 6/1).			
19					0.0	(18.5-20.0') CLAY, high plasticity, slow dilatancy; well sorted; moist to wet; soft; gray (10YR 6/1).			
20					0.0				

Drilling Co.: Dakota Technologies

Sampling Method: Dual Tube

Driller:

Sampling Interval: Continuous

Drilling Method: Hand Auger / Geoprobe

Water Level Start (ft. bgs.): NA

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks:

Converted to Well: Yes No

Surface Elev.: NA

North Coor.:

East Coor.:



Boring No.: HPT-210

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/01/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/01/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 30° F

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well						
21	X		46		0.0	/	(20.0-22.0') CLAY, high plasticity, slow dilatancy; little silt; trace sand, very fine; well sorted; wet; very soft; gray (10YR 6/1).	(0.5-30.0') Backfilled with Bentonite							
22					0.0		X				60				
23					0.0										(22.0-30.0') CLAY, high plasticity, slow dilatancy; trace silt; well sorted; moist to wet; soft; gray (10YR 6/1).
24					0.0										
25					0.0										
26					0.0										
27	0.0														
28	0.0														
29	0.0														
30	0.0														
31	0.0								End of boring at 30.0' bgs.						
32	0.0														
33															
34															
35															
36															
37															
38															
39															
40															
41															

Remarks: _____

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-211

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/02/2019 Logger: C. Weaver

Project Number: MI001454 Date Completed: 04/02/2019 Editor: C. Cicso

Project Location: Livonia, MI

Weather Conditions: 37° F

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
0					0.0		(0.0-0.5') CONCRETE.		
1				HPT-211_1-2_040119 @ 17:00	0.0		(0.5-2.0') SAND, medium to coarse, subrounded to subangular; some pebbles, large, subrounded to subangular; poorly sorted; dry to moist; brown (10YR 4/3).		
2			60	HPT-211_2-3_040119 @ 17:00	0.0		(2.0-4.0') SAND, fine to medium, subangular; some silt, low plasticity, rapid dilatancy; well sorted; moist to wet; gray (10YR 6/1).		
3				HPT-211_3-4_040119 @ 17:00	0.0				
4				HPT-211_2-6_040219 @ 10:50	0.0		(4.0-5.0') SILT, medium plasticity, rapid dilatancy; some clay; well sorted; wet; soft; grayish brown (10YR 5/2).		
5				HPT-211_4-5_040119 @ 17:00	0.0		(5.0-7.3') SAND, fine to medium, subrounded to subangular; little silt, low plasticity, rapid dilatancy; trace clay; moderately sorted; wet; grayish brown (10YR 5/2).		
6				HPT-211_5-6_040119 @ 17:00	0.0				
7			43	HPT-211_7-11_040219 @ 10:35	0.0		(7.3-10.8') SAND, fine to very coarse, subrounded to subangular; some granules, small; trace pebbles, small; poorly sorted; wet; brown (10YR 5/3).		
8					0.0				
9					0.0				
10					0.0				
11					0.0		(10.8-12.5') SAND, fine to medium, subrounded to subangular; trace silt; well sorted; wet; grayish brown (10YR 5/2).		
12			52		0.0				
13					0.3		(12.5-18.3') SILT, low plasticity, rapid dilatancy; trace clay; well sorted; wet; very soft; gray (10YR 5/1).		
14					0.8				
15					0.0				
16				HPT-211_13-17_040219 @ 10:18	0.0				
17					0.0				

Drilling Co.: Dakota Technologies

Sampling Method: Dual Tube

Driller:

Sampling Interval: Continuous

Drilling Method: Hand Auger / Geoprobe

Water Level Start (ft. bgs.): NA

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: Boring appears wet at 3.0' bgs. EOB at 30.0' bgs.

Converted to Well: Yes No

Surface Elev.: NA

North Coord:

East Coord:



Boring No.: HPT-211

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/02/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/02/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 37° F

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18			60	HPT-211_18-19_04021 @ 09:45	0.0		(12.5-18.3') SILT, low plasticity, rapid dilatancy; trace clay; well sorted; wet; very soft; gray (10YR 5/1).		
19					0.0		(18.3-30.0') CLAY, high plasticity, slow dilatancy; trace silt; well sorted; moist to wet; medium stiff; gray (10YR 5/1).		
20					0.0				
21			60		0.0				
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26					0.0				
27			60		0.0				
28					0.0				
29					0.0				
30					0.0				
31					0.0				
32					0.0				
33					0.0				
34					0.0				
35	0.0								
36	0.0								
37	0.0								
38	0.0								
							End of boring at 30.0' bgs.		

Remarks:

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-212

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/02/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/02/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 37° F

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
0.0					0.0		(0-0.3') ASPHALT.		
0.3					0.0		(0.3-0.8') CONCRETE, slag.		
0.8				HPT-212_1-2_040219 @ 15:40	0.0		(0.8-5.0') SAND, fine to coarse, subrounded to subangular; trace pebble, small; poorly sorted; dry to moist; black (10YR 2/1).		
1.5				HPT-212_2-3_040219 @ 15:40	0.0				
2.2			60	HPT-212_3-4_040219 @ 15:40	0.0				
2.9				HPT-212_4-5_040219 @ 15:40	0.0				
3.6					0.0				
5.0					0.0		(5.0-11.2') SAND, very fine to fine; and SILT, nonplastic, rapid dilatancy; well sorted; moist to wet; gray (10YR 5/1).		
6.0				HPT-212_5-9_040219 @ 14:33	0.0		(11.2-14.0') SAND, fine to very coarse, subrounded to subangular; little granules, small; trace pebbles, small; poorly sorted; wet; yellowish brown (10YR 5/4).		
7.0					0.0				
8.0			43		0.0				
9.0					0.0				
10.0					0.0				
11.0					0.0		(14.0-15.1') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; grayish brown (10YR 5/2).		
12.0				HPT-212_10-14_040219 @ 14:18	0.1		(15.1-16.0') SAND, fine to medium, subrounded to subangular; little silt, nonplastic, rapid dilatancy; moderately sorted; wet; grayish brown (10YR 5/2).		
13.0			46		0.0				
14.0					0.0		(16.0-19.8') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; wet; very soft; grayish brown (10YR 5/2).		
15.0					0.0				
16.0					0.0				
17.0					0.0				

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: _____ Converted to Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMM\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-212

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/02/2019 Logger: C. Weaver

Project Number: MI001454 Date Completed: 04/02/2019 Editor: C. Cicso

Project Location: Livonia, MI Weather Conditions: 37° F

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18			60		0.0		(16.0-19.8') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; wet; very soft; grayish brown (10YR 5/2).		
19					0.0				
20					0.0				
21			60	HPT-212_18-22_04021 @ 14:05	0.0		(19.8-20.2') CLAY, medium plasticity, slow dilatancy; little sand, fine to medium, subrounded to subangular; poorly sorted; wet; soft; grayish brown (10YR 5/2).		
22					0.0		(20.2-22.0') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; grayish brown (10YR 5/2).		
23					0.0		(22.0-30.0') CLAY, high plasticity, slow dilatancy; trace silt; well sorted; wet; medium stiff; gray (10YR 5/1).		
24			48		0.0				
25					0.0				
26					0.0				
27					0.0				
28					0.0				
29					0.0				
30					0.0		End of boring at 30.0' bgs.		
31					0.0				
32					0.0				
33					0.0				
34					0.0				
35					0.0				
36					0.0				
37					0.0				
38					0.0				

Remarks:



Boring No.: HPT-213

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/03/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/03/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 37° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1					0.0		(0.0-3.0') CONCRETE, slag.		
2					0.0				
3			38		0.0				
4				HPT-213_3-4_040319 @ 08:05	0.0				
5				HPT-213_4-5_040319 @ 08:05	0.0		(3.0-6.0') SAND, fine to medium, subrounded to subangular; little sand, coarse to very coarse, subrounded to subangular; trace clay; poorly sorted; moist to wet; dark yellowish brown (10YR 4/6).		
6					0.0				
7				HPT-213_5-9_040319 @ 11:30	0.0		(6.0-7.2') SAND, fine to coarse, subrounded to subangular; trace granules, small; moderately sorted; moist to wet; light yellowish brown (10YR 6/4).		
8			47		0.0				
9					0.0		(7.2-12.3') SAND, fine to medium, subrounded to subangular; little silt; well sorted; moist to wet; light brownish gray (10YR 6/2).		
10					0.0				
11					0.0				
12				HPT-213_10-14_040319 @ 11:30	0.0				
13			53		0.0				
14					0.0		(12.3-14.2') SAND, fine to very coarse, subrounded to subangular; some granules, small to medium; trace pebbles, small; poorly sorted; wet; brown (10YR 5/3).		
15					0.0				
16					0.0				
17				HPT-213_15-19_040319	0.0		(14.2-18.2') SILT, nonplastic, rapid dilatancy; trace sand, very fine to fine; well sorted; wet; light brownish gray (10YR 6/2).		

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): 11
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: Boring appears wet at 11.0' bgs. EOB at 30.0' bgs Converted to Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ_ARCADIS_2013.GDT_3/31/20



Boring No.: HPT-213

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/03/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/03/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 37° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18	X		53	@ 10:55	0.0		(14.2-18.2') SILT, nonplastic, rapid dilatancy; trace sand, very fine to fine; well sorted; wet; light brownish gray (10YR 6/2).		
19					0.0		(18.2-18.3') CLAY, high plasticity, slow dilatancy; trace silt; wet; soft; gray (10YR 6/1).		
20					0.0		(18.3-19.2') SILT, nonplastic, rapid dilatancy; well sorted; wet; very soft; gray (10YR 6/1). (19.2-20.0') CLAY, high plasticity, slow dilatancy; little silt; wet; soft; gray (10YR 6/1).		
21	X		60	HPT-213_20-24_04031 @ 10:30	0.0		(20.0-25.8') SILT, nonplastic, rapid dilatancy; trace sand, very fine to fine; wet; very soft; grayish brown (10YR 5/2).		
22					0.0				
23					0.0				
24					0.0				
25	X		60	HPT-213_26-27_04031 @ 10:00	0.0		(25.8-30.0') CLAY, high plasticity, slow dilatancy; trace silt; wet; soft; gray (10YR 6/1).		
26					0.0				
27					0.0				
28					0.0				
29									
30							End of boring at 30.0' bgs.		
31									
32									
33									
34									
35									
36									
37									
38									

Remarks:

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-214

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/03/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/03/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 44° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1				HPT-214_1-2_040319 @ 11:40	0.0		(0.0-3.0') ASPHALT, slag; some gravel.		
2			60	HPT-214_2-3_040319 @ 11:40	0.0				
3				HPT-214_3-4_040319 @ 11:40	0.0				
4				HPT-214_4-5_040319 @ 11:40	0.0		(3.0-6.2') SAND, fine to medium, subrounded to subangular; little silt; well sorted; dry to moist; very dark gray (10YR 3/1).		
5					0.0				
6					0.0				
7			40	HPT-214_5-9_040319 @ 14:42	0.0		(6.2-11.0') SILT, nonplastic, rapid dilatancy; little sand, very fine to medium, subrounded to subangular; well sorted; moist to wet; grayish brown (10YR 5/2).		
8					0.0				
9					0.0				
10					0.0				
11					0.0				
12			43	HPT-214_10-14_040319 @ 14:24	0.0		(11.0-15.0') SAND, fine to very coarse, subrounded to subangular; some granules, small to medium, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2).		
13					0.0				
14					0.0				
15					0.0				
16					0.0				
17					0.0		(15.0-18.5') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; very soft; grayish brown (10YR 5/2).		

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): 8
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: Boring appears wet at 8.0' bgs. EOB at 30.0' bgs Converted to Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-214

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/03/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/03/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 44° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18	X		60	HPT-214_16-20_04031 @ 14:10	0.0		(15.0-18.5') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; very soft; grayish brown (10YR 5/2).		
19					0.0		(18.5-18.6') CLAY, high plasticity, slow dilatancy; little silt; wet; soft; gray (10YR 6/1).		
20					0.0		(18.6-19.5') SILT, low plasticity, rapid dilatancy; wet; soft; grayish brown (10YR 5/2).		
21	X		52		0.0		(19.5-20.0') CLAY, high plasticity, slow dilatancy; little silt; wet; stiff; gray (10YR 5/1).		
22					0.0		(20.0-22.0') SILT, low plasticity, rapid dilatancy; trace sand, very fine; wet; very soft; grayish brown (10YR 5/2).		
23					0.0		(22.0-30.0') CLAY, high plasticity, slow dilatancy; trace silt; wet; medium stiff; gray (10YR 6/1).		
24	X		60	HPT-214_26-27_04031 @ 14:05 and DUP-01 collected	0.0				
25					0.0				
26					0.0				
27					0.0				
28					0.0				
29					0.0				
30						End of boring at 30.0' bgs.			
31									
32									
33									
34									
35									
36									
37									
38									

Remarks:

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-215A

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/06/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/06/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 65° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0				HPT-215A_0-1_040619	0.0		(0.0-0.5') CONCRETE.		
1				@ 09:10					
2			60	HPT-215A_1-2_040619	18.3		(0.5-4.0') SAND, fine to medium, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; dry to moist; pale brown (10YR 6/3).		
3				@ 09:10					
4				HPT-215A_2-3_040619	37.9				
5				@ 09:10					
6				HPT-215A_3-4_040619	4.5				
7				@ 09:10					
8				HPT-215A_4-5_040619	2.3		(4.0-7.5') SAND, very fine to fine; and SILT, nonplastic, rapid dilatancy; well sorted; moist to wet; dark gray (10YR 4/1).		
9				@ 09:10					
10				HPT-215A_4-8_040619	0.6				
11				at 14:25	1.0				
12			44		0.8		(7.5-9.0') SAND, fine to very coarse, subrounded to subangular; some granules, small, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; brown (10YR 5/3).		
13					1.1				
14					0.8		(9.0-12.0') SAND, fine to medium, subrounded to subangular; little silt, nonplastic, rapid dilatancy; well sorted; wet; gray (10YR 5/1).		
15				HPT-215A_9-13_040619	1.2				
16				@ 14:10 and DUP-02	1.7				
17				collected					
18					0.9		(12.0-17.0') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; very dense; dark gray (10YR 4/1).		
19					1.2				
20					1.2				
21				HPT-215A_14-18_040619	1.0				
22				@ 13:50	1.3				

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): 4
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: Boring appears wet at 4.0' bgs. EOB at 30.0' bgs Converted to Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ_ARCADIS_2013.GDT_3/31/20



Boring No.: HPT-215A

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/06/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/06/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 65° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18	X		53		1.3	[USCS Class]	(17.0-17.1') CLAY, medium plasticity, rapid dilatancy; some silt; well sorted; wet; soft; dark gray (10YR 5/1).		
19					0.8		(17.1-17.2') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; wet; dark gray (10YR 4/1).		
20					0.8		(17.2-17.4') CLAY, high plasticity, slow dilatancy; trace silt; well sorted; wet; soft; dark gray (10YR 4/1).		
21					0.7		(17.4-17.8') SILT, nonplastic, rapid dilatancy; trace sand, very fine to fine; well sorted; wet; dark gray (10YR 4/1).		
22	X		60		0.8	[USCS Class]	(17.8-30.0') CLAY, high plasticity, slow dilatancy; trace silt; well sorted; wet; soft; dark gray (10YR 4/1).		
23					0.9				
24					0.9				
25					0.9				
26					0.6				
27					0.6				
28					0.6				
29	X		49	HPT-215A_28-29_04061 @ 13:35	0.6	[USCS Class]			
30					0.4				
31	X				0.2	[USCS Class]	End of boring at 30.0' bgs.		
32									
33									
34									
35									
36									
37									
38									

Remarks:

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MICOM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-216

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/06/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/06/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 65° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
0.8					0.8		(0.0-0.5') CONCRETE.		
2.1			60	HPT-216_1-2_040619 @ 15:00	2.1		(0.5-4.0') SAND, fine to medium, subrounded to subangular; trace silt; well sorted; dry to moist; gray (10YR 5/1).		
3.4			HPT-216_2-3_040619 @ 15:00	3.4					
2.5			HPT-216_3-4_040619 @ 15:00	2.5					
2.7			HPT-216_4-5_040619 @ 15:00	2.7					
1.9					1.9		(4.0-7.5') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; moist to wet; black (2.5YR 2.5/1). Note: Strong odor present.		
2.2			HPT-216_5-9_040619 @ 17:50	2.2					
1.8			38		1.8		(7.5-7.7') SILT, medium plasticity, slow dilatancy; little clay; trace sand, medium; wet; soft; dark gray (10YR 4/1).		
1.4					1.4		(7.7-9.0') SAND, fine to very coarse, subrounded to subangular; little granules, small, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; dark grayish brown (10YR 4/2).		
1.4					1.4		(9.0-10.0') SAND, fine to medium, subrounded to subangular; some silt, nonplastic, rapid dilatancy; well sorted; wet; grayish brown (10YR 5/2).		
0.8					0.8		(10.0-17.2') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; grayish brown (10YR 5/2).		
5.8					5.8				
1.8			52		1.8				
1.7					1.7				
1.4					1.4				
3.7					3.7				
1.7					1.7				

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): 4
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: Boring appears wet at 4.0' bgs. EOB at 30.0' bgs Converted to Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-216

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/06/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/06/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 65° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well		
18	X		55		2.2		(17.2-17.4') CLAY, high plasticity, slow dilatancy; little silt; wet; soft; grayish brown (10YR 5/2).				
19					1.4		(17.4-18.8') SILT, medium plasticity, rapid dilatancy; trace clay; wet; very soft; grayish brown (10YR 5/2).				
20					1.2		(18.8-25.0') CLAY, high plasticity, slow dilatancy; trace silt; wet; gray (10YR 5/1).				
21					3.0		HPT-216_18-22_04061 @ 17:20				
22	X		58		2.8						
23					2.8						
24					2.3						
25					1.8						
26	0.8	(25.0-26.0') CLAY, medium plasticity, rapid dilatancy; some silt; wet; very soft; gray (10YR 5/1).									
27	0.8		(26.0-30.0') CLAY, high plasticity, slow dilatancy; trace silt; wet; soft; gray (10YR 5/1).								
28	0.5		HPT-216_27-28_04061 @ 17:10 and MS/MSD								
29	0.4										
30	0.4										
31	End of boring at 30.0' bgs.										
32											
33											
34											
35											
36											
37											
38											

Remarks:

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-217

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/07/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/07/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 65° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
0.8					6.1		(0.0-0.8') CONCRETE.		
1.2				HPT-217_1-2_040619 @ 17:45	3.4		(0.8-3.8') SAND, fine to medium, subrounded to subangular; trace silt; well sorted; dry to moist; light olive brown (2.5Y 5/3). Note: Slight odor.		
2.0			HPT-217_2-3_040619 @ 17:45	6.5					
2.8		60		HPT-217_3-4_040619 @ 17:45	4.0				
3.2				HPT-217_4-5_040619 @ 17:45	3.8		(3.8-4.0') SILT, medium plasticity, slow dilatancy; little clay; dry to moist; soft; dark gray (10YR 4/1).		
3.6							(4.0-7.0') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; gray (10YR 5/1).		
4.0					6.7		(7.0-11.7') SAND, fine to very coarse, subrounded to subangular; some granules, small to medium, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2).		
4.4				HPT-217_4-8_040719 @ 10:20	6.5				
4.8		43			5.8				
5.2					8.3		(11.7-17.2') SILT, nonplastic, rapid dilatancy; little sand, fine to very coarse; wet; dark grayish brown (10YR 4/2).		
5.6					9.9				
6.0					5.8				
6.4				HPT-217_9-13_040719 @ 10:00	6.5				
6.8					6.5				
7.2					6.5				
7.6					6.8				
8.0					6.0				
8.4					2.0				
8.8					2.0				

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): 4
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: Boring appears wet at 4.0' bgs. EOB at 30.0' bgs Converted to Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-217

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/07/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/07/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 65° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well	
18	X		60	HPT-217_16-20_04071 @ 09:35	2.0	(17.2-17.3') CLAY, high plasticity, slow dilatancy; little silt; wet; soft; gray (10YR 5/1).				
19					1.8					(17.3-17.4') SILT, low plasticity, rapid dilatancy; trace clay; wet; very soft; gray (10YR 5/1).
20					1.7					(17.4-18.0') CLAY, high plasticity, slow dilatancy; trace silt; wet; soft; gray (10YR 5/1).
21					2.8					(18.0-18.1') SILT, nonplastic, rapid dilatancy; wet; very soft; gray (10YR 5/1).
22	X		41		3.0	(18.1-30.0') CLAY, high plasticity, slow dilatancy; trace silt; wet; soft; gray (10YR 5/1).				
23					3.1					
24					2.2					
25					2.3					
26	X		60	HPT-217_28-29_04071 @ 10:30	1.0	End of boring at 30.0' bgs.				
27					0.8					
28					0.8					
29					0.5					
30	0.5									
31										
32										
33										
34										
35										
36										
37										
38										

Remarks:

SOIL BORING LOG 2013 \\ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-218

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/07/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/07/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 65° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
0.5							(0.0-0.8') CONCRETE.		
1				HPT-218_1-2_040719 @ 10:45	0.7		(0.8-4.0') SAND, fine to medium, subrounded to subangular; trace silt; well sorted; dry to moist; very dark gray (2.5Y 3/1).		
2			HPT-218_2-3_040719 @ 10:45	0.7					
3		60	HPT-218_3-4_040719 @ 10:45	1.5					
4				HPT-218_4-5_040719 @ 10:45	0.9		(4.0-7.0') SAND, fine to very coarse, subrounded to subangular; some granules, small to medium, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; dark grayish brown (10YR 4/2).		
5					36.7				
6				HPT-218_5-9_040719 @ 13:55	4.0		(7.0-9.0') SAND, very fine to fine, subrounded to subangular; some silt, nonplastic, rapid dilatancy; well sorted; wet; dark grayish brown (10YR 4/2).		
7					7.7				
8		46			0.3				
9					0.2		(9.0-17.0') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; dark gray (10YR 4/1).		
10					18.2				
11					10.1				
12				HPT-218_10-14_040719 @ 13:35	15.0				
13		58			15.8				
14					2.2				
15					4.0				
16					6.0				
17				HPT-218_15-19_040719					

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: Boring appears wet at 5.0' bgs. EOB at 30.0' bgs Converted to Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: HPT-218

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/07/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/07/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: 65° F, Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18	X		55	@ 13:25	1.7	[USCS Class]	(17.0-17.1') CLAY, medium plasticity, slow dilatancy; little silt; well sorted; wet; soft; gray (10YR 5/1).		
19					0.8		(17.1-17.2') SILT, low plasticity, rapid dilatancy; trace clay; wet; soft; gray (10YR 5/1).		
20					0.5		(17.2-17.4') CLAY, high plasticity, slow dilatancy; trace silt; moist; soft; gray (10YR 5/1).		
21					0.4		(17.4-18.0') SILT, nonplastic, rapid dilatancy; wet; gray (10YR 5/1).		
22	X		55		0.4	[USCS Class]	(18.0-30.0') CLAY, high plasticity, slow dilatancy; trace silt; wet; soft; gray (10YR 5/1).		
23					0.2				
24					0.3				
25					0.3				
26					0.3				
27					0.2				
28					0.2				
29					0.3				
30	0.2								
31							End of boring at 30.0' bgs.		
32									
33									
34									
35									
36									
37									
38									

Remarks: _____

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ_ARCADIS_2013.GDT 3/31/20

Boring No.: HPT-219

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/09/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/09/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1									
2									
3									
4									
5									
6				HPT-219_4.5-8.5_04091					
7				@ 13:45					
8									
9									
10									
11				HPT-219_9-13_040919					
12				@ 13:30					
13									
14									
15									
16									
17				HPT-219_15-19_04091					

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: _____ Converted to Well: Yes No
 Surface Elev.: NA
 North Coord: _____
 East Coord: _____

SOIL BORING LOG: 2013 \\ARCADIS\US\COMMON\PROJECTS\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/09/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/09/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18				@ 13:15					
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									

Remarks: _____

SOIL BORING LOG - 2013 \ARCADIS-US-COM\OFFICE\DATA\NOV-11\MICOMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ ARCADIS_2013.GDT 3/31/20

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/10/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/10/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1									
2									
3									
4									
5									
6									
7				HPT-220_5-9_041019 @ 10:15					
8									
9									
10									
11									
12				HPT-220_10-14_041019 @ 10:05					
13									
14									
15									
16									
17				HPT-220_15-19_041019					

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bto.): NA
 Remarks: _____ Converted to Well: Yes No
 _____ Surface Elev.: NA
 _____ North Coord.: _____
 _____ East Coord.: _____

SOIL BORING LOG - 2013 VARCADIS-US-COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/10/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/10/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18				@ 09:50					
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									

Remarks: _____

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/10/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/10/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1									
2									
3									
4									
5									
6									
7				HPT-221_5-9_041019 @ 12:20					
8									
9									
10									
11									
12				HPT-221_10-14_041019 @ 12:10					
13									
14									
15									
16									
17				HPT-221_15-19_041019					

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bto.): NA
 Remarks: _____ Converted to Well: Yes No
 _____ Surface Elev.: NA
 _____ North Coord.: _____
 _____ East Coord.: _____

SOIL BORING LOG - 2013 \ARCADIS\US\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP_BORING_LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/10/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/10/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18				@ 11:50					
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									

Remarks: _____

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/10/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/10/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1									
2									
3									
4									
5									
6									
7				HPT-222_5-9_041019 @ 14:55 and DUP-03 collected					
8									
9									
10									
11									
12				HPT-222_10-14_041019 @ 14:45					
13									
14									
15									
16									
17									

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: _____ Converted to Well: Yes No
 _____ Surface Elev.: NA
 _____ North Coord.: _____
 _____ East Coord.: _____

SOIL BORING LOG - 2013 \ARCADIS\US\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ - ARCADIS_2013.GDT 3/31/20

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/10/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/10/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18				HPT-222_16-20_04101 @ 14:35					
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									

Remarks: _____

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/11/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/11/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1									
2									
3									
4									
5									
6									
7				HPT-223_5-9_041119 @ 12:20					
8									
9									
10									
11									
12				HPT-223_10-14_041119 @ 12:05					
13									
14									
15									
16									
17				HPT-223_15-19_041119					

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bto.): NA
 Remarks: _____ Converted to Well: Yes No
 _____ Surface Elev.: NA
 _____ North Coord.: _____
 _____ East Coord.: _____

SOIL BORING LOG - 2013 VARCADIS-US-COM-OFFICE-DATA-NOV-11-MIC-COMMON-FORD-LIVONIA-03-NOTES-AND-DATA-BORING-LOGS-MASTER-FORD-LTP-BORING-LOGS-03-120-GPJ-ARCADIS-2013.GDT 3/31/20

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/11/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/11/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18				@ 11:50					
19									
20									
21									
22				HPT-223_20-24_041111 @ 11:35 and DUP-04 collected					
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									

Remarks: _____

SOIL BORING LOG: 2013 \\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ ARCADIS_2013.GDT 3/31/20

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/12/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/12/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1									
2									
3									
4									
5									
6									
7									
8				HPT-224A_6-10_04121 @ 10:45					
9									
10									
11									
12									
13				HPT-224A_11-15_04121 @ 10:30					
14									
15									
16									
17									

Drilling Co.: Dakota Technologies Sampling Method: Dual Tube
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: _____ Converted to Well: Yes No
 _____ Surface Elev.: NA
 _____ North Coord: _____
 _____ East Coord: _____

SOIL BORING LOG - 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/12/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/12/2019 Editor: C. Cicso
 Project Location: Livonia, MI Weather Conditions: _____

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18				HPT-224A_16-20_04121					
19				@ 10:15					
20									
21									
22				HPT-224A_21-25_04121					
23				@ 10:00 and DUP-05					
24				collected					
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									

Remarks: _____

SOIL BORING LOG - 2013 \ARCADIS-US-CO\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-129

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/14/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/14/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1				LIFHP-129_1-2_041419 at 18:00	9.7	(0.0-1.0') CONCRETE.			
2			60	LIFHP-129_2-3_041419 at 18:00	9.1	(1.0-3.0') SAND, fine to medium, subrounded to subangular; well sorted; dry; brown (10YR 5/3).			
3				LIFHP-129_3-4_041419 at 18:00	3.4				
4				LIFHP-129_4-5_041419 at 18:00	4.1	(3.0-5.5') SAND, very fine to fine; some silt, nonplastic, rapid dilatancy; well sorted; moist to wet; grayish brown (10YR 5/2).			
5				LIFHP-129_5-9_041419 at 20:05	5.4				
6					0.5	(5.5-19.5') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; dark gray (10YR 4/1).			
7			36		0.6				
8					0.4				
9					0.0				
10					0.0				
11					0.0				
12				LIFHP-129_10-14_041419 at 19:55	0.0				
13			24		0.0				
14					0.0				
15					0.9				
16					1.8				
17				LIFHP-129_15-19_041419	0.5				

Drilling Co.: Dakota Technologies Sampling Method: 5' Macrocore
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 4
 Drilling Fluid: None Water Level Finish (ft. bto.): NA
 Remarks: Boring appears wet at 4.0' bgs. EOB at 30' bgs. Poor recovery due to flowing sands. No recovery from 8-12' bgs. Corrected to Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-129

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/14/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/14/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18			36	at 19:35	0.9		(5.5-19.5') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; dark gray (10YR 4/1).		
19					1.0				
20					0.2				
21			60		0.8		(19.5-30.0') CLAY, high plasticity, slow dilatancy; trace silt; trace pebbles, small, subrounded to subangular; well sorted; wet; soft; dark gray (10YR 4/1).		
22					0.5				
23					0.9				
24					0.8				
25					0.5				
26			60	LIFHP-129_29-30_04141 at 19:05 and MS/MSD	0.5				
27					0.8				
28					0.7				
29					0.7				
30					0.7				
31							End of boring at 30.0' bgs		
32									
33									
34									
35									
36									
37									
38									

Remarks:

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-130

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/14/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/14/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1				LIFHP-130_1-2_041419 at 15:15	3.6		(0.0-0.8') CONCRETE.		
2			60	LIFHP-130_2-3_041419 at 15:15	10.0		(1.0-5.0') SAND, fine to medium, subrounded to subangular; trace silt; well sorted; dry to moist; dark gray (10YR 4/1). Note: Trace slag material present.		
3				LIFHP-130_3-4_041419 at 15:15	5.0				
4				LIFHP-130_4-5_041419 at 15:15	8.6				
5				LIFHP-130_4-5_041419 at 15:15	0.6				
6					0.6		(5.0-8.0') SILT, nonplastic, rapid dilatancy; some sand, very fine to fine; well sorted; wet; dark gray (10YR 4/1).		
7			24		0.0				
8				LIFHP-130_6-10_041419 at 17:10	1.0				
9					0.0		(8.0-12.0') SAND, fine to very coarse, subrounded to subangular; some granules, small; subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2).		
10					0.0				
11					0.0				
12					1.0				
13			8	LIFHP-130_11-15_041419 at 17:47	0.0		(12.0-18.8') SILT, low plasticity, rapid dilatancy; little sand, fine to medium, subrounded to subangular; trace clay; well sorted; wet; brown (10YR 5/3).		
14					0.0				
15					0.0				
16					0.0				
17					0.5				

Drilling Co.: Dakota Technologies Sampling Method: 5' Macrocore
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. bto.): NA
 Remarks: Boring appears wet at 5.0' bgs. EOB at 30.0' bgs. Poor coverage due to slag and flowing sands. Covered the Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ - ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-130

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/14/2019 Logger: C. Weaver

Project Number: MI001454 Date Completed: 04/14/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18			36	LIFHP-130_16-20_04141 at 16:45	0.5		(12.0-18.8') SILT, low plasticity, rapid dilatancy; little sand, fine to medium, subrounded to subangular; trace clay; well sorted; wet; brown (10YR 5/3).		
19					0.3				
20					0.2				
21			60		0.2		(18.8-30.0') CLAY, high plasticity, slow dilatancy; trace silt; well sorted; wet; soft; gray (10YR 5/1).		
22					0.2				
23					0.2				
24					0.2				
25					0.2				
26			60		0.2				
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31							End of boring at 30.0' bgs		
32									
33									
34									
35									
36									
37									
38									

Remarks:

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-131

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/14/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/14/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
0.0 - 0.7					7.1		(0.0-1.0') CONCRETE.		
0.7 - 1.1				LIFHP-131_1-2_041419 at 12:00	4.4		(1.0-4.0') SAND, fine to medium, subrounded to subangular; trace silt; well sorted; dry; brown (10YR 5/3).		
1.1 - 1.8			60	LIFHP-131_2-3_041419 at 12:00	3.8				
1.8 - 2.5				LIFHP-131_3-4_041419 at 12:00	6.5				
2.5 - 2.9				LIFHP-131_4-5_041419 at 12:00	0.2		(4.0-5.1') CLAY, medium plasticity, slow dilatancy; little sand, medium, subrounded to subangular; trace silt; poorly sorted; wet; soft; very dark gray (2.5Y 3/1). Notes : Greenish tint, slight odor present.		
2.9 - 3.1				LIFHP-131_5-6_041419 at 12:00	0.2		(5.1-6.2') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine; well sorted; wet; dark gray (10YR 4/1).		
3.1 - 3.5					0.4		(6.2-6.8') CLAY, medium plasticity, slow dilatancy; little sand, fine to medium; trace silt; wet; soft; dark gray (10YR 4/1).		
3.5 - 3.8				LIFHP-131_6-10_041419 at 14:45	0.6		(6.8-7.8') SAND, fine to medium, subrounded to subangular; little silt; trace granules, small, subrounded to subangular; moderately sorted; wet; dark gray (10YR 4/1).		
3.8 - 4.0					0.0		(7.8-12.0') SAND, fine to very coarse, subrounded to subangular; some granules, small to medium, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; dark grayish brown (10YR 4/2).		
4.0 - 4.2					0.0				
4.2 - 4.4					0.0		(12.0-16.0') SAND, fine to medium, subrounded to subangular; little silt; well sorted; wet; grayish brown (10YR 5/2).		
4.4 - 4.6					0.9				
4.6 - 4.8					0.0				
4.8 - 5.0				LIFHP-131_11-15_041419 at 14:10 and DUP-06	0.0				
5.0 - 5.2					0.0				
5.2 - 5.4					0.6				
5.4 - 5.6					0.0				
5.6 - 5.8					0.6				
5.8 - 6.0					0.0				

Drilling Co.: Dakota Technologies Sampling Method: 5' Macrocore
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: Boring appears wet at 5.0' bgs. EOB at 30.0' bgs. Poor coverage due to broken liners being caught and slag Covered the Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD.LTP.BORING.LOGS.031210.GPJ.ARCADIS.2013.GDT.3/31/20



Boring No.: LIFHP-131

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/14/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/14/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18	X			LIFHP-131_16-20_04141 at 13:55	0.0	/	(16.0-30.0') CLAY, high plasticity, slow dilatancy; trace silt; well sorted; wet; soft; grayish brown (10YR 5/2). Notes : Rock and reinforcement bars cause of poor recovery 20-30' bgs.		
19					0.0				
20					0.2				
21					0.2				
22	X		0		0.2	/			
23					0.2				
24					0.2				
25					0.0				
26	X		36		0.2	/			
27					0.2				
28					0.0				
29					0.0				
30				LIFHP-129_29-30_04141 at 12:00 and MS/MSD	0.0	/			
31							End of boring at 30.0' bgs		
32									
33									
34									
35									
36									
37									
38									

Remarks: _____

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ ARCADIS_2013.GDT 3/1/20



Boring No.: LIFHP-132

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/14/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/14/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
-2									
-1									
0									
1				LIFHP-132_1-2_041419 at 11:20	1.0		(0.0-1.0') CONCRETE.		
2			60		2.9		(1.0-2.0') SAND, fine to very coarse, subrounded to subangular; poorly sorted; dry; dark gray (10YR 4/1). Note: little concrete present, fragments.		
3				LIFHP-132_3-4_041419 at 11:20	6.8		(2.0-4.0') SAND, fine to medium, subrounded to subangular; trace silt, nonplastic, rapid dilatancy; well sorted; dry to moist; gray (10YR 5/1).		
4				LIFHP-132_4-5_041419 at 11:20	5.3				
5				LIFHP-132_5-6_041419 at 11:20	0.6		(4.0-5.2') SAND, fine to medium, subrounded to subangular; some silt, nonplastic, rapid dilatancy; well sorted; dry to moist; brown (10YR 5/3).		
6				LIFHP-132_6-7_041419 at 11:20	0.5		(5.2-7.2') SAND, fine to very coarse, subrounded to subangular; some granules, small, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; very dark gray (10YR 3/1).		
7			55		1.0				
8				LIFHP-132_7-11_041419 at 11:15	0.8		(7.2-14.0') SAND, very fine to fine, subrounded to subangular; little silt, nonplastic, rapid dilatancy; well sorted; wet; gray (10YR 5/1).		
9					0.8				
10					0.8				
11					0.7				
12			60		0.7				
13					0.6				
14				LIFHP-132_12-16_041419 at 11:00 and MS/MSD	0.6				
15					0.6		(14.0-18.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; wet; gray (10YR 5/1).		
16					0.5				
17					0.6				

Drilling Co.: Dakota Technologies Sampling Method: 5' Macrocore
 Driller: _____ Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: Boring appears wet at 6.0' bgs. EOB at 30.0' bgs. Converted to Well: Yes No
 Surface Elev.: NA
 North Coor.: _____
 East Coor.: _____

SOIL BORING LOG - 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD.LTP.BORING.LOGS.03120.GPJ.ARCADIS.2013.GDT.3/31/20



Boring No.: LIFHP-132

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 04/14/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 04/14/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
18	X		52	LIFHP-132_17-21_04141 at 10:40	0.6		(14.0-18.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; wet; gray (10YR 5/1).		
19					0.6		(18.0-19.0') SILT, medium plasticity, rapid dilatancy; little clay; wet; gray (10YR 5/1).		
20					0.5		(19.0-19.5') CLAY, high plasticity, slow dilatancy; trace silt; wet; gray (10YR 5/1).		
21	X		55		0.5		(19.5-20.0') SILT, medium plasticity, rapid dilatancy; trace sand, very fine; trace clay; well sorted; wet; gray (10YR 5/1).		
22					0.5		(20.0-30.0') CLAY, high plasticity, slow dilatancy; trace silt; wet; gray (10YR 5/1).		
23					0.5				
24					0.5				
25					0.3				
26	X		60	LIFHP-132_29-30_04141 at 11:10	0.2				
27					0.2				
28					0.0				
29					0.0				
30					0.0				
31									
32									
33									
34									
35									
36									
37									
38									

Remarks:

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMM\N\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-133

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 01/19/2020 Logger: C. Cisco

Project Number: MI001454 Date Completed: 01/19/2020 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			6				(0.0-0.5') CONCRETE.	(0.0-1.0') Hilti Cement	
			6		0.0		(0.5-1.0') FILL: GRAVEL; and COBBLES.		
							(1.0-1.5') CONCRETE.		
2			18	LIFHP-133_1-2_011920 @ 13:08	0.6		(1.5-4.5') SAND, fine to medium, subrounded; some clay, medium plasticity, no dilatancy; little silt; poorly sorted; dry; soft to medium stiff; brown (10YR 5/3). Note: Slight to moderate odor present.	(1.0-30.0') Bentonite grout backfill	
3					1.2				
4			30	LIFHP-133_4-5_011920 @ 13:10	1.3				
5					1.5		(4.5-6.0') SAND, fine to coarse, subrounded to subangular; little silt, nonplastic, no dilatancy; poorly sorted; dry; loose; grayish brown (10YR 5/2).		
6					4.6				
7			36	LIFHP-133_6-7_011920 @ 13:12	3.9		(6.0-6.3') SILT, nonplastic, slow to no dilatancy; trace sand, fine, subrounded; well sorted; dry; gray (10YR 5/1).		
8				LIFHP-133_7-8_011920 @ 13:14	1.9		(6.3-12.0') SAND, fine to very coarse, subrounded to subangular; little granules, subrounded to subangular; little pebbles, small, subrounded to subangular; poorly sorted; moist to wet; gray (10YR 5/1) to dark gray (10YR 4/1). Note: Boring appeared wet at 7.0' bgs.		
9				LIFHP-133_8-9_011920 @ 13:16	0.6				
10			24		0.8				
11					0.6				
12					0.5				
13				LIFHP-133_10-14_011920 @ 17:10	0.4		(12.0-17.2') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; wet; dark gray (10YR 4/1).		
14					0.4				
15			33		0.5				
16					0.5				
17				LIFHP-133_15-19_011920 @ 16:55	1.9				
18			30		0.6		(17.2-17.5') SAND, fine to coarse, subrounded to subangular; trace silt, nonplastic, rapid dilatancy; poorly sorted; wet; dark gray (10YR 4/1).		
19					2.7		(17.5-20.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; wet; dark gray (10YR 4/1).		
20					1.7				

Drilling Co.: Dakota Sampling Method: 5' Macrocore

Driller: Andy Kirsch Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 7.0

Drilling Fluid: None Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; VAD = Van Arman Drilling; C = Cased; S = Surface; W = Well; Yes No

Collected: 20-24' @ well dry, 15-19' @ 1655, 10-14' @ 1655, 10-14' @ 1655

Test: 22-23'(-).

North Coord: NA

East Coord: NA



Boring No.: LIFHP-133

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 01/19/2020 Logger: C. Cisco

Project Number: MI001454 Date Completed: 01/19/2020 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					1.2		(20.0-20.3') CLAY, medium plasticity, slow dilatancy; and SILT; well sorted; wet; soft to medium stiff; dark gray (10YR 4/1).	(1.0-30.0') Bentonite grout backfill	
22			54		0.7	(20.3-21.4') CLAY, medium plasticity, slow dilatancy; well sorted; wet; stiff; dark gray (10YR 4/1).			
23					0.8	(21.4-25.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; wet; dark gray (10YR 4/1).			
24					0.8				
25					2.0				
26					0.6	(25.0-30.0') CLAY, medium to high plasticity, no dilatancy; well sorted; moist to dry; medium stiff to stiff to very stiff; dark gray (10YR 4/1). Note: Trace silt present from 25.0-25.3' bgs.			
27			56		0.7				
28					0.7				
29					0.6				
30					0.6				
							End of boring at 30.0' bgs		
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected: 20-24' @ well dry, 15-19' @ 1655, 10-14' @ 1710. Shake Test: 22-23'(-).

SOIL BORING LOG: 2013 VARCADIS US COM OFFICE DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-134

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 01/26/2020 Logger: C. Cisco

Project Number: MI001454 Date Completed: 01/26/2020 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1	[Symbol]	[Symbol]	6				(0.0-0.6') CONCRETE.	(0.0-1.0') Hilti Cement	[Symbol]
			6			0.0	(0.6-1.0') FILL: GRAVEL; and COBBLES.		
			6				(1.0-1.5') CONCRETE.		
2				LIFHP-134_1-2_012620 @ 08:32			(1.5-4.5') SAND, fine to medium, subrounded; some clay, medium plasticity, no dilatancy; little silt; poorly sorted; dry; soft to medium stiff; brown (10YR 5/3).	[Symbol]	
3									
4			36	LIFHP-134_3-4_012620 @ 08:34	0.5				
5				LIFHP-134_4-5_012620 @ 08:36	0.5				
6				LIFHP-134_5-6_012620 @ 08:38	1.0				
7				LIFHP-134_6-7_012620 @ 08:40	1.8		(5.4-5.8') SAND, fine to coarse, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; poorly sorted; dry; loose; grayish brown (10YR 5/2).	(1.0-25.0') Bentonite grout backfill	[Symbol]
8			24		0.9	(5.8-7.2') SILT, nonplastic, slow dilatancy; trace sand, fine, subrounded; well sorted; moist to wet; gray (10YR 5/1). Note: Boring appeared wet at 6.8' bgs.			
9					0.7	(7.2-10.0') SAND, fine to very coarse, subrounded to subangular; little granules, subrounded to subangular; little pebbles, small to medium, subrounded to subangular; poorly sorted; wet; gray (10YR 5/1).			
10					0.8				
11				LIFHP-134_8-12_012620 @ 10:32	0.7	(10.0-17.3') SILT, nonplastic, rapid dilatancy; trace sand, very fine, subrounded to subangular; well sorted; wet; dark gray (10YR 4/1).			
12					0.6		(17.3-17.4') SAND, fine to medium, subrounded to subangular; and CLAY, medium plasticity, no dilatancy; poorly sorted; wet; dark gray (10YR 4/1).	[Symbol]	
13			47		0.6				
14					0.6				
15					0.5				
16				LIFHP-134_13-17_012620 @ 10:22	0.4				
17					0.5		(17.4-18.6') SILT, nonplastic, rapid dilatancy; trace sand, very fine, subrounded to subangular; well sorted; wet; dark gray (10YR 4/1).	[Symbol]	
18			42		0.5				
19					0.5				
20					0.4		(18.6-20.0') CLAY, medium to high plasticity, rapid dilatancy; some silt; well sorted; wet; very soft to soft; dark	[Symbol]	

Drilling Co.: Dakota Sampling Method: 5' Macrocore

Driller: Andy Kirsch Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 6.8

Drilling Fluid: None Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; VAD = Van Nostrand Arterial Drilling Yes No

Collected: 18-22' @ 1008, 13-17' @ 1022, 8-12' @ 1032 Surface Elev.: NA

North Coord.: _____

East Coord.: _____

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\HICOMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-134

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 01/26/2020 Logger: C. Cisco

Project Number: MI001454 Date Completed: 01/26/2020 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		60	LIFHP-134_18-22_01262 @ 10:08	0.6	(20.0-22.4')	gray (10YR 4/1). (20.0-22.4') CLAY, low plasticity, rapid dilatancy; and SILT; well sorted; wet; very soft; dark gray (10YR 4/1).	(1.0-25.0') Bentonite grout backfill	
22					0.5				
23					0.5	(22.4-25.0')	(22.4-25.0') CLAY, medium to high plasticity, no dilatancy; well sorted; moist to dry; soft to medium stiff; dark gray (10YR 4/1).		
24					0.4				
25					0.4				
26						End of boring at 25.0' bgs			
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected: 18-22' @ 1008, 13-17' @ 1022, 8-12' @ 1032.

SOIL BORING LOG: 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-135

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 01/25/2020 Logger: C. Weaver

Project Number: MI001454 Date Completed: 01/25/2020 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		41		0.3	/	(19.0-25.0') CLAY, high plasticity, no dilatancy; wet; soft; gray (10YR 5/1).	(1.0-25.0') Bentonite grout backfill	
22					0.2				
23					0.2				
24					0.4				
25					0.5				
26							End of boring at 25.0' bgs		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected: 21-25' @ well dry, 16-20' @ 1850, 11-15' @ 1900.



Boring No.: LIFHP-136

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 01/26/2020 Logger: C. Weaver

Project Number: MI001454 Date Completed: 01/26/2020 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			10		0.0	(0.0-0.6') CONCRETE.		(0.0-1.0') Hilti Cement	
					0.0	(0.6-1.0') FILL: GRAVEL; and COBBLES.			
2				LIFHP-136_1-2_012620 @ 13:53	0.0	(1.0-3.0') SAND, fine to medium, subrounded to subangular; well sorted; dry; pale brown (10YR 6/3).		(1.0-25.0') Bentonite grout backfill	
3			45		0.0	(3.0-7.0') SAND, fine to medium, subrounded to subangular; little silt; trace pebbles, small, subrounded to subangular; well sorted; dry; dark grayish brown (10YR 4/2).			
4				LIFHP-136_3-4_012620 @ 13:56	0.0				
5					0.0				
6					0.0				
7					0.0				
8			38		0.0	(7.0-9.3') SAND, fine to medium, subrounded to subangular; some silt; well sorted; moist to wet; dark gray (10YR 4/1). Note: Boring appeared wet at 7.64' bgs.			
9				LIFHP-136_9-10_012620 @ 14:03	0.0				
10					0.0	(9.3-12.5') SAND, fine to very coarse, subrounded to subangular; some granules, subrounded to subangular; little pebbles, small, subrounded to subangular; poorly sorted; wet; dark gray (10YR 4/1).			
11					0.0				
12					0.0				
13			34	LIFHP-136_11-15_012620 @ 16:10	0.0	(12.5-19.5') SILT, nonplastic, rapid dilatancy; wet; soft; gray (10YR 6/1).			
14					0.0				
15					0.0				
16					30.5				
17					60.3				
18			50	LIFHP-136_16-20_012620 @ 15:36	79.2				
19					53.8				
20					20.5	(19.5-20.0') CLAY, high plasticity, no to slow dilatancy; trace			

Drilling Co.: Dakota Sampling Method: 5' Macrocore

Driller: Andy Kirsch Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 7.64

Drilling Fluid: None Water Level Finish (ft. bto.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; VAD = Van Nostrand; Samples to Well: Yes No

Collected: 21-25' @ 1525, 16-20' @ 1536, 11-15' @ 1600, 20-22' @ 1536 Elev.: NA

Tests: 20-21'(-), 21-22' (-).

North Coord: _____

East Coord: _____



Boring No.: LIFHP-136

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 01/26/2020 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 01/26/2020 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21				LIFHP-136_20-21_01262 @ 14:39	0.8		silt; wet; soft; gray (10YR 5/1). (20.0-22.3') SILT, nonplastic, rapid dilatancy; wet; soft; gray (10YR 6/1).	(1.0-25.0') Bentonite grout backfill	
22			LIFHP-136_21-22_01262 @ 14:41	4.8					
23			57 LIFHP-136_21-25_01262 @ 15:25	10.5		(22.3-25.0') CLAY, high plasticity, no dilatancy; wet; soft to medium stiff; gray (10YR 5/1).			
24					3.8				
25					2.2				
							End of boring at 25.0' bgs		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected: 21-25' @ 1525, 16-20' @ 1536, 11-15' @ 1610. Shake Tests: 20-21'(-), 21-22' (-).

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: LIFHP-137

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 01/26/2020 Logger: C. Weaver

Project Number: MIO01454 Date Completed: 01/26/2020 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: Indoors

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1				LIFHP-137_1-2_012620 @ 16:40	NM	(0.0-0.6') CONCRETE.	(0.0-1.0') Hilti Cement		
2			0.0		(0.6-1.0') FILL: GRAVEL; and COBBLES.				
3			0.0		(1.0-4.0') SAND, fine to medium, subrounded to subangular; trace pebbles, small, subrounded to subangular; well sorted; dry; dark yellowish brown (10YR 4/6).				
4					2.3				
5				LIFHP-137_5-6_012620 @ 16:50	8.1	(4.0-5.0') SAND, fine to medium, subrounded to subangular; some silt; trace pebbles, small, subrounded to subangular; well sorted; dry; dark grayish brown (10YR 4/2).	(1.0-25.0') Bentonite grout backfill		
6					0.4	(5.0-7.0') SAND, fine to medium, subrounded to subangular; trace pebbles, small, subrounded to subangular; well sorted; dry; pale brown (10YR 6/3).			
7				LIFHP-137_6-7_012620 @ 16:52 and DUP-01	0.4				
8					0.3	(7.0-9.0') SAND, fine to very coarse, subrounded to subangular; some granules, subrounded to subangular; some pebbles, small, subrounded to subangular; trace pebbles, medium, subangular; poorly sorted; moist to wet; dark gray (10YR 4/1). Note: Boring appeared wet at 7.35' bgs.			
9					1.0				
10				LIFHP-137_8-12_012620 @ 18:35	1.5	(9.0-12.8') SILT, nonplastic, rapid dilatancy; wet; soft; gray (10YR 5/1).			
11					4.3				
12					9.3				
13					19.3				
14					10.8	(12.8-12.9') SAND, fine to very coarse, subrounded to subangular; some granules, subrounded to subangular; poorly sorted; wet; very dark gray (10YR 3/1). (12.9-21.5') SILT, nonplastic, rapid dilatancy; wet; soft.			
15				LIFHP-137_13-17_012620 @ 18:15	36.6				
16					28.2				
17					20.3				
18					10.8				
19					5.6				
20					3.8	Note: Small lens of clay, high plasticity, slow dilatancy <0.5" thick at 19.1' bgs and 19.3' bgs.			

Drilling Co.: Dakota Sampling Method: 5' Macrocore

Driller: Andy Kirsch Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 7.35

Drilling Fluid: None Water Level Finish (ft. bto.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; VAD = Van Nostrand Armand Dredge Yes No

Collected: 21-25' @ 1805, 13-17' @ 1815, 8-12' @ 1835 Substrate Elev.: NA

Tests: 22-23' (-), 24-25' (-) North Coord: _____

East Coord: _____

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\HMC\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD.LTP.BORING.LOGS.031210.GPJ.ARCADIS_2013.GDT.3/31/20



Boring No.: MW-124

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 01/25/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 01/25/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 13° F, Windy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1			12		0.0		(0.0-1.0') CONCRETE.	8.0" Flush Mount (0.0-1.0') Cement 12.0" dia. drilled hole (1.0-4.0') Bentonite Pellets 2.0" dia. SCH-40 PVC Casing (4.0-10.0') Filter Pack Sand (5.0-10.0') 2.0" dia. Stainless Steel 0.010 slot Well Screen	
2			24		0.0	(1.0-2.0') SAND, fine to medium, rounded to subangular; little granules to small pebbles, subrounded; trace silt; poorly sorted; moist; brown (10YR 5/3). Note: Greenish tint at 2.0' bgs.			
3					0.3	(2.0-4.0') SILT, nonplastic, slow dilatancy; and SAND, very fine; and CONCRETE; poorly sorted; wet; black (10YR 2/1).			
4			16		0.2				
5					0.5	(4.0-6.0') SAND, fine to coarse, subrounded to subangular; and GRANULES to SMALL PEBBLES, subrounded to subangular; little silt; poorly sorted; wet; yellowish brown (10YR 5/4).			
6					0.0				
7					0.0	(6.0-8.5') SAND, very fine to medium, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace granules, subrounded to subangular; poorly sorted; wet; pale brown (10YR 6/5).			
8			35		0.5				
9					1.0	(8.5-10.0') SILT, nonplastic, rapid dilatancy; little sand, very fine to fine, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).			
10					1.3				
11							End of boring at 10.0' bgs.		
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: N. Wiseman Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 3.0
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; HA = Auger to Well: Yes No
3.0' bgs. Wet at 3.0' bgs. cannot HA further. Surface Elev.: 670.6
 North Coord.: 320333.6
 East Coord.: 13384776.2

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: MW-15-59D

Soil Boring Log

Sheet: 1 of 6

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/17/2015 Logger: T. Stevens

Project Number: MI001454 Date Completed: 12/21/2015 Editor: T. Stevens

Project Location: Livonia, MI Weather Conditions: 38° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.1	(0.0-0.6') ASPHALT.		2.0" dia. SCH-40 PVC Casing	
2			60		0.0	(0.6-3.0') SAND, medium to coarse; and PEBBLES, small to medium, subrounded to subangular, little granules; poorly sorted; dry; (10YR 4/2) dark yellowish brown. Note: Fill.			
3					0.0	(3.0-6.0') SAND, very fine to fine, subrounded; some silt, low plasticity; well sorted; moist; (10YR 5/4) yellowish brown.		(1.0-91.0') Bentonite Pellets	
4					0.0	(6.0-9.5') SAND, very fine to fine, rounded to subrounded; well sorted; moist; (10YR 5/4) yellowish brown.			
5					0.0	(9.5-14.0') PEBBLES, granule to medium pebble; and SAND, medium to coarse, subrounded to angular; poorly sorted; wet; (10YR 4/3). Note: Wet at 13.6' bgs.			
6			36		0.0	(14.0-20.5') SAND, very fine, rounded; some silt; well sorted; wet; (10YR 5/3) brown.			
7					0.0				
8					0.0				
9					0.0				
10					0.0				
11					0.0				
12					0.0				
13			108		0.0				
14					0.0				
15					0.0				
16					0.0				
17					0.0				
18					0.0				
19					0.0				
20					0.0				

Drilling Co.: Stock Drilling Sampling Method: 4" Core Barrel
 Driller: Austin Goldsmith Sampling Interval: Continuous
 Drilling Method: Sonic Water Level Start (ft. bgs.): 13.2
 Drilling Fluid: Water Water Level Finish (ft. btoc.): 20.5
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hdr or Aq to Well: Yes No
 5.0' bgs. Surface Elev.: 671.5
 North Coord.: 320433.7
 East Coord.: 13384248.9

SOIL BORING LOG - 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ - ARCADIS_2013.GDT 3/31/20



Boring No.: MW-15-59D

Soil Boring Log

Sheet: 2 of 6

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/17/2015 Logger: T. Stevens
 Project Number: MI001454 Date Completed: 12/21/2015 Editor: T. Stevens
 Project Location: Livonia, MI Weather Conditions: 38° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0		(20.5-24.0') SILT, non plastic; little very fine sand, rounded; well sorted; moist; (10YR 5/3) brown.		
22									
23			120		0.0				
24									
25					0.0		(24.0-72.5') CLAY, medium to high plasticity, slow dilatancy, trace silt; moist; medium stiff; (10YR 4/1) dark gray. Note: Lacustrine.		
26									
27					0.0				
28									
29					0.0		NOTE: Some small to medium subrounded pebbles, little granules from 29.0-32.0' bgs.		
30									
31					0.0			(1.0-91.0') Bentonite Pellets	
32									
33			120		0.0				
34									
35					0.0				
36									
37					0.0				
38									
39					0.0				
40									
41					0.0				

Remarks: _____

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: MW-15-59D

Soil Boring Log

Sheet: 3 of 6

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/17/2015 Logger: T. Stevens
 Project Number: MI001454 Date Completed: 12/21/2015 Editor: T. Stevens
 Project Location: Livonia, MI Weather Conditions: 38° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
42							(24.0-72.5') CLAY, medium to high plasticity, slow dilatancy, trace silt; moist; medium stiff; (10YR 4/1) dark gray. Note: Lacustrine.		
43			102		0.0				
44									
45					0.0				
46									
47					0.0				
48									
49					0.0				
50									
51					0.0				
52							(1.0-91.0') Bentonite Pellets		
53			120		0.0				
54									
55					0.0				
56									
57					0.0				
58									
59					0.0				
60									
61					0.0				
62									
63									

Remarks:

SOIL BORING LOG: 2013 \\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: MW-15-59D

Soil Boring Log

Sheet: 4 of 6

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/17/2015 Logger: T. Stevens
 Project Number: MI001454 Date Completed: 12/21/2015 Editor: T. Stevens
 Project Location: Livonia, MI Weather Conditions: 38° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
64			120		0.0		NOTE: Clay becomes very soft, sticky from 63.0-66.0' bgs. (24.0-72.5') CLAY, medium to high plasticity, slow dilatancy, trace silt; moist; medium stiff; (10YR 4/1) dark gray. Note: Lacustrine.		
65				0.0					
66				0.0					
67					0.0				
68					0.0				
69					0.0				
70					0.0				
71					0.0				
72					0.0				
73			120		0.0		(72.5-76.0') CLAY, low plasticity, no dilatancy; little silt; some granules to medium pebbles; dry; very stiff; (10YR 4/2) dark grayish brown.	(1.0-91.0') Bentonite Pellets	
74				0.0					
75				0.0					
76					0.0				
77					0.0		(76.0-89.0') SAND, fine to medium, subrounded; and CLAY, low to non plastic, some silt; little to some granules to medium pebble; trace small cobble, rounded; poorly sorted; dry to moist; medium stiff; (10YR 4/2) dark grayish brown.		
78					0.0				
79					0.0				
80					0.0				
81					0.0				
82					0.0				
83			120		0.0				
84					0.0				

Remarks:

SOIL BORING LOG 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\MI\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: MW-15-59D

Soil Boring Log

Sheet: 5 of 6

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/17/2015 Logger: T. Stevens
 Project Number: MI001454 Date Completed: 12/21/2015 Editor: T. Stevens
 Project Location: Livonia, MI Weather Conditions: 38° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
85					0.0		(76.0-89.0') SAND, fine to medium, subrounded; and CLAY, low to non plastic, some silt; little to some granules to medium pebble; trace small cobble, rounded; poorly sorted; dry to moist; medium stiff; (10YR 4/2) dark grayish brown.	(1.0-91.0') Bentonite Pellets	
86				0.0					
87					0.0		(89.0-90.0') PEBBLES, small to medium, trace small cobble, sunangular to subrounded; and SAND, medium to granule, subrounded to subangular; poorly sorted; wet; variable color.		
88				0.0					
89					0.0		(90.0-91.2') CLAY, medium plasticity, no dilatancy, trace to little silt; trace very fine sand; dry; very stiff; (10YR 4/2).		
90				0.0					
91					0.0		(91.2-94.0') SAND, very fine, rounded to subrounded; and SILT, non plastic, rapid dilatancy; well sorted; wet; (10YR 4/2).		
92				0.0					
93		120			0.0		(94.0-97.5') SAND, fine to medium, subrounded; some granule to medium pebble, subrounded; little silt; poorly sorted; wet; (10YR 4/2).	(91.0-100.8') K&E #7 filter sand (94.0-99.0') 2.0" dia. Stainless Steel 0.010 slot Well Screen	
94				0.0					
95					0.0		(97.5-98.0') SHALE, laminated, fissile, compact; dark gray to black.		
96				0.0					
97					0.0		(98.0-106.0') PEBBLES, small to large, some cobble, subrounded to subangular; little to trace medium to coarse sand; poorly sorted; wet; variable color. Note: sand washed out with casing advance.		
98				0.0					
99					0.0				
100				0.0					
101					0.0				
102				0.0					
103		36			0.0			(100.8-118.0') Bentonite Backfill	
104				0.0					
105					0.0				

Remarks:

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MI\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD.LTP.BORING.LOGS.031210.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: MW-15-59D

Soil Boring Log

Sheet: 6 of 6

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/17/2015 Logger: T. Stevens
 Project Number: MI001454 Date Completed: 12/21/2015 Editor: T. Stevens
 Project Location: Livonia, MI Weather Conditions: 38° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
107					0.0		(106.0-110.0') PEBBLES, small to large, little medium cobble; some silt and clay, compact; trace medium sand; poorly sorted, wet; variable color.	(100.8-118.0') Bentonite Backfill	
108				0.0					
109				0.0					
110				0.0					
111					0.0		(110.0-117.0') SHALE, laminated, fissile, compact; dark gray to black.		
112					0.0				
113			72		0.0				
114					0.0				
115					0.0				
116					0.0				
117					0.0				
118					0.0		(117.0-118.0') CLAY, little silt, low plasticity; little medium sand; poorly sorted; soft; gray.		
119							End of Boring at 118.0' bgs.		
120									
121									
122									
123									
124									
125									
126									
127									

Remarks:

SOIL BORING LOG 2013 \\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MI\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD.LTP.BORING.LOGS_031210.GPJ_ARCADIS_2013.GDT_3/31/20



Boring No.: MW-194

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2019 Logger: C. Weaver

Project Number: MI001454 Date Completed: 11/01/2019 Editor: C. Cisco

Project Location: Livonia, MI

Weather Conditions: 35° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.5') TOPSOIL.		8.0" Flush Mount (0.0-1.0') Cement 2.0" dia. SCH-40 PVC Casing 6.00" dia. drilled hole	
2			60		0.0	(0.5-2.0') SAND, fine to medium, subrounded to subangular; trace pebbles, small to medium, subangular; trace silt; well sorted; dry; loose.			
3					0.0	(2.0-4.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; moist to wet; soft; gray (10YR 5/1).			
4					0.0	Note: Boring appeared wet at 3.5' bgs.			
5					0.0	(4.0-8.5') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; little pebbles, small to medium, subrounded to subangular; trace pebbles, large, subangular; poorly sorted; wet; loose; dark gray (10YR 4/1).			
6					0.0			(10.0-11.0') Bentonite Pellets	
7			49		0.0				
8					0.0				
9					0.0	(8.5-17.5') SILT, nonplastic, rapid dilatancy; trace sand, very fine to fine; wet; soft; gray (10YR 5/1).		(11.0-17.5') Filter Pack Sand	
10					0.0				
11					0.0				
12			39		0.0				
13					0.0				
14					0.0			(12.0-17.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
15					0.0				
16					0.0				
17					0.0			(17.5-20.0') CLAY, medium plasticity, slow dilatancy; some to little silt; wet; medium stiff; gray (10YR 5/1). Note: ~1" layer of silt, rapid dilatancy, nonplastic at 18.2' bgs.	
18			43		0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec

Sampling Method: 5' Macrocore

Driller: Mark Ryerson

Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push

Water Level Start (ft. bgs.): 3.5

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No

Surface Elev.: 673.0

North Coord.: 319815.0

East Coord.: 13384137.4

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 11/01/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 35° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21							End of boring at 20.0' bgs.		
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:



Boring No.: MW-194S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 11/01/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 35° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.5') TOPSOIL.		8.0" Flush Mount (0.0-1.0') Cement 2.0" dia. SCH-40 PVC Casing (1.0-2.0') Bentonite Pellets 6.00" dia. drilled hole (2.0-7.0') Filter Pack Sand (2.0-7.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
2		60		0.0	(0.5-2.0') SAND, fine to medium, subrounded to subangular; trace pebbles, small to medium, subangular; trace silt; well sorted; dry; loose.				
3				0.0	(2.0-4.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; moist to wet; soft; gray (10YR 5/1).				
4				0.0	Note: Boring appeared wet at 3.5' bgs.				
5				0.0	(4.0-7.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; little pebbles, small to medium, subrounded to subangular; trace pebbles, large, subangular; poorly sorted; wet; loose; dark gray (10YR 4/1).				
6		24		0.0					
7				0.0					
8						End of boring at 7.0' bgs.			
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 3.5
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
 Surface Elev.: 673.1
 North Coor.: 319817.9
 East Coor.: 13384137.8

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-195S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/31/2019 Logger: C. Weaver

Project Number: MI001454 Date Completed: 10/31/2019 Editor: C. Cisco

Project Location: Livonia, MI

Weather Conditions: 46° F, Heavy Rain

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.5') TOPSOIL.		8.0" Flush Mount (0.0-1.0') Cement 2.0" dia. SCH-40 PVC Casing (1.0-2.0') Bentonite Pellets 6.00" dia. drilled hole (2.0-9.0') Filter Pack Sand (2.0-7.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
2				0.0	(0.5-2.0') SAND, medium to coarse, subrounded to subangular; trace granules, subrounded to subangular; trace pebbles, small to large, subrounded to subangular; poorly sorted; dry; dark gray (10YR 4/1) to dark grayish brown (10YR 4/2).				
3			60		0.0	(2.0-7.9') SILT, nonplastic, rapid dilatancy; trace sand, very fine; well sorted; moist to wet; gray (10YR 6/1). Note: Boring appeared wet at 2.8' bgs.			
4					0.0				
5					0.0				
6					0.0				
7					0.0				
8			42		0.0				
9					0.0	(7.9-8.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; loose; grayish brown (10YR 5/2).			
10					0.0	(8.0-8.5') SAND, very fine to fine; trace silt; well sorted; wet; grayish brown (10YR 5/2).			
11						(8.5-10.0') SAND, very fine to fine, subrounded to subangular; some granules, subrounded to subangular; some pebbles, small to medium, surrounded to subangular; trace pebbles, large; poorly sorted; wet; grayish brown (10YR 5/2).			
12						End of boring at 10.0' bgs.			
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec

Sampling Method: 5' Macrocore

Driller: Mark Ryerson

Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push

Water Level Start (ft. bgs.): 2.8

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No

Surface Elev.: 673.0

North Coord.: 319908.8

East Coord.: 13384133.8



Boring No.: MW-196

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/31/2019 Logger: C. Weaver

Project Number: MI001454 Date Completed: 10/31/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 46° F, Heavy Rain

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.5') TOPSOIL.		8.0" Flush Mount (0.0-1.0') Cement 2.0" dia. SCH-40 PVC Casing 6.00" dia. drilled hole	
2			60		0.0	(0.5-2.0') SAND, fine to coarse, subrounded to subangular; poorly sorted; moist; loose; dark grayish brown (10YR 4/2).			
3					0.0	(2.0-5.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; moist to wet; very soft; very dark grayish brown (10YR 3/2).			
4					0.0	Note: Boring appeared wet at 3.9' bgs.			
5					0.0				
6					0.0	(5.0-8.0') SAND, fine to medium, subrounded to subangular; trace granules, subrounded to subangular; trace pebbles, small to medium, subrounded to subangular; poorly sorted; wet; loose; brown (10YR 5/3).		(10.0-11.0') Bentonite Pellets	
7			48		0.2				
8					0.5				
9					0.9	(8.0-9.5') SAND, fine to very coarse, subrounded to subangular; little granules, subrounded to subangular; little pebbles, small to medium, subrounded to subangular; poorly sorted; wet; brown (10YR 5/3).			
10					0.1	(9.5-10.5') SAND, very fine to fine; well sorted; wet; loose; brownish yellow (10YR 6/6).			
11					0.0	(10.5-12.8') SAND, fine to very coarse, subrounded to subangular; little granules, subrounded to subangular; little pebbles, small to medium, subrounded to subangular; poorly sorted; wet; brown (10YR 5/3).		(11.0-17.5') Filter Pack Sand	
12			39		0.0				
13					0.0				
14					0.0	(12.8-18.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; wet; soft; gray (10YR 6/1).			
15					0.0				
16					0.0				
17					0.0				
18			34		0.0				
19					0.0	(18.0-20.0') CLAY, medium plasticity, slow dilatancy; some to little silt; trace sand, very fine; wet; soft; gray (10YR 5/1).		(12.0-17.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
20					0.0				

Drilling Co.: Fibertec

Sampling Method: 5' Macrocore

Driller: Mark Ryerson

Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push

Water Level Start (ft. bgs.): 3.9

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No

Surface Elev.: 673.2

North Coord.: 320083.2

East Coord.: 13384126.6

Soil Boring Log

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/31/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 10/31/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 46° F, Heavy Rain

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21							End of boring at 20.0' bgs.		
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

SOIL BORING LOG: 2013 \\ARCADIS-US-COM\OFFICE\DATA\NOV\11\MICOM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-196S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/31/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 10/31/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 46° F, Heavy Rain

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.5') TOPSOIL.		8.0" Flush Mount (0.0-1.0') Cement 2.0" dia. SCH-40 PVC Casing (1.0-2.0') Bentonite Pellets 6.00" dia. drilled hole (2.0-7.5') Filter Pack Sand (2.0-7.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
2				0.0	(0.5-2.0') SAND, fine to coarse, subrounded to subangular; poorly sorted; moist; loose; dark grayish brown (10YR 4/2).				
3			60		0.0	(2.0-5.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; moist to wet; very soft; very dark grayish brown (10YR 3/2).			
4					0.0	Note: Boring appeared wet at 3.9' bgs.			
5					0.0				
6			30		0.0	(5.0-7.5') SAND, fine to medium, subrounded to subangular; trace granules, subrounded to subangular; trace pebbles, small to medium, subrounded to subangular; poorly sorted; wet; loose; brown (10YR 5/3).			
7					0.2				
8					0.5		End of boring at 7.5' bgs.		
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 3.9
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
5.0' bgs. Surface Elev.: 673.6
 North Coord.: 320082.9
 East Coord.: 13384123.7

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-197S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/04/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 11/04/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 50° F, Cloudy, Windy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					NR		(0.0-0.5') ASPHALT.	8.0" Flush Mount (0.0-1.0') Cement 2.0" dia. SCH-40 PVC Casing (1.0-2.0') Bentonite Pellets 6.00" dia. drilled hole (2.0-9.0') Filter Pack Sand (3.0-8.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
2			39		0.0	(0.5-4.5') SAND, fine to medium, subangular; well sorted; dry; loose; yellowish brown (10YR 5/6) to black (10YR 2/1). Note: Mottled coloring from 0.5-4.5' bgs with trace organic material present at 4.0' bgs.			
3					NR				
4					NR				
5					0.0	(4.5-5.0') SILT, nonplastic, rapid dilatancy; and SAND, very fine to fine; well sorted.			
6					0.0	(5.0-10.0') Blind drilled. Lost liner down hole, no lithology recorded. Note: Boring appeared wet at 5.0' bgs.			
7					NR				
8			0		NR				
9					NR				
10					NR				
11							End of boring at 10.0' bgs.		
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.0
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
 Surface Elev.: 676.5
 North Coor.: 320281.4
 East Coor.: 13384103.4

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-198

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2019 Logger: C. Weaver

Project Number: MI001454 Date Completed: 11/01/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 35° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.5') ASPHALT.		8.0" Flush Mount (0.0-1.0') Cement 2.0" dia. SCH-40 PVC Casing 6.00" dia. drilled hole	
2					0.0	(0.5-2.0') GRAVEL; and CONCRETE, fragments.			
3		60			0.0	(2.0-7.6') SAND, fine to medium, subrounded to subangular; trace silt; well sorted; moist to wet; loose; yellowish brown (10YR 5/6).			
4					0.0	Note: Boring appeared wet at 3.5' bgs.			
5					0.0				
6					0.0			(1.0-11.0') Bentonite Pellets	
7					0.0				
8		42			0.0	(7.6-7.7') CLAY, medium to high plasticity, slow dilatancy; little silt; wet; medium stiff; grayish brown (10YR 5/2).			
9					0.0	(7.7-12.0') SILT, nonplastic, rapid dilatancy; some sand, fine to medium, subrounded to subangular; wet; soft; yellowish brown (10YR 5/4).			
10					0.0			(11.0-17.0') Filter Pack Sand	
11					0.0				
12					0.0	(12.0-12.1') SAND, medium to very coarse, subrounded to subangular; some granules, subrounded to subangular; trace pebbles, small, subangular; poorly sorted; wet; yellowish brown (10YR 5/4).			
13		43			0.0	(12.1-12.3') SILT, nonplastic, rapid dilatancy; some sand, fine to medium, subrounded to subangular; wet; soft; yellowish brown (10YR 5/4).		(12.0-17.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
14					0.0	(12.3-15.0') SAND, fine to very coarse, subrounded to subangular; some granules, subrounded to subangular; trace pebbles, small to medium, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2).			
15					0.0	(15.0-17.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; wet; soft; gray (10YR 5/1).			
16		24			0.0				
17					0.0		End of boring at 17.0' bgs.		
18									
19									
20									

Drilling Co.: Fibertec

Sampling Method: 5' Macrocore

Driller: Mark Ryerson

Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push

Water Level Start (ft. bgs.): 3.5

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No

Surface Elev.: 675.9

North Coord.: 320479.8

East Coord.: 13384104.2



Boring No.: MW-198S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 11/01/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 35° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.5') ASPHALT.		8.0" Flush Mount (0.0-1.0') Cement 2.0" dia. SCH-40 PVC Casing 6.00" dia. drilled hole (1.0-2.5') Bentonite Pellets (2.5-7.5') Filter Pack Sand (2.5-7.5') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
2				0.0	(0.5-2.0') GRAVEL; and CONCRETE, fragments.				
3			60		0.0	(2.0-7.5') SAND, fine to medium, subrounded to subangular; trace silt; well sorted; moist to wet; loose; yellowish brown (10YR 5/6).			
4					0.0	Note: Boring appeared wet at 3.5' bgs.			
5					0.0				
6			30		0.0				
7					0.0				
8					0.0		End of boring at 7.5' bgs.		
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 3.5
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; H = Hand Auger to Well: Yes No
5.0' bgs. Surface Elev.: 675.9
 North Coord.: 320478.9
 East Coord.: 13384106.7

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-199S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2019 Logger: C. Weaver
 Project Number: MI001454 Date Completed: 11/01/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 35° F, Cloudy, Windy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.3') GRAVEL.		8.0" Flush Mount (0.0-1.0') Cement 2.0" dia. SCH-40 PVC Casing (1.0-2.0') Bentonite Pellets 6.00" dia. drilled hole (2.0-7.0') Filter Pack Sand (2.0-7.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
					0.0	(0.3-1.0') CONCRETE, slab.			
2			60		0.0	(1.0-2.0') SAND, medium, subangular; trace pebbles, medium to large, subrounded to subangular; well sorted; dry to moist; loose; black (10YR 2/1).			
3					0.0	(2.0-7.0') SILT, nonplastic, rapid dilatancy; trace sand, very fine; wet; soft; gray (10YR 5/1).			
4					0.0	Note: Boring appeared wet at 3.5' bgs.			
5					0.0				
6			24		0.0				
7					0.0				
8							End of boring at 7.0' bgs.		
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 3.5
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
5.0' bgs. Surface Elev.: 673.0
 North Coord.: 320392.2
 East Coord.: 13384465.1

SOIL BORING LOG - 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ - ARCADIS_2013.GDT 3/31/20



Boring No.: MW-202

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/17/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/17/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 29° F, Cloudy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.3') ASPHALT.		8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing 4.25" dia. drilled hole	
2				0.0	(0.3-2.0') SAND, very fine to medium, subrounded to subangular; some pebbles, small, subrounded; trace granules; poorly sorted; dry; dark brown (10YR 3/3) to brown (10YR 4/3).				
3			60	0.0	(2.0-6.0') SAND, fine to very coarse, subrounded to subangular; little pebbles, small to medium, subrounded; trace granules, subrounded to subangular; poorly sorted; moist to wet; brown (10YR 5/3).				
4				0.0					
5				0.0					
6					0.0	Note: Boring appeared wet at 5.3' bgs.		(0.5-11.0') Bentonite Pellets	
7				0.0	(6.0-9.0') SAND, very fine to fine, subrounded; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3).				
8			60	0.0					
9					0.0			(11.0-17.0') Filter Pack Sand	
10				0.0	(9.0-11.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; some pebbles, small, subrounded; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.				
11				0.0					
12					0.0	(11.0-17.0') SAND, very fine to fine, subrounded; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2). Note: Silt content increases from 15.5-17.0' bgs.		(12.0-17.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
13			60		0.0				
14					0.0				
15				MW-202_123019 @ 13:18	0.0				
16			24		0.0				
17					0.0				
							End of boring at 17.0' bgs.		
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.3
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hdr = Height to Well: Yes No
5.0' bgs. Surface Elev.: 675.8
 North Coord.: 319792.0
 East Coord.: 13383999.2

SOIL BORING LOG - 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: MW-202S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/13/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/13/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 34° F, Cloudy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.	8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing (0.5-2.5') Bentonite Pellets 4.25" dia. drilled hole (2.5-10.0') Filter Pack Sand (3.5-8.5') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
2					0.0	(0.3-2.0') SAND, very fine to medium, subrounded to subangular; some pebbles, small to medium, subrounded; trace granules; poorly sorted; dry; dark brown (10YR 3/3).			
3		60			0.0	(2.0-6.0') SAND, fine to very coarse, subrounded to subangular; little pebbles, small to medium, subrounded; trace granules, subrounded to subangular; poorly sorted; moist to wet; brown (10YR 5/3).			
4					0.0				
5					0.0				
6				MW-202S_123019 @ 11:43	0.0	Note: Boring appeared wet at 5.2' bgs.			
7					0.0	(6.0-9.0') SAND, very fine to fine, subrounded; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3).			
8		50			0.0				
9					0.0				
10					0.0	(9.0-10.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; some pebbles, small, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.			
11							End of boring at 10.0' bgs.		
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.2
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hdr Auger to Well: Yes No
5.0' bgs. Surface Elev.: 675.9
 North Coord.: 319792.4
 East Coord.: 13384002.0

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: MW-203

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/17/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/17/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 29° F, Cloudy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.	8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing 4.25" dia. drilled hole	
2			60		0.0	(0.3-0.8') SAND, very fine to medium, subrounded to subangular; some pebbles, small to medium, subrounded; trace granules; poorly sorted; dry; dark brown (10YR 3/3).			
3					0.0	(0.8-5.2') SAND, fine to very coarse, subrounded to subangular; little pebbles, small to medium, subrounded; trace granules; poorly sorted; moist to wet; brown (10YR 5/3).			
4					0.0				
5					0.0				
6			60		0.0		(5.2-9.4') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, slow to rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).	(0.5-12.0') Bentonite Pellets	
7					0.0	Note: Boring appeared wet at 5.0' bgs.			
8					0.0	Note: Gravel lens present from 7.9-8.0' bgs.			
9					0.0			(12.0-18.0') Filter Pack Sand	
10			60		0.0	(9.4-12.8') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.			
11					0.0				
12					4.0			(13.0-18.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
13			60		0.9	(12.8-17.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, slow to rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).			
14					0.0				
15					0.0				
16			36	MW-203_122719 @ 11:12 and DUP-03 collected	0.0				
17					0.0				
18					0.0		(17.0-18.0') SILT, nonplastic, slow to rapid dilatancy; some clay; well sorted; wet; grayish brown (10YR 5/2).		
19							End of boring at 18.0' bgs.		
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.0
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
5.0' bgs. Surface Elev.: 675.6
 North Coord.: 319914.2
 East Coord.: 13383961.6

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MW-203_122719.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-203S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/13/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/13/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 34° F, Cloudy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.	8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing (0.5-2.0') Bentonite Pellets 4.25" dia. drilled hole (2.0-10.0') Filter Pack Sand (3.0-8.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
2			60		0.0		(0.3-0.9') SAND, very fine to medium, subrounded to subangular; some pebbles, small to medium, subrounded; trace granules; poorly sorted; dry; dark brown (10YR 3/3).		
3					0.0		(0.9-5.2') SAND, fine to very coarse, subrounded to subangular; little pebbles, small to medium, subrounded; trace granules; poorly sorted; moist to wet; brown (10YR 5/3).		
4					0.0				
5					0.0				
6				MW-203S_122719 @ 10:06	0.0		Note: Boring appeared wet at 5.0' bgs.		
7					0.0		(5.2-9.4') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, slow to rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
8			56		0.0		Note: Gravel lens present from 7.9-8.0' bgs.		
9					0.0				
10					0.0		(9.4-10.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.		
11							End of boring at 10.0' bgs.		
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.0
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
5.0' bgs. Surface Elev.: 675.6
 North Coord.: 319914.5
 East Coord.: 13383958.8

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-204

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/19/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/19/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 19° F, Partly Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.4') TOPSOIL/GRASS.	8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing 4.25" dia. drilled hole	
2					0.0	(0.4-5.6') SAND, very fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; moist to wet; yellowish brown (10YR 5/8). Note: Roots and organic matter present.			
3			60		0.0				
4					0.0				
5					0.0				
6					0.0		Note: Boring appeared wet at 5.5' bgs.	(0.5-11.0') Bentonite Pellets	
7					0.0	(5.6-11.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3).			
8			60		0.0				
9					0.0				
10					0.0			(11.0-17.0') Filter Pack Sand	
11					0.0	(11.0-16.4') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.			
12			44		0.0				
13					0.0			(12.0-17.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
14				MW-204_010320 @ 15:01	0.0				
15			20		0.0				
16					0.0				
17					0.0		(16.4-17.0') SILT, nonplastic, slow to rapid dilatancy; some sand, medium to very coarse, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2). End of boring at 17.0' bgs.		
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.5
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
5.0' bgs. Surface Elev.: 677.3
 North Coord.: 320293.8
 East Coord.: 13383983.2

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-204S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/16/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/16/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 26° F, Cloudy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.4') TOPSOIL/GRASS.	8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing 4.25" dia. drilled hole (0.5-3.0') Bentonite Pellets (3.0-10.0') Filter Pack Sand (4.0-9.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
2				0.0		(0.4-5.6') SAND, very fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; moist to wet; yellowish brown (10YR 5/8). Note: Roots and organic matter present.			
3		60			0.0				
4					0.0				
5					0.0				
6				MW-204S_122719 @ 13:07	0.0		Note: Boring appeared wet at 5.5' bgs.		
7					0.0	(5.6-10.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3).			
8		50			0.0				
9					0.0				
10					0.0				
11							End of boring at 10.0' bgs.		
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.5
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
 Surface Elev.: 677.3
 North Coord.: 320292.8
 East Coord.: 13383985.5

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD.LTP.BORING.LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-205

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/19/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/19/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 19° F, Partly Sunny

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.4') TOPSOIL/GRASS.		8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing 4.25" dia. drilled hole	
2			60		0.0	(0.4-0.5') SAND, very fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; dry to moist; brown (10YR 5/3). Note: Roots and organic matter present.			
3					0.0	(0.5-2.0') FILL: GRAVEL; and COBBLES. Note: Pea gravel.			
4					0.0	(2.0-3.0') SAND, fine to coarse, subrounded to subangular; some pebbles, small to large, subrounded to subangular; poorly sorted; dry to moist; yellowish brown (10YR 5/6).			
5					0.0	(3.0-7.0') SAND, fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; moist; yellowish brown (10YR 5/8).			
6					0.0		Note: Trace silt present from 6.0-7.0' bgs.	(0.5-11.0') Bentonite Pellets	
7					0.0				
8			42		0.0	(7.0-10.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3). Note: Boring appeared wet at 7.8' bgs.			
9					0.0				
10					0.0				
11					0.0	(10.2-12.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.		(11.0-17.0') Filter Pack Sand	
12					0.0				
13			40		0.0	(12.0-13.0') SILT, nonplastic, slow to rapid dilatancy; some sand, medium to very coarse, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).			
14				MW-205_010320 @ 13:34	0.0	(13.0-17.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.		(12.0-17.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
15					0.0				
16			23		0.0				
17					0.0				
							End of boring at 17.0' bgs.		
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 7.8
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
5.0' bgs. Surface Elev.: 679.3
 North Coord.: 320300.8
 East Coord.: 13383677.8

SOIL BORING LOG - 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: MW-205S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/16/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/16/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 26° F, Cloudy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0	(0.0-0.4') TOPSOIL/GRASS.		8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing 4.25" dia. drilled hole (0.5-3.5') Bentonite Pellets (3.5-10.0') Filter Pack Sand (4.5-9.5') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
2				0.0	(0.4-0.6') SAND, very fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; dry to moist; brown (10YR 5/3). Note: Roots and organic matter present.				
3		60			0.0	(0.6-2.0') FILL: GRAVEL; and COBBLES. Note: Pea gravel.			
4					0.0	(2.0-3.0') SAND, fine to coarse, subrounded to subangular; some pebbles, small to large, subrounded to subangular; poorly sorted; dry to moist; yellowish brown (10YR 5/6).			
5					0.0	(3.0-7.0') SAND, fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; moist; yellowish brown (10YR 5/8).			
6					0.0				
7				MW-202_123019 @ 10:16	0.0	Note: Trace silt present from 6.0-7.0' bgs.			
8		43			0.0	(7.0-10.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3). Note: Boring appeared wet at 7.83' bgs.			
9					0.0				
10					0.0				
11						End of boring at 10.0' bgs.			
12									
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 7.83
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No
 5.0' bgs. Surface Elev.: 679.4
 North Coord.: 320301.0
 East Coord.: 13383674.4

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: MW-206

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/19/2019 Logger: C. Cisco

Project Number: MI001454 Date Completed: 12/19/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 16° F, Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.	8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing 4.25" dia. drilled hole	
2			60		0.0	(0.3-2.0') SAND, fine to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; and PEBBLES, small, subrounded to subangular; poorly sorted; dry; dark brown (10YR 3/3). Note: Gravel and fill material present.			
3					0.0	(2.0-6.0') SAND, medium to coarse, subrounded to subangular; some granules, subrounded to subangular; poorly sorted; moist; yellowish brown (10YR 5/6).			
4					0.0				
5					0.0				
6					0.0			(0.5-13.0') Bentonite Pellets	
7			46		0.0	(6.0-9.6') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; well sorted; moist to wet; yellowish brown (10YR 5/6).			
8					0.0				
9					0.0				
10					0.0	Note: Boring appeared wet at 9.3' bgs.			
11					0.0		(9.6-18.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; some pebbles, small to medium, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2).	(13.0-19.0') Filter Pack Sand	
12			43		0.0				
13					0.0				
14					0.0				
15					0.0				
16				MW-206_010320 @	0.0		(14.0-19.0') 2.0" dia. Stainless Steel 0.010 Slot Well Screen		
17			39	10:37	0.0				
18					0.0				
19					0.0	(18.0-19.0') SILT, nonplastic, slow to rapid dilatancy; some clay; well sorted; wet; grayish brown (10YR 5/2).			
20							End of boring at 19.0' bgs.		

Drilling Co.: Fibertec

Sampling Method: 5' Macrocore

Driller: Mark Ryerson

Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push

Water Level Start (ft. bgs.): 9.3

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No

Surface Elev.: 680.6

North Coord.: 320016.8

East Coord.: 13383641.9



Boring No.: MW-206S

Soil Boring Log

Sheet: 1 of 1

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/19/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/19/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 16° F, Partly Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.	8.0" Flush Mount (0.0-0.5') Cement 2.0" dia. SCH-40 PVC Casing 4.25" dia. drilled hole (0.5-5.5') Bentonite Pellets	
2				0.0		(0.3-2.0') SAND, fine to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; and PEBBLES, small, subrounded to subangular; poorly sorted; dry; dark brown (10YR 3/3). Note: Gravel and fill material present.			
3		60			0.0		(2.0-6.0') SAND, medium to coarse, subrounded to subangular; some granules, subrounded to subangular; poorly sorted; moist; yellowish brown (10YR 5/6).		
4					0.0				
5					0.0				
6					0.0			(5.5-11.5') Filter Pack Sand	
7					0.0		(6.0-9.6') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; well sorted; moist to wet; yellowish brown (10YR 5/6).		
8		48			0.0				
9				MW-206S_010320 @ 11:41	0.0		Note: Boring appeared wet at 9.3' bgs.		
10					0.0			(6.5-11.5') 2.0" dia. Stainless Steel 0.010 Slot Well Screen	
11		14			0.0		(9.6-11.5') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; some pebbles, small to medium, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2).		
12					0.0		End of boring at 11.5' bgs.		
13									
14									
15									
16									
17									
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 9.3
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hdr Auger to Well: Yes No
5.0' bgs. Surface Elev.: 680.5
 North Coor.: 320018.4
 East Coor.: 13383645.3

SOIL BORING LOG - 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ - ARCADIS_2013.GDT 3/31/20



Boring No.: SB-131

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/30/2018 Logger: C. Revteman

Project Number: MI001454 Date Completed: 10/30/2018 Editor: C. Cisco

Project Location: Livonia, MI

Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-3.0') SAND, fine to coarse, subangular; poorly sorted.		
2			60		0.0				
3					0.0				
4					0.0		(3.0-5.0') SAND, fine; trace gravel; tan to gray. Note: Boring appeared moist from 3.5-5.0' bgs.		
5					0.0				
6					0.0		(5.0-6.5') SAND, fine to coarse, subangular; very poorly sorted; wet; brown.		
7			48		0.0				
8					0.0		(6.5-10.0') SAND, fine; some sand, medium; wet; brown.		
9					0.0				
10					0.0		Note: At 9.5' bgs, 2" orange brown fine sand. Note: At 16.0' bgs, transition to gray.	Borehole backfilled with native material	
11					0.0				
12			54		0.0				
13					0.0				
14					0.0				
15					0.0				
16					0.0		(16.0-17.5') SAND, fine to medium; wet; gray.		
17			60		0.0				
18					0.0		(17.5-18.0') SAND, fine; some sand; gray.		
19					0.0		(18.0-20.0') CLAY; some sand; soft; gray.		
20					0.0				

Drilling Co.: Dakota Technologies

Sampling Method: 5' Macrocore

Driller: Robert Stewart

Sampling Interval: Continuous

Drilling Method: Direct Push

Water Level Start (ft. bgs.): NA

Drilling Fluid: None

Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface;

Converted to Well: Yes No

Surface Elev.: 671.5

North Coord.: 319794.9

East Coord.: 13384102.0

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: SB-131

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/30/2018 Logger: C. Revteman

Project Number: MI001454 Date Completed: 10/30/2018 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		54		0.0		(18.0-20.0') CLAY; some sand; soft; gray. Note: From 20-25' bgs, trace fine gravel.	Borehole backfilled with native material	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26	X		54		0.0		End of boring at 30.0' bgs.		
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

SOIL BORING LOG - 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ - ARCADIS_2013.GDT 3/31/20



Boring No.: SB-132

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/31/2018 Logger: C. Revteman
 Project Number: MI001454 Date Completed: 10/31/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-4.0') SAND, fine to medium; some sand, coarse; some gravel; brown.	Borehole backfilled with native material	
2			60		0.0				
3					0.0				
4					0.0		Note: Boring appeared moist at 3.5' bgs.		
5					0.0		(4.0-5.0') SAND, fine; trace gravel; moist; brown to gray.		
6					0.5				
7					0.0				
8			36		0.0				
9					0.0		Note: From 8.0-9.0' bgs, brown to black, wet.		
10					0.0		(9.0-10.0') SAND; and GRAVEL; gray to orange to brown. Note: Some coarse gravel, approximately 2".		
11					0.0		(10.0-10.5') GRAVEL, medium to coarse; wet.		
12					0.0		(10.5-17.0') SAND, fine; trace gravel; tan to brown.		
13			48		0.0				
14					0.0				
15					0.0		Note: At 14.5' bgs, transition to gray.		
16					0.0				
17					0.0				
18			60		0.0		(17.0-30.0') SAND, fine; and CLAY, very soft to soft; gray. Note: Alternating layers, up to 6" thick from 17.0-19.5' bgs.		
19					0.0				
20					0.0				

Drilling Co.: Dakota Technologies Sampling Method: 5' Macrocore
 Driller: Robert Stewart Sampling Interval: Continuous
 Drilling Method: Direct Push Water Level Start (ft. bgs.): NA
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
 Surface Elev.: 671.5
 North Coord.: 320082.5
 East Coord.: 13384091.2

SOIL BORING LOG - 2013 \ARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ - ARCADIS_2013.GDT 3/31/20



Boring No.: SB-132

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/31/2018 Logger: C. Revteman
 Project Number: MI001454 Date Completed: 10/31/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			54		0.0		(17.0-30.0') SAND, fine; and CLAY, very soft to soft; gray. Note: Alternating layers, up to 6" thick from 17.0-19.5' bgs. Note: From 20.0-25.0' bgs, soft, trace gravel.	Borehole backfilled with native material	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26					0.0				
27			60		0.0		End of boring at 30.0' bgs.		
28					0.0				
29					0.0				
30					0.0				
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

SOIL BORING LOG, 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: SB-133

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/31/2018 Logger: C. RevtemanProject Number: MI001454 Date Completed: 10/31/2018 Editor: C. CiscoProject Location: Livonia, MI Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					NA		(0.0-1.0') ASPHALT.		
2			60		0.0		(1.0-2.0') SAND, fine; brown.		
3					1.0		(2.0-5.0') SAND, fine to medium; trace brick fragments; orange brown.		
4					0.0		Note: Boring appeared moist at 4.0-5.0' bgs.		
5					0.0		Note: Boring appeared wet at 5.0-7.0' bgs.		
6			48		0.0		Note: At 7.0-10.0' bgs, gray to brown.		
7					0.0				
8					0.0				
9					0.0				
10					0.0				
11					0.0				
12			60		0.0		(11.5-14.5') SAND, fine to coarse; trace gravel; wet.		
13					0.0		Note: At 13.5' bgs, 3" coarse sand layer.		
14					0.0		(14.5-15.0') SAND, fine; wet; gray to brown.		
15					0.0		(15.0-20.0') SAND, fine; wet; gray.		
16					0.0				
17			36		0.0				
18					0.0				
19					0.0				
20					0.0				

Borehole backfilled with native material

Drilling Co.: Dakota TechnologiesSampling Method: 5' MacrocoreDriller: Robert StewartSampling Interval: ContinuousDrilling Method: Direct PushWater Level Start (ft. bgs.): NADrilling Fluid: NoneWater Level Finish (ft. btoc.): NARemarks: ' / ft = feet; " / in = inch; bgs = below ground surface;Converted to Well: Yes NoSurface Elev.: 671.5North Coord.: 320397.3East Coord.: 13384235.9



Boring No.: SB-133

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 10/31/2018 Logger: C. Revteman

Project Number: MI001454 Date Completed: 10/31/2018 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0		(20.0-22.0') Poor recovery, liner stuck in barrel, gray sand at top.	Borehole backfilled with native material	
22					0.0				
23			36		0.0		(22.0-23.0') SAND; gray.		
24					0.0				
25					0.0		(24.5-30.0') CLAY; some sand; soft; gray.		
26					0.0				
27			54		0.0				
28					0.0				
29					0.0				
30					0.0				End of boring at 30.0' bgs.
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: SB-134

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2018 Logger: C. RevtemanProject Number: MI001454 Date Completed: 11/01/2018 Editor: C. CiscoProject Location: Livonia, MI Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					NR		(0.0-1.0') ASPHALT; and CONCRETE.		
2			60		1.4		(1.0-5.0') SAND, fine to medium; and GRAVEL; some sand, coarse; brown. Note: Crushed asphalt present.		
3					1.0				
4					1.1				
5					0.4		Note: Boring appeared moist from 5.0-9.5' bgs.		
6					0.0				
7			36		0.0				
8					0.0		Note: Boring appeared wet at 7.5' bgs.		
9					0.0				
10					0.0		(9.5-14.0') SAND, fine to medium; wet; gray brown.	Borehole backfilled with native material	
11					0.0				
12					0.0				
13			36		0.0		Note: From 13.0-14.0' bgs, some fine gravel, coarse.		
14					0.0		(14.0-15.0') SAND, fine; gray brown.		
15					0.0		(15.0-20.0') SAND, fine; trace medium sand; wet; gray.		
16					0.0				
17					0.0				
18			48		0.0				
19					0.0				
20					0.0				

Drilling Co.: Dakota TechnologiesSampling Method: 5' MacrocoreDriller: Robert StewartSampling Interval: ContinuousDrilling Method: Direct PushWater Level Start (ft. bgs.): NADrilling Fluid: NoneWater Level Finish (ft. btoc.): NARemarks: ' / ft = feet; " / in = inch; bgs = below ground surface;Converted to Well: Yes NoSurface Elev.: 671.5North Coord.: 320317.7East Coord.: 13384076.7



Boring No.: SB-134

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/01/2018 Logger: C. Revteman

Project Number: MI001454 Date Completed: 11/01/2018 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: NA

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21			54		0.0		(15.0-20.0') SAND, fine; trace medium sand; wet; gray. Note: Trace clay from 20.0-23.0' bgs.	Borehole backfilled with native material	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26			54		0.0		(23.0-30.0') SAND, medium; trace gravel; soft; gray. Note: Trace clay, red brown from 25.0-30.0' bgs.	Borehole backfilled with native material	
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31							End of boring at 30.0' bgs.		
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks:

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: SB-135

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/02/2018 Logger: A. Westhuis
 Project Number: MI001454 Date Completed: 11/02/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 45° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
0.2						(0.0-0.5') GRAVEL.			
1.2				SB-135_1-2_110218 @ 1220		(0.5-5.0') SAND, very fine to fine, subrounded; trace granules to small pebbles, subrounded; little to some silt; moist to wet; well sorted; grayish brown (10YR 5/2). Note: Boring appeared wet at 1.0' bgs, slight odor from 1.0-3.0' bgs. Note: Dark gray (10YR 4/1) discoloration from 2.0-3.0' bgs.			
1.6			SB-135_2-3_110218 @ 1225						
0.7		72	SB-135_3-4_110218 @ 1230						
0.1			SB-135_4-5_110218 @ 1235						
0.0			SB-135_5-6_110218 @ 1240						
0.0						(5.0-7.0') SAND, medium to coarse, subangular; trace granules to small pebbles, subangular; little silt; poorly sorted; grayish brown (10YR 5/2). Note: Poor recovery from 6.0-15.0' bgs, possibly due to coarse sand.			
0.0						(7.0-17.0') SAND, very fine to fine, subrounded; little silt; well sorted; wet; grayish brown (10YR 5/2).	Borehole backfilled with native material		
0.0		24							
0.0									
0.0									
0.0									
0.0						(17.0-17.5') CLAY, high plasticity, no dilatancy; some silt; moist; medium stiff; gray (10YR 5/1).			
0.0		24							
0.0									
0.0									
0.0									
0.0						(17.5-19.5') SAND, very fine to fine, subrounded; trace silt; well sorted; wet; grayish brown (10YR 5/2).			
0.0		60							

Drilling Co.: Dakota Technologies Sampling Method: 5' Macrocore
 Driller: Robert Stewart Sampling Interval: Continuous
 Drilling Method: Hand Auger / Geoprobe Water Level Start (ft. bgs.): 1.0
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Converted to Well: Yes No
 Surface Elev.: 671.5
 North Coor.: 320375.6
 East Coor.: 13384521.7

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: SB-135

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 11/02/2018 Logger: A. Westhuis
 Project Number: MI001454 Date Completed: 11/02/2018 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 45° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		60	SB-135_19.5-20.5_110218 @ 1300	0.0	/	(19.5-30.0') CLAY, high plasticity, no dilatancy; little silt; moist; medium stiff; gray (10YR 5/1).	Borehole backfilled with native material	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26	X		60	SB-135_28-29_110218 @ 1305	0.0	/	End of boring at 30.0' bgs.	Borehole backfilled with native material	
27					0.0				
28					0.0				
29					0.0				
30					0.0				
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected: Collected: 1-5' @ 1410, 6-10' @ 1355, 11-15' @ 1340, 16-20' @ 1325.

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MI\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-38

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/09/2019 Logger: C. Cisco

Project Number: MIO01454 Date Completed: 12/09/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 48° F, Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.		
2					0.0		(0.3-2.0') SAND, very fine to medium, subrounded to subangular; some pebbles, small to medium, subrounded; trace granules; poorly sorted; dry; dark brown (10YR 3/3) to brown (10YR 4/3).		
3			60		0.0		(2.0-6.0') SAND, fine to very coarse, subrounded to subangular; little pebbles, small to medium, subrounded; trace granules; poorly sorted; moist to wet; brown (10YR 5/3).		
4					0.0				
5					0.0				
6					0.0		Note: Boring appeared wet at 5.2' bgs.		
7				VAP-38_5-9 _121019 @ 10:18	0.0		(6.0-9.0') SAND, very fine to fine, subrounded; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3).		
8			44		0.0				
9					0.0				
10					0.0		(9.0-11.1') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; some pebbles, small, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.	(0.0-25.0') Bentonite backfill	
11					0.0				
12					0.0				
13			39	VAP-38_11-15 _121019 @ 09:52	0.0		(11.1-18.0') SAND, very fine to fine, subrounded; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
14					0.0				
15					0.0				
16					0.0		Note: Silt content increases from 15.0-18.0' bgs.		
17					0.0				
18			50	VAP-38_16-20 _121019 @ 09:16	0.0				
19					0.0				
20					0.0		(18.0-20.6') SILT, low to medium plasticity, rapid dilatancy; some clay; well sorted; wet; medium stiff to soft; grayish brown (10YR 5/2).		

Drilling Co.: Fibertec Sampling Method: 5' Macrocore

Driller: Mark Ryerson Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.2

Drilling Fluid: None Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Cut through to Well: Yes No

first 0.5' (concrete) with saw. Hand Auger to 5.0' bgs. VAP-38_5-9

Collected on 12/10/19: 16-20' bgs at 09:16, 11-15' bgs at 09:52, 5-9'

bgs at 10:18. East Coord:



Boring No.: VAP-38

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/09/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/09/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 48° F, Rainy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		40		0.0	CL	(20.6-25.0') CLAY, medium to high plasticity, no dilatancy; trace silt; well sorted; wet; soft; gray (10YR 5/1). Note: Silt content decreases from 21.2-25.0' bgs.	(0.0-25.0') Bentonite backfill	
22					0.0				
23					0.0				
24					0.0				
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected on 12/10/19: 16-20' bgs at 09:16, 11-15' bgs at 09:52, 5-9' bgs at 10:18.

SOIL BORING LOG - 2013 V:\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-39

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/09/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/09/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 48° F, Rainy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.		
2			60		0.0		(0.3-0.8') SAND, very fine to medium, subrounded to subangular; some pebbles, small to medium, subrounded; trace granules; poorly sorted; dry; dark brown (10YR 3/3).		
3					0.0		(0.8-5.2') SAND, fine to very coarse, subrounded to subangular; little pebbles, small to medium, subrounded; trace granules; poorly sorted; moist to wet; brown (10YR 5/3).		
4					0.0				
5					0.0		Note: Boring appeared wet at 5.0' bgs.		
6			45	VAP-39_4.5-8.5_121019 @ 12:24	0.0		(5.2-7.9') SAND, very fine to fine, subrounded; and SILT, nonplastic, slow to rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
7					0.0				
8					0.0		(7.9-8.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.		
9					0.0		(8.0-9.4') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
10					0.0		(9.4-12.8') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.	(0.0-25.0') Bentonite backfill	
11			40	VAP-39_9-13_121019 @ 12:03	4.1		(12.8-17.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
12					1.2				
13					0.0				
14					0.0				
15					0.0				
16					0.0				
17					0.0				
18			46	VAP-39_14-18_121019 @ 11:39	0.0		(17.0-22.5') SILT, low to medium plasticity, rapid dilatancy; some clay; well sorted; wet; medium stiff to soft; grayish brown (10YR 5/2).		
19					0.0				
20					0.0				

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.0
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Cuttings to Well: Yes No
 first 0.5' (concrete) with saw. Hand Auger to 5.0' bgs. VAP-39 Samples:
 Collected on 12/10/19: 18.5-22.5' bgs at 11:10, 14-18' bgs at 11:39,
 9-13' bgs at 12:03, 4.5-8.5' at 12:24. East Coord:

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD LTP BORING LOGS_031210.GPJ ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-39

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/09/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/09/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 48° F, Rainy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well	
21	X		45	VAP-39_18.5-22.5 _121019 @ 11:10	0.0		(17.0-22.5') SILT, low to medium plasticity, rapid dilatancy; some clay; well sorted; wet; medium stiff to soft; grayish brown (10YR 5/2).	(0.0-25.0') Bentonite backfill		
22					0.0					
23					0.0		/ / / /			(22.5-25.0') CLAY, medium to high plasticity, no dilatancy; trace silt; well sorted; wet; soft; gray (10YR 5/1).
24					0.0					
25					0.0					
26	End of boring at 25.0' bgs.									
27										
28										
29										
30										
31										
32										
33										
34										
35										
36										
37										
38										
39										
40										
41										

Remarks: VAP Samples Collected on 12/10/19: 18.5-22.5' bgs at 11:10, 14-18' bgs at 11:39, 9-13' bgs at 12:03, 4.5-8.5' at 12:24.

SOIL BORING LOG: 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-40

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/09/2019 Logger: C. Cisco

Project Number: MI001454 Date Completed: 12/09/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 48° F, Rainy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.		
2			60		0.0		(0.3-0.7') SAND, very fine to medium, subrounded to subangular; some pebbles, small to medium, subrounded; trace granules; poorly sorted; dry; grayish brown (10YR 5/2).		
3					0.0		(0.7-6.0') SAND, medium to very coarse, subrounded to subangular; little pebbles, small to medium, subrounded; trace granules; poorly sorted; moist to wet; brown (10YR 5/3).		
4					0.0				
5					0.0				
6					0.0		Note: Boring appeared wet at 5.9' bgs.		
7			49	VAP-40_5-9 _121019 @ 14:33	0.0		(6.0-10.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, slow to rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
8					0.0				
9					0.0				
10					0.0			(0.0-25.0') Bentonite backfill	
11					0.0		(10.0-14.2') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.		
12			38	VAP-40_11-15 _121019 @ 14:10	1.3				
13					0.2				
14					2.6				
15					0.4		(14.2-20.9') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
16					0.0				
17					0.0				
18			47	VAP-40_16-20 _121019 @ 13:40	0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec Sampling Method: 5' Macrocore

Driller: Mark Ryerson Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.9

Drilling Fluid: None Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Cuttings to Well: Yes No

first 0.5' (concrete) with saw. Hand Auger to 5.0' bgs. VAP-40_5-9

Collected on 12/10/19: 16-20' bgs at 13:40, 11-15' bgs at 14:10, 5-9'

bgs at 14:33. East Coord:



Boring No.: VAP-40

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/09/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/09/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 48° F, Rainy/Overcast

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		43		0.0		(20.9-25.0') CLAY, medium to high plasticity, no dilatancy; trace silt; well sorted; wet; medium stiff; gray (10YR 5/1).	(0.0-25.0') Bentonite backfill	
22					0.0	/ / / /			
23					0.0	/ / / /			
24					0.0	/ / / /			
25					0.0	/ / / /			
26						End of boring at 25.0' bgs.			
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected on 12/10/19: 16-20' bgs at 13:40, 11-15' bgs at 14:10, 5-9' bgs at 14:33.

SOIL BORING LOG 2013 V:\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\GWIN\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-41

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/10/2019 Logger: C. Cisco

Project Number: MI001454 Date Completed: 12/10/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 29° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
0.0							(0.0-0.4') TOPSOIL/GRASS.		
1					0.0		(0.4-5.6') SAND, very fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; moist to wet; yellowish brown (10YR 5/8) to light yellowish brown (10YR 6/4). Note: Roots and organic matter present.		
2				0.0					
3		72		0.0					
4				0.0					
5				0.0					
5.5					5.5		Note: Boring appeared wet at 5.5' bgs.		
6					0.0		(5.6-11.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3).	(0.0-26.0') Bentonite backfill	
7				0.0					
8		47		0.0					
9				0.0					
10				0.0					
11					0.0		(11.0-16.4') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.		
12				0.0					
13		40		0.0					
14				0.0					
15				0.0					
16					0.0		Note: Trace silt from 16.0-16.4' bgs.		
17					0.0		(16.4-20.5') SILT, nonplastic, rapid dilatancy; some sand, very fine to fine, subrounded; well sorted; wet; medium stiff; grayish brown (10YR 5/2).		
18				0.0					
19		48		0.0					
20				0.0					
20				0.0					

Drilling Co.: Fibertec Sampling Method: 5' Macrocore

Driller: Mark Ryerson Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.5

Drilling Fluid: None Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hand Auger to Well: Yes No

6.0' bgs. VAP Samples Collected on 12/12/19: 19-23' bgs at 14:54

14-18' bgs at 14:53, 9.5-13.5' bgs at 15:11, 5-9' at 15:30

North Coor: _____

East Coor: _____



Boring No.: VAP-41

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/10/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/10/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 29° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21				VAP-41_19-23 _121219 @ 14:34	0.0		Note: Trace clay from 20.0-20.5' bgs.	(0.0-26.0') Bentonite backfill	
22			0.0			(20.5-21.9') SILT, nonplastic to low plasticity, rapid dilatancy; some clay; well sorted; wet; medium stiff; grayish brown (10YR 5/2).			
23			0.0			(21.9-22.9') SILT, nonplastic, rapid dilatancy; some sand, very fine to fine, subrounded to subangular; well sorted; wet; medium stiff; grayish brown (10YR 5/2).			
24		53	0.0			(22.9-23.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.			
25			0.0			(23.0-26.0') CLAY, medium to high plasticity, no dilatancy; well sorted; wet; soft to medium stiff; gray (10YR 5/1).			
26						End of boring at 26.0' bgs.			
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected on 12/12/19: 19-23' bgs at 14:34, 14-18' bgs at 14:53, 9.5-13.5' bgs at 15:11, 5-9' at 15:30.

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-42

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/10/2019 Logger: C. Cisco

Project Number: M1001454 Date Completed: 12/10/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 29° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
0.0						(0.0-0.4') TOPSOIL/GRASS.			
0.0						(0.4-0.5') SAND, very fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; moist to dry; brown (10YR 5/3). Note: Roots and organic matter present.			
0.0						(0.5-2.0') FILL. Gravel, cobbles. Note: Hit refusal at ~10.5" during 3 drilling attempts/step-outs. Further depth successful during fourth drilling attempt.			
0.0		72				(2.0-3.0') SAND, fine to coarse, subrounded to subangular; some pebbles, small to large, subrounded to subangular; poorly sorted; dry; yellowish brown (10YR 5/6).			
0.0						(3.0-7.0') SAND, fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; moist to wet; yellowish brown (10YR 5/8).			
0.0						Note: Boring appeared wet at 6.0' bgs. Trace silt from 6.0-7.0' bgs.			
0.0				VAP-42_5-9 _121219 @ 13:35 and DUP-02 collected		(7.0-10.2') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3).			
0.0		38				(10.2-12.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.			
0.0						(12.0-13.0') SILT, nonplastic, rapid dilatancy; little sand, fine to medium, subrounded to subangular; well sorted; wet; medium stiff; grayish brown (10YR 5/2).		(0.0-26.0') Bentonite backfill	
0.0				VAP-42_10-14 _121219 @ 13:15		(13.0-20.5') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.			
0.0		36							
0.0				VAP-42_15-19 _121219 @ 12:59					
0.0		47							

Drilling Co.: Fibertec Sampling Method: 5' Macrocore

Driller: Mark Ryerson Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 6.0

Drilling Fluid: None Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Hdr Auger to Well: Yes No

6.0' bgs. VAP Samples Collected on 12/12/19: 20-24' bgs at 12:55.

15-19' bgs at 12:59, 10-14' bgs at 13:15, 5-9' at 13:35. North Coor:

East Coor:



Boring No.: VAP-42

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/10/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/10/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 29° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21					0.0		(20.5-22.4') SILT, nonplastic, rapid dilatancy; some sand, very fine to fine, subrounded to subangular; well sorted; wet; medium stiff; grayish brown (10YR 5/2).	(0.0-26.0') Bentonite backfill	
22			VAP-42_20-24 _121219 @ 12:35	0.0					
23			43	0.0		(22.4-24.0') SILT, nonplastic to low plasticity, rapid dilatancy; some clay; little sand, very fine to fine, subrounded to subangular; poorly sorted; wet; medium stiff; grayish brown (10YR 5/2).			
24				0.0					
25				0.0		(24.0-26.0') CLAY, medium plasticity, no dilatancy; well sorted; wet; soft to medium stiff; gray (10YR 5/1).			
26					0.0		End of boring at 26.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected on 12/12/19: 20-24' bgs at 12:35, 15-19' bgs at 12:59, 10-14' bgs at 13:15, 5-9' at 13:35.

SOIL BORING LOG 2013 V:\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-43

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
0.0							(0.0-0.4') ASPHALT.		
1							(0.4-1.0') SAND, very fine to medium, subrounded to subangular; some pebbles, medium to large, subrounded; trace granules; poorly sorted; dry; brown (10YR 5/3).		
2			60				(1.0-3.0') SAND, medium to very coarse, subrounded to subangular; trace pebbles, small to medium, subrounded; trace granules; poorly sorted; dry; yellowish brown (10YR 5/6).		
3							(3.0-4.0') SAND, very fine to medium, subrounded to subangular; trace granules; well sorted; dry; very dark grayish brown (10YR 3/2).		
4							Note: Roots and organic matter present.		
5							(4.0-6.2') SAND, very fine to medium, subrounded to subangular; trace sand, coarse, subrounded to subangular; well sorted; moist to wet; yellowish brown (10YR 5/6).		
6							Note: Boring appeared wet at 5.9' bgs.		
7			46	VAP-43_5-9 _121219 @ 17:13			(6.2-9.8') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3).		
8									
9									
10								(0.0-25.0') Bentonite backfill	
11				VAP-43_9.5-13.5 _121219 @ 16:54 and MS/MSD collected			(9.8-14.3') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; trace pebbles, small to medium, subrounded; poorly sorted; wet; brown (10YR 5/3). Note: Gravel present.		
12			36						
13									
14									
15							(14.3-20.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; brown (10YR 5/3) to grayish brown (10YR 5/2).		
16				VAP-43_14-18 _121219 @ 16:35					
17			43						
18									
19									
20									

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.9
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Cuttings to Well: Yes No
first 0.5' (concrete) with saw. Hand Auger to 5.0' bgs. VAP-43_5-9
Collected on 12/12/19: 19-23' bgs at 16:15, 14-18' bgs at 16:35
9.5-13.5' bgs at 16:54, 5-9' at 17:13. East Coord:

SOIL BORING LOG - 2013 V:\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\NOV\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER.FORD.LTP.BORING.LOGS.031210.GPJ.ARCADIS_2013.GDT.3/31/20



Boring No.: VAP-43

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		48	VAP-43_19-23 _121219 @ 16:15	0.0		(20.0-23.6') SILT, nonplastic to low plasticity, rapid dilatancy; some clay; well sorted; wet; medium stiff; grayish brown (10YR 5/2).	(0.0-25.0') Bentonite backfill	
22					0.0				
23					0.0				
24					0.0				
25					0.0		/ / / /		
End of boring at 25.0' bgs.									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected on 12/12/19: 19-23' bgs at 16:15, 14-18' bgs at 16:35, 9.5-13.5' bgs at 16:54, 5-9' at 17:13.

SOIL BORING LOG - 2013 V:\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-44

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy/Snow

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.		
2			60		0.0		(0.3-4.0') SAND, fine to medium, subrounded to subangular; trace granules; well sorted; dry; yellowish brown (10YR 5/6).		
3					0.0				
4					0.0				
5					0.0		(4.0-5.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; dry to moist; yellowish brown (10YR 5/6).		
6				VAP-44_5-9 _121219 at 09:41	0.0		(5.0-8.9') SAND, fine to coarse, subrounded to subangular; trace granules; poorly sorted; moist to wet; yellowish brown (10YR 5/6). Note: Boring appeared wet at 5.5' bgs.		
7			44		0.0				
8					0.0				
9					0.0				
10					0.0		(8.9-11.2') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded; well sorted; wet; yellowish brown (10YR 5/6).	(0.0-25.0') Bentonite backfill	
11					0.0				
12				VAP-44_10-14 _121219 at 09:24	0.0		(11.2-15.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES; little pebbles, small to medium, subrounded to subangular; poorly sorted; wet; yellowish brown (10YR 5/6). Note: Gravel present.		
13			42		0.0				
14					0.0				
15					0.0				
16					0.0				
17				VAP-44_15-19 _121219 at 09:02	0.0		(15.0-20.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; trace sand, medium, subrounded to subangular; well sorted; wet; yellowish brown (10YR 5/6). Note: Silt content increases, predominantly silt from 15.9-20.0' bgs. Change from silty sand to sandy silt.		
18			38		0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec Sampling Method: 5' Macrocore
 Driller: Mark Ryerson Sampling Interval: Continuous
 Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.5
 Drilling Fluid: None Water Level Finish (ft. btoc.): NA
 Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Cuttings to Well: Yes No
first 0.5' (concrete) with saw. Hand Auger to 5.0' bgs. VAP-44_5-9
Collected on 12/12/19: 20-24' bgs at 08:35, 15-19' bgs at 09:02 por:
10-14' bgs at 09:24, 5-9' at 09:41. East Coord:

SOIL BORING LOG - 2013 VARCADIS-US.COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MI001454.GPJ - ARCADIS_2019.GDT 3/31/20



Boring No.: VAP-44

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy/Snow

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		54	VAP-44_20-24 _121219 at 08:35	0.0		(20.0-21.3') SILT, nonplastic to low plasticity, rapid dilatancy; some clay; well sorted; wet; soft; grayish brown (10YR 5/2).	(0.0-25.0') Bentonite backfill	
22					0.0		(21.3-23.6') SILT, nonplastic, rapid dilatancy; some sand, very fine to fine, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
23					0.0				
24					0.0				
25					0.0				
End of boring at 25.0' bgs.									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected on 12/12/19: 20-24' bgs at 08:35, 15-19' bgs at 09:02, 10-14' bgs at 09:24, 5-9' at 09:41.

SOIL BORING LOG: 2013 V:\ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031210.GPJ - ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-45

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco

Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy/Windy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.		
2			60		0.0		(0.3-5.0') SAND, fine to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; and PEBBLES, small, subrounded to subangular; poorly sorted; dry; pale brown (10YR 6/3). Note: Fill material, pea gravel.		
3					0.0				
4					0.0				
5					0.0				
6				VAP-45_5-9 _121119 at 11:32	0.0		(5.0-10.5') SAND, medium to coarse, subrounded to subangular; some granules, subrounded to subangular; poorly sorted; moist to wet; yellowish brown (10YR 5/6). Note: Boring appeared wet at 5.7' bgs.	(0.0-25.0') Bentonite backfill	
7			32		0.0				
8					0.0				
9					0.0				
10					0.0				
11				VAP-45_10-14 _121119 at 11:12	0.0		(10.5-13.8') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; well sorted; wet; yellowish brown (10YR 5/6).		
12			30		0.0				
13					0.0				
14					0.0				
15				VAP-45_15-19 _121119 at 10:51	0.0		(13.8-16.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; some pebbles, small to medium, subrounded; poorly sorted; wet; yellowish brown (10YR 5/6). Note: Gravel present.		
16					0.0				
17			40		0.0		(16.0-20.9') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; well sorted; wet; grayish brown (10YR 5/2).		
18					0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec Sampling Method: 5' Macrocore

Driller: Mark Ryerson Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.7

Drilling Fluid: None Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Cuttings to Well: Yes No

first 0.5' (concrete) with saw. Hand Auger to 5.0' bgs. VAP-45_5-9

Collected on 12/12/19: 20-24' bgs at 10:30, 15-19' bgs at 10:50

10-14' bgs at 11:12, 5-9' at 11:32. East Coord:



Boring No.: VAP-45

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy/Windy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		40.5	VAP-45_20-24 _121119 at 10:30	0.0			(0.0-25.0') Bentonite backfill	
22					0.0		(20.9-23.0') SILT, nonplastic to low plasticity, rapid dilatancy; some clay; well sorted; wet; soft; grayish brown (10YR 5/2).		
23					0.0		(23.0-24.1') SILT, nonplastic, rapid dilatancy; some sand, very fine to fine, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
24					0.0		(24.1-24.3') SAND, medium to very coarse, subrounded to subangular; and GRANULES; little pebbles, small, subrounded; poorly sorted; wet; grayish brown (10YR 5/2).		
25					0.0		(24.3-25.0') CLAY, medium to high plasticity, no dilatancy; well sorted; wet; soft to medium stiff; gray (10YR 5/1). End of boring at 25.0' bgs.		
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected on 12/12/19: 20-24' bgs at 10:30, 15-19' bgs at 10:51, 10-14' bgs at 11:12, 5-9' at 11:32.

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ_ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-46

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco

Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy/Windy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.		
2			60		0.0		(0.3-2.0') SAND, fine to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; and PEBBLES, small, subrounded to subangular; poorly sorted; dry; dark brown (10YR 3/3). Note: Fill material, pea gravel.		
3			60		0.0		(2.0-6.0') SAND, medium to coarse, subrounded to subangular; some granules, subrounded to subangular; poorly sorted; moist to wet; yellowish brown (10YR 5/6).		
4			60		0.0				
5			60		0.0				
6			45	VAP-46_5-9 _121119 at 16:30 and DUP-01 collected	0.0		Note: Boring appeared wet at 5.8' bgs. (6.0-9.6') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; well sorted; wet; yellowish brown (10YR 5/6).		
7			45		0.0				
8			45		0.0				
9			45		0.0				
10			40	VAP-46_10-14 _121119 at 16:09	0.0		(9.6-18.0') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; some pebbles, small to medium, subrounded; poorly sorted; wet; grayish brown (10YR 5/2). Note: Some silt, nonplastic, slow to rapid dilatancy present from 10.2-10.4' bgs.	(0.0-25.0') Bentonite backfill	
11			40		0.0				
12			40		0.0				
13			40		0.0				
14			40		0.0				
15			50	VAP-46_15-19 _121119 at 15:48	0.0				
16			50		0.0				
17			50		0.0				
18			50		0.0				
19			50		0.0		(18.0-20.8') SILT, nonplastic to low plasticity, rapid dilatancy; some clay; some sand, very fine to fine, subrounded to subangular; well sorted; wet; grayish brown (10YR 5/2).		
20			50		0.0				

Drilling Co.: Fibertec Sampling Method: 5' Macrocore

Driller: Mark Ryerson Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.8

Drilling Fluid: None Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Cuttings to Well: Yes No

first 0.5' (concrete) with saw. Hand Auger to 5.0' bgs. VAP-46_5-9

Collected on 12/11/19: 20-24' bgs at 15:20, 15-19' bgs at 15:48

10-14' bgs at 16:09, 5-9' at 16:30.

East Coord:



Boring No.: VAP-46

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy/Windy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		44	VAP-46_20-24 _121119 at 15:20	0.0		(20.8-23.7') SILT, nonplastic to low plasticity, rapid dilatancy; some clay; well sorted; wet; grayish brown (10YR 5/2).	(0.0-25.0') Bentonite backfill	
22					0.0				
23					0.0				
24					0.0				
25					0.0		/ / / / /		
End of boring at 25.0' bgs.									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected on 12/11/19: 20-24' bgs at 15:20, 15-19' bgs at 15:48, 10-14' bgs at 16:09, 5-9' at 16:30.

SOIL BORING LOG - 2013 V:\ARCADIS\US\COM\OFFICE\DATA\NOV\H\MICOMMON\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ / ARCADIS_2013.GDT 3/31/20



Boring No.: VAP-47

Soil Boring Log

Sheet: 1 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco

Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco

Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
1					0.0		(0.0-0.3') ASPHALT.		
2			60		0.0		(0.3-2.0') SAND, fine to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; and PEBBLES, small, subrounded to subangular; poorly sorted; dry; dark brown (10YR 3/3). Note: Fill material, pea gravel.		
3			60		0.0		(2.0-4.0') SAND, medium to coarse, subrounded to subangular; some granules, subrounded to subangular; some pebbles, small to medium, subrounded to subangular; poorly sorted; dry; yellowish brown (10YR 5/6).		
4			60		0.0				
5			60		0.0		(4.0-8.6') SAND, fine to coarse, subrounded to subangular; trace sand, coarse, subangular to subrounded; well sorted; moist to wet; dark yellowish brown (10YR 4/4).		
6					0.0		Note: Boring appeared wet at 5.8' bgs.		
7			43	VAP-47_5-9 _121119 at 14:37	0.0				
8			43		0.0				
9					0.0				
10					0.0		(8.6-13.0') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; poorly sorted; wet; grayish brown (10YR 5/2).	(0.0-25.0') Bentonite backfill	
11					0.0				
12			39	VAP-47_10-14 _121119 at 14:15 and MS/MSD collected	0.0		Note: Trace clay present from 12.0-12.6' bgs.		
13			39		0.0				
14					0.0		(13.0-15.4') SAND, medium to very coarse, subrounded to subangular; and GRANULES, subrounded to subangular; trace pebbles, small, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2). Note: Gravel present.		
15					0.0				
16					0.0		(15.4-21.2') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; well sorted; wet; grayish brown (10YR 5/2).		
17			43	VAP-47_15-19 _121119 at 13:55	0.0				
18			43		0.0				
19					0.0				
20					0.0				

Drilling Co.: Fibertec Sampling Method: 5' Macrocore

Driller: Mark Ryerson Sampling Interval: Continuous

Drilling Method: Hand Auger / Direct Push Water Level Start (ft. bgs.): 5.8

Drilling Fluid: None Water Level Finish (ft. btoc.): NA

Remarks: ' / ft = feet; " / in = inch; bgs = below ground surface; Cuttings to Well: Yes No

first 0.5' (concrete) with saw. Hand Auger to 5.0' bgs. VAP-47_5-9

Collected on 12/11/19: 20-24' bgs at 13:20, 15-19' bgs at 13:55

10-14' bgs at 14:15, 5-9' at 14:37.

East Coord:



Boring No.: VAP-47

Soil Boring Log

Sheet: 2 of 2

Project Name: Ford Livonia Automatic Transmissions Plant Date Started: 12/11/2019 Logger: C. Cisco
 Project Number: MI001454 Date Completed: 12/11/2019 Editor: C. Cisco
 Project Location: Livonia, MI Weather Conditions: 21° F, Cloudy

Depth (feet)	Sample Interval	Blow Counts	Recovery (in.)	Sample ID	PID (ppm)	USCS Class	Description	Construction Details	Well
21	X		48	VAP-47_20-24 _121119 at 13:20	0.0	SP	(15.4-21.2') SAND, very fine to fine, subrounded to subangular; and SILT, nonplastic, rapid dilatancy; well sorted; wet; grayish brown (10YR 5/2).	(0.0-25.0') Bentonite backfill	
22					0.0	ML	(21.2-23.6') SILT, nonplastic to low plasticity, rapid dilatancy; some clay; little sand, very fine to fine, subrounded to subangular; poorly sorted; wet; grayish brown (10YR 5/2).		
23					0.0				
24					0.0	CL	(23.6-25.0') CLAY, medium plasticity, no dilatancy; well sorted; wet; soft to medium stiff; gray (10YR 5/1).		
25					0.0				
26							End of boring at 25.0' bgs.		
27									
28									
29									
30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40									
41									

Remarks: VAP Samples Collected on 12/11/19: 20-24' bgs at 13:20, 15-19' bgs at 13:55, 10-14' bgs at 14:15, 5-9' at 14:37.

SOIL BORING LOG 2013 \ARCADIS\US\COM\OFFICE\DATA\NOV\MI\COM\MI\FORD\LIVONIA\03 NOTES AND DATA\BORING LOGS\MASTER_FORD_LTP BORING LOGS_031120.GPJ - ARCADIS_2013.GDT 3/31/20

APPENDIX B

Laboratory Analytical Reports




ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110362-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/17/2019 1:25:08 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Job ID: 240-110362-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110362-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/3/2019 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-210-13-17_040119 (240-110362-1), HPT-210-8-12_040119 (240-110362-2), HPT-210-3-7_040119 (240-110362-3) and TRIP BLANK (240-110362-9) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/12/2019.

Trichloroethene failed the recovery criteria low for the MS of sample HPT-210-3-7_040119MS (240-110362-3) in batch 240-376204. Refer to the QC report for details.

Samples HPT-210-8-12_040119 (240-110362-2)[142.86X] and HPT-210-3-7_040119 (240-110362-3)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The pH of the sample was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if sample is not preserved to a pH of 2: HPT-210-13-17_040119 (240-110362-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Job ID: 240-110362-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

VOLATILE ORGANIC COMPOUNDS

Samples HPT-211-1-2_040119 (240-110362-4), HPT-211-2-3_040119 (240-110362-5), HPT-211-3-4_040119 (240-110362-6), HPT-211-4-5_040119 (240-110362-7) and HPT-211-5-6_040119 (240-110362-8) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were prepared on 04/09/2019 and analyzed on 04/11/2019.

The continuing calibration verification (CCV) associated with batch 240-376132 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. HPT-211-1-2_040119 (240-110362-4), HPT-211-2-3_040119 (240-110362-5), HPT-211-3-4_040119 (240-110362-6), HPT-211-4-5_040119 (240-110362-7), HPT-211-5-6_040119 (240-110362-8) and (CCV 240-376132/7)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-210-13-17_040119 (240-110362-1), HPT-210-8-12_040119 (240-110362-2) and HPT-210-3-7_040119 (240-110362-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/10/2019 and 04/11/2019.

1,2-Dichloroethane-d4 (Surr) failed the surrogate recovery criteria high for HPT-210-8-12_040119 (240-110362-2). Refer to the QC report for details.

Surrogate recovery for the following sample was outside the upper control limit: HPT-210-8-12_040119 (240-110362-2). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

The following sample was diluted due to the nature of the sample matrix: HPT-210-8-12_040119 (240-110362-2) and HPT-210-3-7_040119 (240-110362-3). Elevated reporting limits (RLs) are provided.

The pH is greater than 2 for the following samples: HPT-210-13-17_040119 (240-110362-1) and HPT-210-3-7_040119 (240-110362-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-211-1-2_040119 (240-110362-4), HPT-211-2-3_040119 (240-110362-5), HPT-211-3-4_040119 (240-110362-6), HPT-211-4-5_040119 (240-110362-7) and HPT-211-5-6_040119 (240-110362-8) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/04/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN
5035	Closed System Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110362-1	HPT-210-13-17_040119	Water	04/01/19 18:25	04/03/19 08:30
240-110362-2	HPT-210-8-12_040119	Water	04/01/19 18:40	04/03/19 08:30
240-110362-3	HPT-210-3-7_040119	Water	04/01/19 18:55	04/03/19 08:30
240-110362-4	HPT-211-1-2_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-5	HPT-211-2-3_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-6	HPT-211-3-4_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-7	HPT-211-4-5_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-8	HPT-211-5-6_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-9	TRIP BLANK	Water	04/01/19 00:00	04/03/19 08:30



Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-13-17_040119

Lab Sample ID: 240-110362-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	7.1		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.8		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	6.3		1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-210-8-12_040119

Lab Sample ID: 240-110362-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	230		140	23	ug/L	142.86		8260B	Total/NA
trans-1,2-Dichloroethene	260		140	27	ug/L	142.86		8260B	Total/NA
Trichloroethene	4400		140	14	ug/L	142.86		8260B	Total/NA

Client Sample ID: HPT-210-3-7_040119

Lab Sample ID: 240-110362-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	48	J	50	8.0	ug/L	50		8260B	Total/NA
trans-1,2-Dichloroethene	58		50	9.5	ug/L	50		8260B	Total/NA
Trichloroethene	1400	F1	50	5.0	ug/L	50		8260B	Total/NA
Vinyl chloride	11	J	50	10	ug/L	50		8260B	Total/NA

Client Sample ID: HPT-211-1-2_040119

Lab Sample ID: 240-110362-4

No Detections.

Client Sample ID: HPT-211-2-3_040119

Lab Sample ID: 240-110362-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	17	J	64	17	ug/Kg	1		8260B MI	Total/NA

Client Sample ID: HPT-211-3-4_040119

Lab Sample ID: 240-110362-6

No Detections.

Client Sample ID: HPT-211-4-5_040119

Lab Sample ID: 240-110362-7

No Detections.

Client Sample ID: HPT-211-5-6_040119

Lab Sample ID: 240-110362-8

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110362-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.24	J	1.0	0.10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-13-17_040119

Lab Sample ID: 240-110362-1

Date Collected: 04/01/19 18:25

Matrix: Water

Date Received: 04/03/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 13:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 13:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 17:18	1
cis-1,2-Dichloroethene	7.1		1.0	0.16	ug/L			04/12/19 17:18	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/12/19 17:18	1
trans-1,2-Dichloroethene	1.8		1.0	0.19	ug/L			04/12/19 17:18	1
Trichloroethene	6.3		1.0	0.10	ug/L			04/12/19 17:18	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/12/19 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 121		04/12/19 17:18	1
4-Bromofluorobenzene (Surr)	64		59 - 120		04/12/19 17:18	1
Toluene-d8 (Surr)	81		70 - 123		04/12/19 17:18	1
Dibromofluoromethane (Surr)	112		75 - 128		04/12/19 17:18	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-8-12_040119

Lab Sample ID: 240-110362-2

Date Collected: 04/01/19 18:40

Matrix: Water

Date Received: 04/03/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	20	U	20	8.6	ug/L			04/10/19 22:38	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126	X	63 - 125		04/10/19 22:38	10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	140	U	140	27	ug/L			04/12/19 17:40	142.86
cis-1,2-Dichloroethene	230		140	23	ug/L			04/12/19 17:40	142.86
Tetrachloroethene	140	U	140	21	ug/L			04/12/19 17:40	142.86
trans-1,2-Dichloroethene	260		140	27	ug/L			04/12/19 17:40	142.86
Trichloroethene	4400		140	14	ug/L			04/12/19 17:40	142.86
Vinyl chloride	140	U	140	29	ug/L			04/12/19 17:40	142.86

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 121		04/12/19 17:40	142.86
4-Bromofluorobenzene (Surr)	64		59 - 120		04/12/19 17:40	142.86
Toluene-d8 (Surr)	81		70 - 123		04/12/19 17:40	142.86
Dibromofluoromethane (Surr)	115		75 - 128		04/12/19 17:40	142.86

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-3-7_040119

Lab Sample ID: 240-110362-3

Date Collected: 04/01/19 18:55

Matrix: Water

Date Received: 04/03/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	20	U	20	8.6	ug/L	-		04/11/19 15:13	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/11/19 15:13	10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	9.5	ug/L	-		04/12/19 18:01	50
cis-1,2-Dichloroethene	48	J	50	8.0	ug/L			04/12/19 18:01	50
Tetrachloroethene	50	U	50	7.5	ug/L			04/12/19 18:01	50
trans-1,2-Dichloroethene	58		50	9.5	ug/L			04/12/19 18:01	50
Trichloroethene	1400	F1	50	5.0	ug/L			04/12/19 18:01	50
Vinyl chloride	11	J	50	10	ug/L			04/12/19 18:01	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 121		04/12/19 18:01	50
4-Bromofluorobenzene (Surr)	64		59 - 120		04/12/19 18:01	50
Toluene-d8 (Surr)	83		70 - 123		04/12/19 18:01	50
Dibromofluoromethane (Surr)	118		75 - 128		04/12/19 18:01	50

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-1-2_040119

Lab Sample ID: 240-110362-4

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 87.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
1,4-Dioxane	15000	U	15000	1400	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/09/19 12:37	04/11/19 21:48	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/09/19 12:37	04/11/19 21:48	1
Toluene-d8 (Surr)	97		49 - 147	04/09/19 12:37	04/11/19 21:48	1
Dibromofluoromethane (Surr)	76		49 - 138	04/09/19 12:37	04/11/19 21:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.4		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	12.6		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-2-3_040119

Lab Sample ID: 240-110362-5

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 83.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	64	U	64	25	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
cis-1,2-Dichloroethene	64	U	64	14	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
Tetrachloroethene	64	U	64	29	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
trans-1,2-Dichloroethene	64	U	64	16	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
Trichloroethene	17	J	64	17	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
Vinyl chloride	51	U	51	19	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
1,4-Dioxane	20000	U	20000	1700	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/09/19 12:37	04/11/19 22:10	1
4-Bromofluorobenzene (Surr)	96		48 - 151	04/09/19 12:37	04/11/19 22:10	1
Toluene-d8 (Surr)	97		49 - 147	04/09/19 12:37	04/11/19 22:10	1
Dibromofluoromethane (Surr)	84		49 - 138	04/09/19 12:37	04/11/19 22:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.4		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	16.6		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-3-4_040119

Lab Sample ID: 240-110362-6

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 81.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	65	U	65	26	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
cis-1,2-Dichloroethene	65	U	65	15	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
Tetrachloroethene	65	U	65	29	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
trans-1,2-Dichloroethene	65	U	65	16	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
Trichloroethene	65	U	65	18	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
Vinyl chloride	52	U	52	19	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
1,4-Dioxane	20000	U	20000	1800	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		53 - 155	04/09/19 12:37	04/11/19 22:32	1
4-Bromofluorobenzene (Surr)	103		48 - 151	04/09/19 12:37	04/11/19 22:32	1
Toluene-d8 (Surr)	105		49 - 147	04/09/19 12:37	04/11/19 22:32	1
Dibromofluoromethane (Surr)	87		49 - 138	04/09/19 12:37	04/11/19 22:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.2		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	18.8		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-4-5_040119

Lab Sample ID: 240-110362-7

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 79.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	67	U	67	27	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
cis-1,2-Dichloroethene	67	U	67	15	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
Tetrachloroethene	67	U	67	30	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
trans-1,2-Dichloroethene	67	U	67	17	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
Trichloroethene	67	U	67	18	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
Vinyl chloride	54	U	54	20	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
1,4-Dioxane	21000	U	21000	1800	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		53 - 155	04/09/19 12:37	04/11/19 22:54	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 12:37	04/11/19 22:54	1
Toluene-d8 (Surr)	101		49 - 147	04/09/19 12:37	04/11/19 22:54	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 12:37	04/11/19 22:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.1		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	20.9		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-5-6_040119

Lab Sample ID: 240-110362-8

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 80.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	63	U	63	25	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
cis-1,2-Dichloroethene	63	U	63	14	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
Tetrachloroethene	63	U	63	28	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
trans-1,2-Dichloroethene	63	U	63	16	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
Trichloroethene	63	U	63	17	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
Vinyl chloride	50	U	50	19	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
1,4-Dioxane	20000	U	20000	1700	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		53 - 155	04/09/19 12:37	04/11/19 23:16	1
4-Bromofluorobenzene (Surr)	101		48 - 151	04/09/19 12:37	04/11/19 23:16	1
Toluene-d8 (Surr)	103		49 - 147	04/09/19 12:37	04/11/19 23:16	1
Dibromofluoromethane (Surr)	87		49 - 138	04/09/19 12:37	04/11/19 23:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80.5		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	19.5		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110362-9

Date Collected: 04/01/19 00:00

Matrix: Water

Date Received: 04/03/19 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 18:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/12/19 18:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/12/19 18:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 18:23	1
Trichloroethene	0.24	J	1.0	0.10	ug/L			04/12/19 18:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/12/19 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 121		04/12/19 18:23	1
4-Bromofluorobenzene (Surr)	68		59 - 120		04/12/19 18:23	1
Toluene-d8 (Surr)	84		70 - 123		04/12/19 18:23	1
Dibromofluoromethane (Surr)	127		75 - 128		04/12/19 18:23	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110362-1	HPT-210-13-17_040119	100	64	81	112
240-110362-2	HPT-210-8-12_040119	105	64	81	115
240-110362-3	HPT-210-3-7_040119	104	64	83	118
240-110362-3 MS	HPT-210-3-7_040119	94	95	98	112
240-110362-3 MSD	HPT-210-3-7_040119	95	94	98	111
240-110362-9	TRIP BLANK	111	68	84	127
LCS 240-376204/4	Lab Control Sample	96	98	100	113
MB 240-376204/6	Method Blank	111	79	94	123

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	TOL (49-147)	DBFM (49-138)
240-110362-4	HPT-211-1-2_040119	86	94	97	76
240-110362-5	HPT-211-2-3_040119	87	96	97	84
240-110362-6	HPT-211-3-4_040119	90	103	105	87
240-110362-7	HPT-211-4-5_040119	89	98	101	85
240-110362-8	HPT-211-5-6_040119	91	101	103	87
240-110665-B-18-A MS	Matrix Spike	91	95	102	87
240-110665-C-18-A MSD	Matrix Spike Duplicate	84	89	95	82
LCS 240-375550/2-A	Lab Control Sample	83	92	96	81
MB 240-375550/1-A	Method Blank	87	98	102	82

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-110362-1	HPT-210-13-17_040119	116
240-110362-2	HPT-210-8-12_040119	126 X
240-110362-3	HPT-210-3-7_040119	102
240-110458-C-3 MS	Matrix Spike	122
240-110458-C-3 MSD	Matrix Spike Duplicate	117
240-110662-A-3 MS	Matrix Spike	102
240-110662-A-3 MSD	Matrix Spike Duplicate	101
LCS 240-375762/4	Lab Control Sample	116

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
LCS 240-376059/4	Lab Control Sample	99
MB 240-375762/5	Method Blank	116
MB 240-376059/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376204/6
Matrix: Water
Analysis Batch: 376204

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 10:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/12/19 10:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/12/19 10:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 10:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/12/19 10:24	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/12/19 10:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 121		04/12/19 10:24	1
4-Bromofluorobenzene (Surr)	79		59 - 120		04/12/19 10:24	1
Toluene-d8 (Surr)	94		70 - 123		04/12/19 10:24	1
Dibromofluoromethane (Surr)	123		75 - 128		04/12/19 10:24	1

Lab Sample ID: LCS 240-376204/4
Matrix: Water
Analysis Batch: 376204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.87		ug/L		99	65 - 139
cis-1,2-Dichloroethene	10.0	11.4		ug/L		114	76 - 128
Tetrachloroethene	10.0	11.6		ug/L		116	74 - 130
trans-1,2-Dichloroethene	10.0	12.6		ug/L		126	78 - 133
Trichloroethene	10.0	10.4		ug/L		104	76 - 125
Vinyl chloride	10.0	11.0		ug/L		110	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
4-Bromofluorobenzene (Surr)	98		59 - 120
Toluene-d8 (Surr)	100		70 - 123
Dibromofluoromethane (Surr)	113		75 - 128

Lab Sample ID: 240-110362-3 MS
Matrix: Water
Analysis Batch: 376204

Client Sample ID: HPT-210-3-7_040119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	50	U	500	451		ug/L		90	53 - 140
cis-1,2-Dichloroethene	48	J	500	569		ug/L		104	64 - 130
Tetrachloroethene	50	U	500	517		ug/L		103	51 - 136
trans-1,2-Dichloroethene	58		500	620		ug/L		112	68 - 133
Trichloroethene	1400	F1	500	1640	F1	ug/L		54	55 - 131
Vinyl chloride	11	J	500	524		ug/L		103	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	98		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110362-3 MS
Matrix: Water
Analysis Batch: 376204

Client Sample ID: HPT-210-3-7_040119
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	112		75 - 128

Lab Sample ID: 240-110362-3 MSD
Matrix: Water
Analysis Batch: 376204

Client Sample ID: HPT-210-3-7_040119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	50	U	500	467		ug/L		93	53 - 140	4	35
cis-1,2-Dichloroethene	48	J	500	581		ug/L		106	64 - 130	2	21
Tetrachloroethene	50	U	500	529		ug/L		106	51 - 136	2	23
trans-1,2-Dichloroethene	58		500	638		ug/L		116	68 - 133	3	24
Trichloroethene	1400	F1	500	1710		ug/L		67	55 - 131	4	23
Vinyl chloride	11	J	500	533		ug/L		104	43 - 154	2	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	98		70 - 123
Dibromofluoromethane (Surr)	111		75 - 128

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375550/1-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375550

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Trichloroethene	40	U	40	11	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Vinyl chloride	32	U	32	12	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/09/19 12:37	04/11/19 21:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/09/19 12:37	04/11/19 21:05	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 12:37	04/11/19 21:05	1
Toluene-d8 (Surr)	102		49 - 147	04/09/19 12:37	04/11/19 21:05	1
Dibromofluoromethane (Surr)	82		49 - 138	04/09/19 12:37	04/11/19 21:05	1

Lab Sample ID: LCS 240-375550/2-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1000	1080		ug/Kg		108	57 - 139
cis-1,2-Dichloroethene	1000	969		ug/Kg		97	74 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-375550/2-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	1000	958		ug/Kg		96	76 - 120
trans-1,2-Dichloroethene	1000	1090		ug/Kg		109	71 - 133
Trichloroethene	1000	915		ug/Kg		91	73 - 126
Vinyl chloride	1000	1140		ug/Kg		114	52 - 130
1,4-Dioxane	20000	19700		ug/Kg		98	51 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		53 - 155
4-Bromofluorobenzene (Surr)	92		48 - 151
Toluene-d8 (Surr)	96		49 - 147
Dibromofluoromethane (Surr)	81		49 - 138

Lab Sample ID: 240-110665-B-18-A MS
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	62	U	1380	1480		ug/Kg	☼	107	36 - 150
cis-1,2-Dichloroethene	62	U	1380	1370		ug/Kg	☼	100	50 - 128
Tetrachloroethene	62	U	1380	1270		ug/Kg	☼	92	20 - 151
trans-1,2-Dichloroethene	62	U	1380	1540		ug/Kg	☼	111	44 - 141
Trichloroethene	62	U	1380	1270		ug/Kg	☼	92	25 - 148
Vinyl chloride	50	U	1380	1510		ug/Kg	☼	110	31 - 148
1,4-Dioxane	19000	U	27600	29800		ug/Kg	☼	108	62 - 158

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		53 - 155
4-Bromofluorobenzene (Surr)	95		48 - 151
Toluene-d8 (Surr)	102		49 - 147
Dibromofluoromethane (Surr)	87		49 - 138

Lab Sample ID: 240-110665-C-18-A MSD
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	62	U	1340	1370		ug/Kg	☼	102	36 - 150	8	40
cis-1,2-Dichloroethene	62	U	1340	1290		ug/Kg	☼	97	50 - 128	6	40
Tetrachloroethene	62	U	1340	1170		ug/Kg	☼	87	20 - 151	9	40
trans-1,2-Dichloroethene	62	U	1340	1400		ug/Kg	☼	105	44 - 141	9	40
Trichloroethene	62	U	1340	1150		ug/Kg	☼	86	25 - 148	10	40
Vinyl chloride	50	U	1340	1420		ug/Kg	☼	106	31 - 148	7	37
1,4-Dioxane	19000	U	26700	28200		ug/Kg	☼	106	62 - 158	5	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		53 - 155
4-Bromofluorobenzene (Surr)	89		48 - 151
Toluene-d8 (Surr)	95		49 - 147

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110665-C-18-A MSD
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 375550

Surrogate	%Recovery	MSD Qualifier	MSD Limits
Dibromofluoromethane (Surr)	82		49 - 138

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375762/5
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 12:22	1

Surrogate	%Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 12:22	1

Lab Sample ID: LCS 240-375762/4
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.9		ug/L		119	59 - 131

Surrogate	%Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	116		63 - 125

Lab Sample ID: 240-110458-C-3 MS
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	68		10.0	82.4	4	ug/L		142	52 - 129

Surrogate	%Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	122		63 - 125

Lab Sample ID: 240-110458-C-3 MSD
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	68		10.0	79.6	4	ug/L		113	52 - 129	4	13

Surrogate	%Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	117		63 - 125

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-376059/5
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/11/19 14:21	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125					04/11/19 14:21	1

Lab Sample ID: LCS 240-376059/4
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.5		ug/L	-	115	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		63 - 125				

Lab Sample ID: 240-110662-A-3 MS
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.9		ug/L	-	119	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	102		63 - 125						

Lab Sample ID: 240-110662-A-3 MSD
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.8		ug/L	-	118	52 - 129	1	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	101		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110389-A-25 DU
Matrix: Solid
Analysis Batch: 374788

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	82.8		79.2		%	-	4	20
Percent Moisture	17.2		20.8		%	-	19	20

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

GC/MS VOA

Prep Batch: 375550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-4	HPT-211-1-2_040119	Total/NA	Solid	5035	
240-110362-5	HPT-211-2-3_040119	Total/NA	Solid	5035	
240-110362-6	HPT-211-3-4_040119	Total/NA	Solid	5035	
240-110362-7	HPT-211-4-5_040119	Total/NA	Solid	5035	
240-110362-8	HPT-211-5-6_040119	Total/NA	Solid	5035	
MB 240-375550/1-A	Method Blank	Total/NA	Solid	5035	
LCS 240-375550/2-A	Lab Control Sample	Total/NA	Solid	5035	
240-110665-B-18-A MS	Matrix Spike	Total/NA	Solid	5035	
240-110665-C-18-A MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 375762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-1	HPT-210-13-17_040119	Total/NA	Water	8260B SIM	
240-110362-2	HPT-210-8-12_040119	Total/NA	Water	8260B SIM	
MB 240-375762/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-375762/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110458-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110458-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-3	HPT-210-3-7_040119	Total/NA	Water	8260B SIM	
MB 240-376059/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376059/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110662-A-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110662-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-4	HPT-211-1-2_040119	Total/NA	Solid	8260B MI	375550
240-110362-5	HPT-211-2-3_040119	Total/NA	Solid	8260B MI	375550
240-110362-6	HPT-211-3-4_040119	Total/NA	Solid	8260B MI	375550
240-110362-7	HPT-211-4-5_040119	Total/NA	Solid	8260B MI	375550
240-110362-8	HPT-211-5-6_040119	Total/NA	Solid	8260B MI	375550
MB 240-375550/1-A	Method Blank	Total/NA	Solid	8260B MI	375550
LCS 240-375550/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	375550
240-110665-B-18-A MS	Matrix Spike	Total/NA	Solid	8260B MI	375550
240-110665-C-18-A MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B MI	375550

Analysis Batch: 376204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-1	HPT-210-13-17_040119	Total/NA	Water	8260B	
240-110362-2	HPT-210-8-12_040119	Total/NA	Water	8260B	
240-110362-3	HPT-210-3-7_040119	Total/NA	Water	8260B	
240-110362-9	TRIP BLANK	Total/NA	Water	8260B	
MB 240-376204/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376204/4	Lab Control Sample	Total/NA	Water	8260B	
240-110362-3 MS	HPT-210-3-7_040119	Total/NA	Water	8260B	
240-110362-3 MSD	HPT-210-3-7_040119	Total/NA	Water	8260B	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

General Chemistry

Analysis Batch: 374788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-4	HPT-211-1-2_040119	Total/NA	Solid	Moisture	
240-110362-5	HPT-211-2-3_040119	Total/NA	Solid	Moisture	
240-110362-6	HPT-211-3-4_040119	Total/NA	Solid	Moisture	
240-110362-7	HPT-211-4-5_040119	Total/NA	Solid	Moisture	
240-110362-8	HPT-211-5-6_040119	Total/NA	Solid	Moisture	
240-110389-A-25 DU	Duplicate	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-13-17_040119

Lab Sample ID: 240-110362-1

Date Collected: 04/01/19 18:25

Matrix: Water

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376204	04/12/19 17:18	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 13:13	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 13:13	SAM	TAL CAN

Client Sample ID: HPT-210-8-12_040119

Lab Sample ID: 240-110362-2

Date Collected: 04/01/19 18:40

Matrix: Water

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		142.86	376204	04/12/19 17:40	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		10	375762	04/10/19 22:38	SAM	TAL CAN

Client Sample ID: HPT-210-3-7_040119

Lab Sample ID: 240-110362-3

Date Collected: 04/01/19 18:55

Matrix: Water

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	376204	04/12/19 18:01	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		10	376059	04/11/19 15:13	SAM	TAL CAN

Client Sample ID: HPT-211-1-2_040119

Lab Sample ID: 240-110362-4

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Client Sample ID: HPT-211-1-2_040119

Lab Sample ID: 240-110362-4

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 87.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 21:48	TJL1	TAL CAN

Client Sample ID: HPT-211-2-3_040119

Lab Sample ID: 240-110362-5

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-2-3_040119

Lab Sample ID: 240-110362-5

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 83.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 22:10	TJL1	TAL CAN

Client Sample ID: HPT-211-3-4_040119

Lab Sample ID: 240-110362-6

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Client Sample ID: HPT-211-3-4_040119

Lab Sample ID: 240-110362-6

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 81.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 22:32	TJL1	TAL CAN

Client Sample ID: HPT-211-4-5_040119

Lab Sample ID: 240-110362-7

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Client Sample ID: HPT-211-4-5_040119

Lab Sample ID: 240-110362-7

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 79.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 22:54	TJL1	TAL CAN

Client Sample ID: HPT-211-5-6_040119

Lab Sample ID: 240-110362-8

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-5-6_040119

Lab Sample ID: 240-110362-8

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 80.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 23:16	TJL1	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110362-9

Date Collected: 04/01/19 00:00

Matrix: Water

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376204	04/12/19 18:23	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9386 Fax (330) 497-0772

MICHIGAN
190

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Caitlin O'Neill Company: ARCADIS U.S. Inc. Address: 28550 Cabot Drive Suite 500 City: Novi State: MI 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: ON SITE		Lab Info Lab Name: DelMonico, Michael E-Mail: michael.delmonico@tactamcainc.com		Carrier Tracking Info DOC No: 240-59411-25360.1 Page: Page 1 of 4 Job #:	
Due Date Requested: TAT Requested (days): 10-DAY (STD)		Analysis Requested 8268B - MI - VOCs (Short List) 8268B - VOCs (Short List) 8268B - MI - VOCs (Short List)		Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaOHSC4 F - MeOH G - Ampher H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Sample Identification Sample ID: HPT-210-13-17-040119 HPT-210-08-12-040119 HPT-210-03-07-040119 HPT-211-1-2-040119 HPT-211-2-3-040119 HPT-211-3-4-040119 HPT-211-4-5-040119 HPT-211-5-6-040119 Trip Blank		Sample Date 4/1/19 1825 4/1/19 1810 4/1/19 1855 4/1/19 1700 4/1/19 1700 4/1/19 1700 4/1/19 1700 4/1/19 1700		Sample Time 6 6 6 6 6 6 6 6	
Sample Type (C=Comp, G=Grab) G G G G G G G G		Matrix (Inorganic, Organic, Other) Water Water Water Water Water Water Solid Solid Solid Solid Solid		Special Instructions/Note: Dry collected Dry collected Dry collected Dry collected Dry collected	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:	
Relinquished by: Christina Wehler Relinquished for: Christina Wehler Relinquished by: Christina Wehler		Date: 4/1/19 2000 4/1/19 1830 4/2/19 1511		Received by: [Signature] Received by: [Signature] Received by: [Signature]	
Company: ARCADIS U.S. Inc. Address: 28550 Cabot Drive Suite 500 City: Novi State: MI 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: ON SITE		Company: ARCADIS U.S. Inc. Address: 28550 Cabot Drive Suite 500 City: Novi State: MI 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: ON SITE		Company: ARCADIS U.S. Inc. Address: 28550 Cabot Drive Suite 500 City: Novi State: MI 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: ON SITE	



TestAmerica Canton Sample Receipt Form/Narrative

Login #: 110362

Canton Facility

Client Arcadi's Site Name Cooler unpacked by: Cooler Received on 4-3-19 Opened on 4-3-19

FedEx: 1st Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other Packing material used Bubble Wrap Foam Elastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None 1. Cooler temperature upon receipt IR GUN# IR-8 (CF: -0.2°C) Observed Cooler Temp 3.8°C Corrected Cooler Temp 3.6°C

- 2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1
3. Shippers' packing slip attached to the cooler(s)?
4. Did custody papers accompany the sample(s)?
5. Were the custody papers relinquished & signed in the appropriate place?
6. Was/were the person(s) who collected the samples clearly identified on the COC?
7. Did all bottles arrive in good condition (Unbroken)?
8. Could all bottle labels be reconciled with the COC?
9. Were correct bottle(s) used for the test(s) indicated?
10. Sufficient quantity received to perform indicated analyses?
11. Are these work share samples?
12. Were all preserved sample(s) at the correct pH upon receipt?
13. Were VOAs on the COC?
14. Were air bubbles >6 mm in any VOA vials?
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # D828801VB
16. Was a LL Hg or Me Hg trip blank present?

Contacted PM Date by via Verbal Voice Mail Other Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: MS

18. SAMPLE CONDITION Sample(s) were received after the recommended holding time had expired. Sample(s) were received in a broken container. Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION Sample(s) were further preserved in the laboratory. Time preserved: Preservative(s) added/Lot number(s): VOA Sample Preservation - Date/Time VOAs Frozen:

Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC



April 18, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110529-1
Sample date: 2019-04-03
Report received by CADENA: 2019-04-18
Initial Data Verification completed by CADENA: 2019-04-18

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC sample -013 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

SPV - SIM GCMS VOC samples -013 and -014 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

GCMS VOC sample -012 MS or MSD recoveries but not both or RPD only were outliers for TRICHLOROETHENE, TETRACHLOROETHENE, and VINYL CHLORIDE so client sample results were not qualified based on these QC outliers alone.

GCMS VOC Soil QC batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

8 Water sample(s) were analyzed for GCMS VOC parameter(s).

9 Soil sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110529-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401105291	HPT-214_26-27_040319	4/3/2019	2:05:00	X		
24011052910	TRIP BLANK	4/3/2019	12:00:00	X		
24011052911	HPT-214_5-9_040319	4/3/2019	2:42:00	X	X	
24011052912	HPT-214_10-14_040319	4/3/2019	2:24:00	X	X	
24011052913	HPT-214_16-20_040319	4/3/2019	2:10:00	X	X	
24011052914	HPT-213_15-19_040319	4/3/2019	10:55:00	X	X	
24011052915	HPT-213_10-14_040319	4/3/2019	11:10:00	X	X	
24011052916	HPT-213_20-24_040319	4/3/2019	10:30:00	X	X	
24011052917	HPT-213_5-9_040319	4/3/2019	11:30:00	X	X	
2401105292	HPT-214_2-3_040319	4/3/2019	11:40:00	X		
2401105293	HPT-214_1-2_040319	4/3/2019	11:40:00	X		
2401105294	DUP-01	4/3/2019	12:00:00	X		
2401105295	HPT-214_3-4_040319	4/3/2019	11:40:00	X		
2401105296	HPT-214_4-5_040319	4/3/2019	11:40:00	X		
2401105297	HPT-213_26-27_040319	4/3/2019	10:00:00	X		
2401105298	HPT-213_3-4_040319	4/3/2019	8:50:00	X		
2401105299	HPT-213_4-5_040319	4/3/2019	8:50:00	X		

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110529-1

Sample Name:	HPT-214_16-20_040319	HPT-213_15-19_040319
Lab Sample ID:	24011052913	24011052914
Sample Date:	4/3/2019	4/3/2019

Analyte	Cas No.	Report		Units	Valid Qualifier	Report		Units	Valid Qualifier
		Result	Limit			Result	Limit		
GC/MS VOC									
<u>OSW-8260B</u>									
1,1-Dichloroethene	75-35-4	ND	10	ug/l	UJ				
cis-1,2-Dichloroethene	156-59-2	200	10	ug/l	J				
Tetrachloroethene	127-18-4	ND	10	ug/l	UJ				
trans-1,2-Dichloroethene	156-60-5	17	10	ug/l	J				
Trichloroethene	79-01-6	ND	10	ug/l	UJ				
Vinyl chloride	75-01-4	ND	10	ug/l	UJ				
<u>OSW-8260BBSim</u>									
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 110529-1

Analyte	Cas No.	HPT-214_26-27_040319			TRIP BLANK			HPT-214_5-9_040319			HPT-214_10-14_040319			HPT-214_16-20_040319			HPT-213_15-19_040319			HPT-213_10-14_040319			HPT-213_20-24_040319										
		Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units								
GC/MS VOC																																	
<u>OSW-82608</u>																																	
1,1-Dichloroethene	75-35-4	ND	62	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	5.0	ug/l	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dioxane	123-91-1	ND	19000	ug/kg	---																												
cis-1,2-Dichloroethene	156-59-2	ND	62	ug/kg	---	ND	1.0	ug/l	---	17	1.0	ug/l	---	32	5.0	ug/l	---	200	10	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	62	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	5.0	ug/l	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	62	ug/kg	---	ND	1.0	ug/l	---	3.2	1.0	ug/l	---	4.1	5.0	ug/l	J	17	10	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	62	ug/kg	---	ND	1.0	ug/l	---	37	1.0	ug/l	---	120	5.0	ug/l	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	50	ug/kg	---	ND	1.0	ug/l	---	10	1.0	ug/l	---	ND	5.0	ug/l	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
<u>OSW-82608Sim</u>																																	
1,4-Dioxane	123-91-1									ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ	ND	2.0	ug/l	---	ND	2.0	ug/l	---

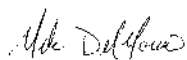
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110662-1
Client Project/Site: Ford LTP Livonia MI - E203631
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/24/2019 9:45:27 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

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Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110662-1

Revision

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Report revised 4/24/2019 to update listed Cadena number.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/9/2019 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 2.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-217_4-8_040719 (240-110662-1), HPT-217_16-20_040719 (240-110662-2), HPT-217_9-13_040719 (240-110662-3), HPT-218_15-19_040719 (240-110662-9), HPT-218_10-14_040719 (240-110662-10), HPT-218_5-9_040719 (240-110662-11) and TRIP BLANK (240-110662-13) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/16/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples HPT-217_28-29_040719 (240-110662-4), HPT-218_4-5_040719 (240-110662-5), HPT-218_3-4_040719 (240-110662-6), HPT-218_2-3_040719 (240-110662-7), HPT-218_1-2_040719 (240-110662-8) and HPT-218_28-29_040719 (240-110662-12) were

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Job ID: 240-110662-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/12/2019 and 04/14/2019.

Batch 240-376248 is reported without a matrix spike/matrix spike duplicate (MS/MSD), because the MS/MSD has not been analyzed at this point. The MS/MSD result does not have immediate bearing on any samples except for the actual sample spiked. The associated laboratory control sample (LCS) met acceptance criteria and provides long-term precision and accuracy for this batch: HPT-217_28-29_040719 (240-110662-4), HPT-218_4-5_040719 (240-110662-5), HPT-218_3-4_040719 (240-110662-6), HPT-218_2-3_040719 (240-110662-7) and HPT-218_1-2_040719 (240-110662-8).

Batch 240-376372 is reported without a matrix spike/matrix spike duplicate (MS/MSD), because the MS/MSD has not been analyzed at this point. The MS/MSD result does not have immediate bearing on any samples except for the actual sample spiked. The associated laboratory control sample (LCS) met acceptance criteria and provides long-term precision and accuracy for this batch: HPT-218_28-29_040719 (240-110662-12).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-217_4-8_040719 (240-110662-1), HPT-217_16-20_040719 (240-110662-2), HPT-217_9-13_040719 (240-110662-3), HPT-218_15-19_040719 (240-110662-9), HPT-218_10-14_040719 (240-110662-10) and HPT-218_5-9_040719 (240-110662-11) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/10/2019 and 04/11/2019.

The pH is greater than 2 for the following samples HPT-217_4-8_040719 (240-110662-1), HPT-217_16-20_040719 (240-110662-2) and HPT-218_15-19_040719 (240-110662-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-217_28-29_040719 (240-110662-4), HPT-218_4-5_040719 (240-110662-5), HPT-218_3-4_040719 (240-110662-6), HPT-218_2-3_040719 (240-110662-7), HPT-218_1-2_040719 (240-110662-8) and HPT-218_28-29_040719 (240-110662-12) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/09/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110662-1	HPT-217_4-8_040719	Water	04/07/19 10:20	04/09/19 08:30
240-110662-2	HPT-217_16-20_040719	Water	04/07/19 09:35	04/09/19 08:30
240-110662-3	HPT-217_9-13_040719	Water	04/07/19 10:00	04/09/19 08:30
240-110662-4	HPT-217_28-29_040719	Solid	04/07/19 10:30	04/09/19 08:30
240-110662-5	HPT-218_4-5_040719	Solid	04/07/19 10:45	04/09/19 08:30
240-110662-6	HPT-218_3-4_040719	Solid	04/07/19 10:45	04/09/19 08:30
240-110662-7	HPT-218_2-3_040719	Solid	04/07/19 10:45	04/09/19 08:30
240-110662-8	HPT-218_1-2_040719	Solid	04/07/19 10:45	04/09/19 08:30
240-110662-9	HPT-218_15-19_040719	Water	04/07/19 13:25	04/09/19 08:30
240-110662-10	HPT-218_10-14_040719	Water	04/07/19 13:35	04/09/19 08:30
240-110662-11	HPT-218_5-9_040719	Water	04/07/19 13:55	04/09/19 08:30
240-110662-12	HPT-218_28-29_040719	Solid	04/07/19 13:05	04/09/19 08:30
240-110662-13	TRIP BLANK	Water	04/07/19 00:00	04/09/19 08:30

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_4-8_040719

Lab Sample ID: 240-110662-1

No Detections.

Client Sample ID: HPT-217_16-20_040719

Lab Sample ID: 240-110662-2

No Detections.

Client Sample ID: HPT-217_9-13_040719

Lab Sample ID: 240-110662-3

No Detections.

Client Sample ID: HPT-217_28-29_040719

Lab Sample ID: 240-110662-4

No Detections.

Client Sample ID: HPT-218_4-5_040719

Lab Sample ID: 240-110662-5

No Detections.

Client Sample ID: HPT-218_3-4_040719

Lab Sample ID: 240-110662-6

No Detections.

Client Sample ID: HPT-218_2-3_040719

Lab Sample ID: 240-110662-7

No Detections.

Client Sample ID: HPT-218_1-2_040719

Lab Sample ID: 240-110662-8

No Detections.

Client Sample ID: HPT-218_15-19_040719

Lab Sample ID: 240-110662-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.93	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
trans-1,2-Dichloroethene	0.19	J	1.0	0.19	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-218_10-14_040719

Lab Sample ID: 240-110662-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.6		1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-218_5-9_040719

Lab Sample ID: 240-110662-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	28		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.9		1.0	0.19	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-218_28-29_040719

Lab Sample ID: 240-110662-12

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110662-13

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_4-8_040719

Lab Sample ID: 240-110662-1

Date Collected: 04/07/19 10:20

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 21:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		63 - 125		04/10/19 21:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 18:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 18:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 18:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 18:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 18:24	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 121		04/16/19 18:24	1
4-Bromofluorobenzene (Surr)	68		59 - 120		04/16/19 18:24	1
Toluene-d8 (Surr)	84		70 - 123		04/16/19 18:24	1
Dibromofluoromethane (Surr)	123		75 - 128		04/16/19 18:24	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_16-20_040719

Lab Sample ID: 240-110662-2

Date Collected: 04/07/19 09:35

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 22:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/16/19 18:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		04/16/19 18:46	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		04/16/19 18:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/16/19 18:46	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		04/16/19 18:46	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		04/16/19 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		04/16/19 18:46	1
4-Bromofluorobenzene (Surr)	66		59 - 120		04/16/19 18:46	1
Toluene-d8 (Surr)	81		70 - 123		04/16/19 18:46	1
Dibromofluoromethane (Surr)	121		75 - 128		04/16/19 18:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_9-13_040719

Lab Sample ID: 240-110662-3

Date Collected: 04/07/19 10:00

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 16:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		04/11/19 16:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 19:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 19:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 19:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 19:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 19:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 121		04/16/19 19:08	1
4-Bromofluorobenzene (Surr)	64		59 - 120		04/16/19 19:08	1
Toluene-d8 (Surr)	80		70 - 123		04/16/19 19:08	1
Dibromofluoromethane (Surr)	120		75 - 128		04/16/19 19:08	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_28-29_040719

Lab Sample ID: 240-110662-4

Date Collected: 04/07/19 10:30

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 83.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	60	U	60	24	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
1,4-Dioxane	19000	U	19000	1600	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
cis-1,2-Dichloroethene	60	U	60	14	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
Tetrachloroethene	60	U	60	27	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
trans-1,2-Dichloroethene	60	U	60	15	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
Trichloroethene	60	U	60	17	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
Vinyl chloride	48	U	48	18	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/11/19 13:35	04/12/19 20:59	1
4-Bromofluorobenzene (Surr)	95		48 - 151	04/11/19 13:35	04/12/19 20:59	1
Dibromofluoromethane (Surr)	97		49 - 138	04/11/19 13:35	04/12/19 20:59	1
Toluene-d8 (Surr)	99		49 - 147	04/11/19 13:35	04/12/19 20:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	16.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_4-5_040719

Lab Sample ID: 240-110662-5

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 95.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
Trichloroethene	55	U	55	15	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
Vinyl chloride	44	U	44	17	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		53 - 155	04/11/19 13:35	04/12/19 21:23	1
4-Bromofluorobenzene (Surr)	95		48 - 151	04/11/19 13:35	04/12/19 21:23	1
Dibromofluoromethane (Surr)	93		49 - 138	04/11/19 13:35	04/12/19 21:23	1
Toluene-d8 (Surr)	99		49 - 147	04/11/19 13:35	04/12/19 21:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95.1		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	4.9		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_3-4_040719

Lab Sample ID: 240-110662-6

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	51	U	51	20	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
cis-1,2-Dichloroethene	51	U	51	12	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
Tetrachloroethene	51	U	51	23	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
trans-1,2-Dichloroethene	51	U	51	13	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
Trichloroethene	51	U	51	14	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		53 - 155	04/11/19 13:35	04/12/19 21:48	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/11/19 13:35	04/12/19 21:48	1
Dibromofluoromethane (Surr)	92		49 - 138	04/11/19 13:35	04/12/19 21:48	1
Toluene-d8 (Surr)	102		49 - 147	04/11/19 13:35	04/12/19 21:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.2		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	11.8		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_2-3_040719

Lab Sample ID: 240-110662-7

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 85.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	58	U	58	23	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
cis-1,2-Dichloroethene	58	U	58	13	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
Tetrachloroethene	58	U	58	26	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
trans-1,2-Dichloroethene	58	U	58	15	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
Trichloroethene	58	U	58	16	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
Vinyl chloride	47	U	47	17	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/11/19 13:35	04/12/19 22:13	1
4-Bromofluorobenzene (Surr)	97		48 - 151	04/11/19 13:35	04/12/19 22:13	1
Dibromofluoromethane (Surr)	89		49 - 138	04/11/19 13:35	04/12/19 22:13	1
Toluene-d8 (Surr)	99		49 - 147	04/11/19 13:35	04/12/19 22:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.0		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	15.0		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_1-2_040719

Lab Sample ID: 240-110662-8

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 90.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		53 - 155	04/11/19 13:35	04/12/19 22:38	1
4-Bromofluorobenzene (Surr)	95		48 - 151	04/11/19 13:35	04/12/19 22:38	1
Dibromofluoromethane (Surr)	90		49 - 138	04/11/19 13:35	04/12/19 22:38	1
Toluene-d8 (Surr)	98		49 - 147	04/11/19 13:35	04/12/19 22:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	9.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_15-19_040719

Lab Sample ID: 240-110662-9

Date Collected: 04/07/19 13:25

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.93	J	2.0	0.86	ug/L			04/11/19 17:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 125					04/11/19 17:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 20:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 20:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 20:13	1
trans-1,2-Dichloroethene	0.19	J	1.0	0.19	ug/L			04/16/19 20:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 20:13	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 20:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 121					04/16/19 20:13	1
4-Bromofluorobenzene (Surr)	72		59 - 120					04/16/19 20:13	1
Toluene-d8 (Surr)	84		70 - 123					04/16/19 20:13	1
Dibromofluoromethane (Surr)	119		75 - 128					04/16/19 20:13	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_10-14_040719

Lab Sample ID: 240-110662-10

Date Collected: 04/07/19 13:35

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/11/19 17:46	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 15:39	1
cis-1,2-Dichloroethene	1.6		1.0	0.16	ug/L			04/16/19 15:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 15:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 15:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 15:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 15:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 121		04/16/19 15:39	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/16/19 15:39	1
Toluene-d8 (Surr)	96		70 - 123		04/16/19 15:39	1
Dibromofluoromethane (Surr)	95		75 - 128		04/16/19 15:39	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_5-9_040719

Lab Sample ID: 240-110662-11

Date Collected: 04/07/19 13:55

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		04/11/19 18:12	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:01	1
cis-1,2-Dichloroethene	28		1.0	0.16	ug/L			04/16/19 16:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 16:01	1
trans-1,2-Dichloroethene	3.9		1.0	0.19	ug/L			04/16/19 16:01	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 16:01	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 16:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 121		04/16/19 16:01	1
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 16:01	1
Toluene-d8 (Surr)	104		70 - 123		04/16/19 16:01	1
Dibromofluoromethane (Surr)	103		75 - 128		04/16/19 16:01	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_28-29_040719

Lab Sample ID: 240-110662-12

Date Collected: 04/07/19 13:05

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 79.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	63	U	63	25	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
1,4-Dioxane	20000	U	20000	1700	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
cis-1,2-Dichloroethene	63	U	63	14	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
Tetrachloroethene	63	U	63	28	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
trans-1,2-Dichloroethene	63	U	63	16	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
Trichloroethene	63	U	63	17	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
Vinyl chloride	50	U	50	19	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/11/19 13:35	04/14/19 18:35	1
4-Bromofluorobenzene (Surr)	75		48 - 151	04/11/19 13:35	04/14/19 18:35	1
Dibromofluoromethane (Surr)	82		49 - 138	04/11/19 13:35	04/14/19 18:35	1
Toluene-d8 (Surr)	82		49 - 147	04/11/19 13:35	04/14/19 18:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.0		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	21.0		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110662-13

Date Collected: 04/07/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 16:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 16:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:23	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 16:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 16:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 121		04/16/19 16:23	1
4-Bromofluorobenzene (Surr)	78		59 - 120		04/16/19 16:23	1
Toluene-d8 (Surr)	97		70 - 123		04/16/19 16:23	1
Dibromofluoromethane (Surr)	93		75 - 128		04/16/19 16:23	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110529-F-12 MS	Matrix Spike	88	94	111	94
240-110529-F-12 MSD	Matrix Spike Duplicate	82	88	101	94
240-110662-1	HPT-217_4-8_040719	108	68	84	123
240-110662-2	HPT-217_16-20_040719	106	66	81	121
240-110662-3	HPT-217_9-13_040719	103	64	80	120
240-110662-3 MS	HPT-217_9-13_040719	88	89	89	108
240-110662-3 MSD	HPT-217_9-13_040719	85	86	88	103
240-110662-9	HPT-218_15-19_040719	105	72	84	119
240-110662-10	HPT-218_10-14_040719	86	75	96	95
240-110662-11	HPT-218_5-9_040719	92	80	104	103
240-110662-13	TRIP BLANK	82	78	97	93
LCS 240-376652/4	Lab Control Sample	83	95	105	94
LCS 240-376654/4	Lab Control Sample	84	88	90	102
MB 240-376652/6	Method Blank	89	84	107	102
MB 240-376654/6	Method Blank	96	69	81	110

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	DBFM (49-138)	TOL (49-147)
240-110662-4	HPT-217_28-29_040719	98	95	97	99
240-110662-5	HPT-218_4-5_040719	99	95	93	99
240-110662-6	HPT-218_3-4_040719	99	98	92	102
240-110662-7	HPT-218_2-3_040719	98	97	89	99
240-110662-8	HPT-218_1-2_040719	100	95	90	98
240-110662-12	HPT-218_28-29_040719	87	75	82	82
LCS 240-376103/2-A	Lab Control Sample	80	81	82	85
LCSD 240-376103/3-A	Lab Control Sample Dup	82	82	84	87
MB 240-376103/1-A	Method Blank	86	85	86	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-110458-C-3 MS	Matrix Spike	122

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110458-C-3 MSD	Matrix Spike Duplicate	117
240-110662-1	HPT-217_4-8_040719	113
240-110662-2	HPT-217_16-20_040719	116
240-110662-3	HPT-217_9-13_040719	100
240-110662-3 MS	HPT-217_9-13_040719	102
240-110662-3 MSD	HPT-217_9-13_040719	101
240-110662-9	HPT-218_15-19_040719	103
240-110662-10	HPT-218_10-14_040719	101
240-110662-11	HPT-218_5-9_040719	99
LCS 240-375762/4	Lab Control Sample	116
LCS 240-376059/4	Lab Control Sample	99
MB 240-375762/5	Method Blank	116
MB 240-376059/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376652/6
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 10:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 10:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 10:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/16/19 10:41	1
4-Bromofluorobenzene (Surr)	84		59 - 120		04/16/19 10:41	1
Toluene-d8 (Surr)	107		70 - 123		04/16/19 10:41	1
Dibromofluoromethane (Surr)	102		75 - 128		04/16/19 10:41	1

Lab Sample ID: LCS 240-376652/4
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.67		ug/L		97	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	8.87		ug/L		89	74 - 130
trans-1,2-Dichloroethene	10.0	9.88		ug/L		99	78 - 133
Trichloroethene	10.0	8.99		ug/L		90	76 - 125
Vinyl chloride	10.0	10.2		ug/L		102	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	105		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-F-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	5.0	U	50.0	34.9		ug/L		70	53 - 140
cis-1,2-Dichloroethene	32		50.0	67.3		ug/L		71	64 - 130
Tetrachloroethene	5.0	U F2	50.0	32.8		ug/L		66	51 - 136
trans-1,2-Dichloroethene	4.1	J	50.0	41.2		ug/L		74	68 - 133
Trichloroethene	120	F1	50.0	134	F1	ug/L		36	55 - 131
Vinyl chloride	5.0	U F2	50.0	34.7		ug/L		69	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	111		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110529-F-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-F-12 MSD
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
1,1-Dichloroethene	5.0	U	50.0	49.1		ug/L		98	53 - 140	34	35	
cis-1,2-Dichloroethene	32		50.0	77.8		ug/L		92	64 - 130	14	21	
Tetrachloroethene	5.0	U F2	50.0	44.2	F2	ug/L		88	51 - 136	30	23	
trans-1,2-Dichloroethene	4.1	J	50.0	52.6		ug/L		97	68 - 133	24	24	
Trichloroethene	120	F1	50.0	144		ug/L		57	55 - 131	7	23	
Vinyl chloride	5.0	U F2	50.0	47.9	F2	ug/L		96	43 - 154	32	29	

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	82		70 - 121
4-Bromofluorobenzene (Surr)	88		59 - 120
Toluene-d8 (Surr)	101		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: MB 240-376654/6
Matrix: Water
Analysis Batch: 376654

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L		04/16/19 11:32	1	
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L		04/16/19 11:32	1	
Tetrachloroethene	1.0	U	1.0	0.15	ug/L		04/16/19 11:32	1	
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L		04/16/19 11:32	1	
Trichloroethene	1.0	U	1.0	0.10	ug/L		04/16/19 11:32	1	
Vinyl chloride	1.0	U	1.0	0.20	ug/L		04/16/19 11:32	1	

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	96		70 - 121		04/16/19 11:32	1
4-Bromofluorobenzene (Surr)	69		59 - 120		04/16/19 11:32	1
Toluene-d8 (Surr)	81		70 - 123		04/16/19 11:32	1
Dibromofluoromethane (Surr)	110		75 - 128		04/16/19 11:32	1

Lab Sample ID: LCS 240-376654/4
Matrix: Water
Analysis Batch: 376654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS		Unit	D	%Rec	%Rec.	
		Result	Qualifier				Limits	RPD
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139	
cis-1,2-Dichloroethene	10.0	11.8		ug/L		118	76 - 128	
Tetrachloroethene	10.0	11.4		ug/L		114	74 - 130	
trans-1,2-Dichloroethene	10.0	13.0		ug/L		130	78 - 133	
Trichloroethene	10.0	10.3		ug/L		103	76 - 125	

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-376654/4
Matrix: Water
Analysis Batch: 376654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	10.7		ug/L		107	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		70 - 121
4-Bromofluorobenzene (Surr)	88		59 - 120
Toluene-d8 (Surr)	90		70 - 123
Dibromofluoromethane (Surr)	102		75 - 128

Lab Sample ID: 240-110662-3 MS
Matrix: Water
Analysis Batch: 376654

Client Sample ID: HPT-217_9-13_040719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.25		ug/L		93	53 - 140
cis-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 130
Tetrachloroethene	1.0	U	10.0	9.69		ug/L		97	51 - 136
trans-1,2-Dichloroethene	1.0	U	10.0	11.5		ug/L		115	68 - 133
Trichloroethene	1.0	U	10.0	8.91		ug/L		89	55 - 131
Vinyl chloride	1.0	U	10.0	10.8		ug/L		108	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	89		59 - 120
Toluene-d8 (Surr)	89		70 - 123
Dibromofluoromethane (Surr)	108		75 - 128

Lab Sample ID: 240-110662-3 MSD
Matrix: Water
Analysis Batch: 376654

Client Sample ID: HPT-217_9-13_040719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	8.55		ug/L		86	53 - 140	8	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.86		ug/L		99	64 - 130	6	21
Tetrachloroethene	1.0	U	10.0	8.86		ug/L		89	51 - 136	9	23
trans-1,2-Dichloroethene	1.0	U	10.0	11.1		ug/L		111	68 - 133	3	24
Trichloroethene	1.0	U	10.0	8.59		ug/L		86	55 - 131	4	23
Vinyl chloride	1.0	U	10.0	11.0		ug/L		110	43 - 154	2	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		70 - 121
4-Bromofluorobenzene (Surr)	86		59 - 120
Toluene-d8 (Surr)	88		70 - 123
Dibromofluoromethane (Surr)	103		75 - 128

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376103/1-A
Matrix: Solid
Analysis Batch: 376248

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 376103

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
Trichloroethene	40	U	40	11	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
Vinyl chloride	32	U	32	12	ug/Kg		04/11/19 13:35	04/12/19 19:45	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/11/19 13:35	04/12/19 19:45	1
4-Bromofluorobenzene (Surr)	85		48 - 151	04/11/19 13:35	04/12/19 19:45	1
Dibromofluoromethane (Surr)	86		49 - 138	04/11/19 13:35	04/12/19 19:45	1
Toluene-d8 (Surr)	90		49 - 147	04/11/19 13:35	04/12/19 19:45	1

Lab Sample ID: LCS 240-376103/2-A
Matrix: Solid
Analysis Batch: 376248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376103

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
1,1-Dichloroethene	1000	988		ug/Kg		99	57 - 139
1,4-Dioxane	20000	17100		ug/Kg		85	51 - 140
cis-1,2-Dichloroethene	1000	943		ug/Kg		94	74 - 123
Tetrachloroethene	1000	947		ug/Kg		95	76 - 120
trans-1,2-Dichloroethene	1000	1000		ug/Kg		100	71 - 133
Trichloroethene	1000	960		ug/Kg		96	73 - 126
Vinyl chloride	1000	914		ug/Kg		91	52 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	80		53 - 155
4-Bromofluorobenzene (Surr)	81		48 - 151
Dibromofluoromethane (Surr)	82		49 - 138
Toluene-d8 (Surr)	85		49 - 147

Lab Sample ID: LCSD 240-376103/3-A
Matrix: Solid
Analysis Batch: 376248

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 376103

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	
		Result	Qualifier					RPD	Limit
1,1-Dichloroethene	1000	1030		ug/Kg		103	57 - 139	4	40
1,4-Dioxane	20000	18200		ug/Kg		91	51 - 140	6	40
cis-1,2-Dichloroethene	1000	982		ug/Kg		98	74 - 123	4	40
Tetrachloroethene	1000	992		ug/Kg		99	76 - 120	5	40
trans-1,2-Dichloroethene	1000	1030		ug/Kg		103	71 - 133	3	40
Trichloroethene	1000	991		ug/Kg		99	73 - 126	3	40
Vinyl chloride	1000	905		ug/Kg		91	52 - 130	1	40

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 240-376103/3-A
Matrix: Solid
Analysis Batch: 376248

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 376103

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		53 - 155
4-Bromofluorobenzene (Surr)	82		48 - 151
Dibromofluoromethane (Surr)	84		49 - 138
Toluene-d8 (Surr)	87		49 - 147

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375762/5
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 12:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 12:22	1

Lab Sample ID: LCS 240-375762/4
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.9		ug/L		119	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		63 - 125

Lab Sample ID: 240-110458-C-3 MS
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	68		10.0	82.4	4	ug/L		142	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	122		63 - 125

Lab Sample ID: 240-110458-C-3 MSD
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	68		10.0	79.6	4	ug/L		113	52 - 129	4	13

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	117		63 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-376059/5
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 14:21	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125					04/11/19 14:21	1

Lab Sample ID: LCS 240-376059/4
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.5		ug/L		115	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		63 - 125				

Lab Sample ID: 240-110662-3 MS
Matrix: Water
Analysis Batch: 376059

Client Sample ID: HPT-217_9-13_040719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.9		ug/L		119	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	102		63 - 125						

Lab Sample ID: 240-110662-3 MSD
Matrix: Water
Analysis Batch: 376059

Client Sample ID: HPT-217_9-13_040719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.8		ug/L		118	52 - 129	1	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	101		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110665-B-20 DU
Matrix: Solid
Analysis Batch: 375590

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	97.4		97.3		%		0	20
Percent Moisture	2.6		2.7		%		0.8	20

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

GC/MS VOA

Analysis Batch: 375762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-1	HPT-217_4-8_040719	Total/NA	Water	8260B SIM	
240-110662-2	HPT-217_16-20_040719	Total/NA	Water	8260B SIM	
MB 240-375762/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-375762/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110458-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110458-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-3	HPT-217_9-13_040719	Total/NA	Water	8260B SIM	
240-110662-9	HPT-218_15-19_040719	Total/NA	Water	8260B SIM	
240-110662-10	HPT-218_10-14_040719	Total/NA	Water	8260B SIM	
240-110662-11	HPT-218_5-9_040719	Total/NA	Water	8260B SIM	
MB 240-376059/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376059/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110662-3 MS	HPT-217_9-13_040719	Total/NA	Water	8260B SIM	
240-110662-3 MSD	HPT-217_9-13_040719	Total/NA	Water	8260B SIM	

Prep Batch: 376103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-4	HPT-217_28-29_040719	Total/NA	Solid	5030B	
240-110662-5	HPT-218_4-5_040719	Total/NA	Solid	5030B	
240-110662-6	HPT-218_3-4_040719	Total/NA	Solid	5030B	
240-110662-7	HPT-218_2-3_040719	Total/NA	Solid	5030B	
240-110662-8	HPT-218_1-2_040719	Total/NA	Solid	5030B	
240-110662-12	HPT-218_28-29_040719	Total/NA	Solid	5030B	
MB 240-376103/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-376103/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 240-376103/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 376248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-4	HPT-217_28-29_040719	Total/NA	Solid	8260B MI	376103
240-110662-5	HPT-218_4-5_040719	Total/NA	Solid	8260B MI	376103
240-110662-6	HPT-218_3-4_040719	Total/NA	Solid	8260B MI	376103
240-110662-7	HPT-218_2-3_040719	Total/NA	Solid	8260B MI	376103
240-110662-8	HPT-218_1-2_040719	Total/NA	Solid	8260B MI	376103
MB 240-376103/1-A	Method Blank	Total/NA	Solid	8260B MI	376103
LCS 240-376103/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	376103
LCSD 240-376103/3-A	Lab Control Sample Dup	Total/NA	Solid	8260B MI	376103

Analysis Batch: 376372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-12	HPT-218_28-29_040719	Total/NA	Solid	8260B MI	376103

Analysis Batch: 376652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-10	HPT-218_10-14_040719	Total/NA	Water	8260B	
240-110662-11	HPT-218_5-9_040719	Total/NA	Water	8260B	
240-110662-13	TRIP BLANK	Total/NA	Water	8260B	
MB 240-376652/6	Method Blank	Total/NA	Water	8260B	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

GC/MS VOA (Continued)

Analysis Batch: 376652 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-376652/4	Lab Control Sample	Total/NA	Water	8260B	
240-110529-F-12 MS	Matrix Spike	Total/NA	Water	8260B	
240-110529-F-12 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 376654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-1	HPT-217_4-8_040719	Total/NA	Water	8260B	
240-110662-2	HPT-217_16-20_040719	Total/NA	Water	8260B	
240-110662-3	HPT-217_9-13_040719	Total/NA	Water	8260B	
240-110662-9	HPT-218_15-19_040719	Total/NA	Water	8260B	
MB 240-376654/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376654/4	Lab Control Sample	Total/NA	Water	8260B	
240-110662-3 MS	HPT-217_9-13_040719	Total/NA	Water	8260B	
240-110662-3 MSD	HPT-217_9-13_040719	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 375590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-4	HPT-217_28-29_040719	Total/NA	Solid	Moisture	
240-110662-5	HPT-218_4-5_040719	Total/NA	Solid	Moisture	
240-110662-6	HPT-218_3-4_040719	Total/NA	Solid	Moisture	
240-110662-7	HPT-218_2-3_040719	Total/NA	Solid	Moisture	
240-110662-8	HPT-218_1-2_040719	Total/NA	Solid	Moisture	
240-110662-12	HPT-218_28-29_040719	Total/NA	Solid	Moisture	
240-110665-B-20 DU	Duplicate	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_4-8_040719

Lab Sample ID: 240-110662-1

Date Collected: 04/07/19 10:20

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376654	04/16/19 18:24	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 21:47	SAM	TAL CAN

Client Sample ID: HPT-217_16-20_040719

Lab Sample ID: 240-110662-2

Date Collected: 04/07/19 09:35

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376654	04/16/19 18:46	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 22:13	SAM	TAL CAN

Client Sample ID: HPT-217_9-13_040719

Lab Sample ID: 240-110662-3

Date Collected: 04/07/19 10:00

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376654	04/16/19 19:08	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 16:04	SAM	TAL CAN

Client Sample ID: HPT-217_28-29_040719

Lab Sample ID: 240-110662-4

Date Collected: 04/07/19 10:30

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-217_28-29_040719

Lab Sample ID: 240-110662-4

Date Collected: 04/07/19 10:30

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 83.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 20:59	HMB	TAL CAN

Client Sample ID: HPT-218_4-5_040719

Lab Sample ID: 240-110662-5

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_4-5_040719

Lab Sample ID: 240-110662-5

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 21:23	HMB	TAL CAN

Client Sample ID: HPT-218_3-4_040719

Lab Sample ID: 240-110662-6

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-218_3-4_040719

Lab Sample ID: 240-110662-6

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 21:48	HMB	TAL CAN

Client Sample ID: HPT-218_2-3_040719

Lab Sample ID: 240-110662-7

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-218_2-3_040719

Lab Sample ID: 240-110662-7

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 85.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 22:13	HMB	TAL CAN

Client Sample ID: HPT-218_1-2_040719

Lab Sample ID: 240-110662-8

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_1-2_040719

Lab Sample ID: 240-110662-8

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 22:38	HMB	TAL CAN

Client Sample ID: HPT-218_15-19_040719

Lab Sample ID: 240-110662-9

Date Collected: 04/07/19 13:25

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376654	04/16/19 20:13	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 17:21	SAM	TAL CAN

Client Sample ID: HPT-218_10-14_040719

Lab Sample ID: 240-110662-10

Date Collected: 04/07/19 13:35

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 15:39	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 17:46	SAM	TAL CAN

Client Sample ID: HPT-218_5-9_040719

Lab Sample ID: 240-110662-11

Date Collected: 04/07/19 13:55

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 16:01	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 18:12	SAM	TAL CAN

Client Sample ID: HPT-218_28-29_040719

Lab Sample ID: 240-110662-12

Date Collected: 04/07/19 13:05

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-218_28-29_040719

Lab Sample ID: 240-110662-12

Date Collected: 04/07/19 13:05

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376372	04/14/19 18:35	HMB	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110662-13

Date Collected: 04/07/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 16:23	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.




TestAmerica Canton
 4101 Shuffel Street NW
 North Canton, OH 94720
 Phone (330) 497-9396 Fax (330) 497-0772

MICHIGAN Chain of Custody Record

2/9/2022 1.8/C1.6

TestAmerica
 1001 Valley Park Drive, Suite 100, Columbus, OH 43260

Client Information		Sample		Lab Pkg		Carrier Tracking Info	
Address: 28650 Cabot Drive, Suite 500 City: Novi State, Zip: MI, 48377 Phone: 248-722-2411 Email: Caitlin.ONeill@arcadis.com Region Name: Ford LTP Livonia MI - E-203631 Site:		Name: Christina Weaver Phone: (980)-69-5009 Due Date Requested: 4/17/19 at latest TAT Requested (days): 180 ID #: MI001318 0002 00002 WO #: Cadena # E-203631 Project #: 24075363 SDNY#:		DelMonico, Michael E-Mail: michael.delmonico@testamericainc.com		COC No: 240-59392-23341 4 Page: 6 of 2 Page Ref: 12	
<p>Analysis Requested</p> <p>240-110862 Chain of Custody</p> 							
Sample Identification	Sample Date	Sample Time	Sample Type (IC-Contn, G-grab)	Matrix (Water, Sludge, Composite)	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)	Preservation Codes
HPT-217-4-8-040719	4/7/19	1020	6	Water	NA	303	M-Hesare N-None D-AgNO2 P-NH2OAS E-NH4SO4 R-Na2SO4 S-MSDC T-TSP Dodecylsulfate U-Acetic V-MCAA W-pH4.3 X-EDA Z-Other (specify)
HPT-217-16-20-040719	4/7/19	0935	6	Water	NA	303	
HPT-217-9-13-040719	4/7/19	1000	6	Water	NA	010	
HPT-217-28-29-040719	4/7/19	1030	6	Water	NA	010	
HPT-218-4-5-040719	4/7/19	1045	6	Water	NA	010	
HPT-218-3-4-040719	4/7/19	1045	6	Water	NA	010	
HPT-218-2-3-040719	4/7/19	1045	6	Water	NA	010	
HPT-218-1-2-040719	4/7/19	1045	6	Water	NA	010	
HPT-218-15-19-040719	4/7/19	1325	6	Water	NA	03	
HPT-218-10-14-040719	4/7/19	1335	6	Water	NA	03	
HPT-218-5-9-040719	4/7/19	1355	6	Water	NA	03	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Other (specify) <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological							
Deliverable Requested: <input type="checkbox"/> I <input checked="" type="checkbox"/> II <input type="checkbox"/> III <input type="checkbox"/> Other (specify)							
Empty Kit Relinquished by: _____ Date: _____ Requisitioned by: <i>Christina Weaver</i> Date: 4/7/19 2020 Requisitioned by: <i>Christina Weaver</i> Date: 04/08/19 11:00 Requisitioned by: <i>Christina Weaver</i> Date: 4/8/19 13:00 Custody Seal Intact: <input type="checkbox"/> A Yes <input checked="" type="checkbox"/> A No Custody Seal No: _____							
Special Instructions/OC Requirements: Submit all results through Cadena at jim.tormala@arcadis.com #233414							
Sample Disposal: <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months							
Method of Shipment: _____							
Received by: <i>Novi cold storage</i> Date/Time: 4/7/19 20:00 Received by: <i>Novi cold storage</i> Date/Time: 4/8/19 11:00 Received by: <i>Novi cold storage</i> Date/Time: 4-9-19 8:30							

TestAmerica Canton Sample Receipt Form/Narrative

Login #: 110662

Canton Facility

Client: Arcadis Site Name: Cooler unpacked by: MJD
Cooler Received on: 4-9-19 Opened on: 4-9-19
FedEx: 1st (Grd) Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # 11 Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None

- 1. Cooler temperature upon receipt. IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# IC861525
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B834001VA Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC

Contacted PM Date by via Verbal Voice Mail Other
Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES
Samples processed by: MS

18. SAMPLE CONDITION
Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION
Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):
VOA Sample Preservation - Date/Time VOAs Frozen:

TestAmerica Canton Sample Receipt Multiple Cooler Form

Cooler Description (Circle)				IR Gun # (Circle)	Observed Temp °C	Corrected Temp °C	Coolant (Circle)		
TA	Client	Box	Other	IR-8 #36	2.4	2.2	Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36	1.8	1.6	Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	
TA	Client	Box	Other	IR-8 #36			Wet Ice	Blue Ice	Dry Ice
							Water	None	

See Temperature Excursion Form

DATA VERIFICATION REPORT



April 24, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110662-1
Sample date: 2019-04-07
Report received by CADENA: 2019-04-24
Initial Data Verification completed by CADENA: 2019-04-24

Number of Samples:6
Sample Matrices:Soil
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - SIM GCMS VOC samples -001, -002, -009 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

GCMS VOC QC batch MS/MSD issues as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

GCMS VOC QC batch MS/MSD recovery outliers or RPD outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110662-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401106621	HPT-217_4-8_040719	4/7/2019	10:20:00	X	X	
24011066210	HPT-218_10-14_040719	4/7/2019	1:35:00	X	X	
24011066211	HPT-218_5-9_040719	4/7/2019	1:55:00	X	X	
24011066212	HPT-218_28-29_040719	4/7/2019	1:05:00	X		
24011066213	TRIP BLANK	4/7/2019	12:00:00	X		
2401106622	HPT-217_16-20_040719	4/7/2019	9:35:00	X	X	
2401106623	HPT-217_9-13_040719	4/7/2019	10:00:00	X	X	
2401106624	HPT-217_28-29_040719	4/7/2019	10:30:00	X		
2401106625	HPT-218_4-5_040719	4/7/2019	10:45:00	X		
2401106626	HPT-218_3-4_040719	4/7/2019	10:45:00	X		
2401106627	HPT-218_2-3_040719	4/7/2019	10:45:00	X		
2401106628	HPT-218_1-2_040719	4/7/2019	10:45:00	X		
2401106629	HPT-218_15-19_040719	4/7/2019	1:25:00	X	X	

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110662-1

Sample Name:	HPT-217_4-8_040719	HPT-217_16-20_040719	HPT-218_15-19_040719
Lab Sample ID:	2401106621	2401106622	2401106629
Sample Date:	4/7/2019	4/7/2019	4/7/2019

Analyte	Cas No.	HPT-217_4-8_040719				HPT-217_16-20_040719				HPT-218_15-19_040719			
		Report Result	Report Limit	Valid Units	Valid Qualifier	Report Result	Report Limit	Valid Units	Valid Qualifier	Report Result	Report Limit	Valid Units	Valid Qualifier

GC/MS VOC

OSW-8260BBSim

1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ	0.93	2.0	ug/l	J
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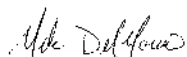
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110665-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
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Authorized for release by:
4/18/2019 4:15:48 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Job ID: 240-110665-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110665-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/9/2019 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 2.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-110665-11), HPT-216_18-22_040619 (240-110665-12), HPT-216_5-9_040619 (240-110665-13), HPT-215A_4-8_040619 (240-110665-14), DUP-02 (240-110665-15), HPT-215A_9-13_040619 (240-110665-16) and HPT-215A_14-18_040619 (240-110665-17) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/16/2019 and 04/17/2019.

Samples HPT-216_5-9_040619 (240-110665-13)[20X], HPT-215A_4-8_040619 (240-110665-14)[6.67X], DUP-02 (240-110665-15)[20X], HPT-215A_9-13_040619 (240-110665-16)[16.67X] and HPT-215A_14-18_040619 (240-110665-17)[14.28X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The pH of the sample was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if sample is not preserved to a pH of 2: HPT-216_18-22_040619 (240-110665-12).

Method 8260 stipulates a 12 hour sequence for the analysis of samples. Due to an instrument error, the MSD for sample (240-110670-B-9 MSD) exceeded the 12 hour time limit by 3 minutes. The MSD was reported for batch QC.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Job ID: 240-110665-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples HPT-217_1-2_040619 (240-110665-1), HPT-217_2-3_040619 (240-110665-2), HPT-217_3-4_040619 (240-110665-3), HPT-217_4-5_040619 (240-110665-4), HPT-215A_28-29_040619 (240-110665-5), HPT-215A_0-1_040619 (240-110665-6), HPT-215A_3-4_040619 (240-110665-7), HPT-215A_2-3_040619 (240-110665-8), HPT-215A_4-5_040619 (240-110665-9), HPT-215A_1-2_040619 (240-110665-10), HPT-216_27-28_040619 (240-110665-18), HPT-216_3-4_040619 (240-110665-19), HPT-216_1-2_040619 (240-110665-20), HPT-216_2-3_040619 (240-110665-21) and HPT-216_4-5_040619 (240-110665-22) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/11/2019, 04/12/2019 and 04/15/2019.

The continuing calibration verification (CCV) associated with batch 240-376132 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported: HPT-217_1-2_040619 (240-110665-1), HPT-217_2-3_040619 (240-110665-2), HPT-217_3-4_040619 (240-110665-3), HPT-217_4-5_040619 (240-110665-4), HPT-215A_0-1_040619 (240-110665-6), HPT-215A_3-4_040619 (240-110665-7), HPT-215A_2-3_040619 (240-110665-8), HPT-215A_4-5_040619 (240-110665-9), HPT-215A_1-2_040619 (240-110665-10), HPT-216_27-28_040619 (240-110665-18), HPT-216_3-4_040619 (240-110665-19), HPT-216_1-2_040619 (240-110665-20), HPT-216_2-3_040619 (240-110665-21), HPT-216_4-5_040619 (240-110665-22) and (CCV 240-376132/7).

The continuing calibration verification (CCV) associated with batch 240-376569 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HPT-215A_28-29_040619 (240-110665-5) and (CCVIS 240-376569/4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-216_18-22_040619 (240-110665-12), HPT-216_5-9_040619 (240-110665-13), HPT-215A_4-8_040619 (240-110665-14), DUP-02 (240-110665-15), HPT-215A_9-13_040619 (240-110665-16) and HPT-215A_14-18_040619 (240-110665-17) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/10/2019.

Internal standard responses were outside of acceptance limits for the following samples: HPT-216_5-9_040619 (240-110665-13), DUP-02 (240-110665-15) and HPT-215A_9-13_040619 (240-110665-16). The samples shows evidence of matrix interference.

The pH is greater than 2 for the following samples HPT-216_18-22_040619 (240-110665-12).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-217_1-2_040619 (240-110665-1), HPT-217_2-3_040619 (240-110665-2), HPT-217_3-4_040619 (240-110665-3), HPT-217_4-5_040619 (240-110665-4), HPT-215A_28-29_040619 (240-110665-5), HPT-215A_0-1_040619 (240-110665-6), HPT-215A_3-4_040619 (240-110665-7), HPT-215A_2-3_040619 (240-110665-8), HPT-215A_4-5_040619 (240-110665-9), HPT-215A_1-2_040619 (240-110665-10), HPT-216_27-28_040619 (240-110665-18), HPT-216_3-4_040619 (240-110665-19), HPT-216_1-2_040619 (240-110665-20), HPT-216_2-3_040619 (240-110665-21) and HPT-216_4-5_040619 (240-110665-22) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/09/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110665-1	HPT-217_1-2_040619	Solid	04/06/19 17:45	04/09/19 08:30
240-110665-2	HPT-217_2-3_040619	Solid	04/06/19 17:45	04/09/19 08:30
240-110665-3	HPT-217_3-4_040619	Solid	04/06/19 17:45	04/09/19 08:30
240-110665-4	HPT-217_4-5_040619	Solid	04/06/19 17:45	04/09/19 08:30
240-110665-5	HPT-215A_28-29_040619	Solid	04/06/19 13:35	04/09/19 08:30
240-110665-6	HPT-215A_0-1_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-7	HPT-215A_3-4_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-8	HPT-215A_2-3_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-9	HPT-215A_4-5_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-10	HPT-215A_1-2_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-11	TRIP BLANK	Water	04/06/19 00:00	04/09/19 08:30
240-110665-12	HPT-216_18-22_040619	Water	04/06/19 17:20	04/09/19 08:30
240-110665-13	HPT-216_5-9_040619	Water	04/06/19 17:50	04/09/19 08:30
240-110665-14	HPT-215A_4-8_040619	Water	04/06/19 14:25	04/09/19 08:30
240-110665-15	DUP-02	Water	04/06/19 00:00	04/09/19 08:30
240-110665-16	HPT-215A_9-13_040619	Water	04/06/19 14:10	04/09/19 08:30
240-110665-17	HPT-215A_14-18_040619	Water	04/06/19 13:50	04/09/19 08:30
240-110665-18	HPT-216_27-28_040619	Solid	04/06/19 17:10	04/09/19 08:30
240-110665-19	HPT-216_3-4_040619	Solid	04/06/19 15:00	04/09/19 08:30
240-110665-20	HPT-216_1-2_040619	Solid	04/06/19 15:00	04/09/19 08:30
240-110665-21	HPT-216_2-3_040619	Solid	04/06/19 15:00	04/09/19 08:30
240-110665-22	HPT-216_4-5_040619	Solid	04/06/19 15:00	04/09/19 08:30

Detection Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_1-2_040619 **Lab Sample ID: 240-110665-1**

No Detections.

Client Sample ID: HPT-217_2-3_040619 **Lab Sample ID: 240-110665-2**

No Detections.

Client Sample ID: HPT-217_3-4_040619 **Lab Sample ID: 240-110665-3**

No Detections.

Client Sample ID: HPT-217_4-5_040619 **Lab Sample ID: 240-110665-4**

No Detections.

Client Sample ID: HPT-215A_28-29_040619 **Lab Sample ID: 240-110665-5**

No Detections.

Client Sample ID: HPT-215A_0-1_040619 **Lab Sample ID: 240-110665-6**

No Detections.

Client Sample ID: HPT-215A_3-4_040619 **Lab Sample ID: 240-110665-7**

No Detections.

Client Sample ID: HPT-215A_2-3_040619 **Lab Sample ID: 240-110665-8**

No Detections.

Client Sample ID: HPT-215A_4-5_040619 **Lab Sample ID: 240-110665-9**

No Detections.

Client Sample ID: HPT-215A_1-2_040619 **Lab Sample ID: 240-110665-10**

No Detections.

Client Sample ID: TRIP BLANK **Lab Sample ID: 240-110665-11**

No Detections.

Client Sample ID: HPT-216_18-22_040619 **Lab Sample ID: 240-110665-12**

No Detections.

Client Sample ID: HPT-216_5-9_040619 **Lab Sample ID: 240-110665-13**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	37		20	3.2	ug/L	20		8260B	Total/NA
trans-1,2-Dichloroethene	26		20	3.8	ug/L	20		8260B	Total/NA
Trichloroethene	450		20	2.0	ug/L	20		8260B	Total/NA

Client Sample ID: HPT-215A_4-8_040619 **Lab Sample ID: 240-110665-14**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	46		6.7	1.1	ug/L	6.67		8260B	Total/NA
trans-1,2-Dichloroethene	3.9	J	6.7	1.3	ug/L	6.67		8260B	Total/NA
Trichloroethene	140		6.7	0.67	ug/L	6.67		8260B	Total/NA
Vinyl chloride	18		6.7	1.3	ug/L	6.67		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: DUP-02

Lab Sample ID: 240-110665-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	210		20	3.2	ug/L	20		8260B	Total/NA
trans-1,2-Dichloroethene	17	J	20	3.8	ug/L	20		8260B	Total/NA
Trichloroethene	440		20	2.0	ug/L	20		8260B	Total/NA
Vinyl chloride	46		20	4.0	ug/L	20		8260B	Total/NA

Client Sample ID: HPT-215A_9-13_040619

Lab Sample ID: 240-110665-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	180		17	2.7	ug/L	16.67		8260B	Total/NA
trans-1,2-Dichloroethene	14	J	17	3.2	ug/L	16.67		8260B	Total/NA
Trichloroethene	410		17	1.7	ug/L	16.67		8260B	Total/NA
Vinyl chloride	48		17	3.3	ug/L	16.67		8260B	Total/NA

Client Sample ID: HPT-215A_14-18_040619

Lab Sample ID: 240-110665-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	320		14	2.3	ug/L	14.28		8260B	Total/NA
trans-1,2-Dichloroethene	3.0	J	14	2.7	ug/L	14.28		8260B	Total/NA
Trichloroethene	1.4	J	14	1.4	ug/L	14.28		8260B	Total/NA
Vinyl chloride	330		14	2.9	ug/L	14.28		8260B	Total/NA

Client Sample ID: HPT-216_27-28_040619

Lab Sample ID: 240-110665-18

No Detections.

Client Sample ID: HPT-216_3-4_040619

Lab Sample ID: 240-110665-19

No Detections.

Client Sample ID: HPT-216_1-2_040619

Lab Sample ID: 240-110665-20

No Detections.

Client Sample ID: HPT-216_2-3_040619

Lab Sample ID: 240-110665-21

No Detections.

Client Sample ID: HPT-216_4-5_040619

Lab Sample ID: 240-110665-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	16	J	68	15	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	30	J	68	19	ug/Kg	1	☼	8260B MI	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_1-2_040619

Lab Sample ID: 240-110665-1

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 82.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	61	U	61	24	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
cis-1,2-Dichloroethene	61	U	61	14	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
Tetrachloroethene	61	U	61	27	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
trans-1,2-Dichloroethene	61	U	61	15	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
Trichloroethene	61	U	61	17	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
Vinyl chloride	49	U	49	18	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/09/19 21:13	04/11/19 23:37	1
4-Bromofluorobenzene (Surr)	105		48 - 151	04/09/19 21:13	04/11/19 23:37	1
Dibromofluoromethane (Surr)	93		49 - 138	04/09/19 21:13	04/11/19 23:37	1
Toluene-d8 (Surr)	112		49 - 147	04/09/19 21:13	04/11/19 23:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	17.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_2-3_040619

Lab Sample ID: 240-110665-2

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
Trichloroethene	53	U	53	14	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/09/19 21:13	04/11/19 23:59	1
4-Bromofluorobenzene (Surr)	96		48 - 151	04/09/19 21:13	04/11/19 23:59	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 21:13	04/11/19 23:59	1
Toluene-d8 (Surr)	99		49 - 147	04/09/19 21:13	04/11/19 23:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	11.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_3-4_040619

Lab Sample ID: 240-110665-3

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 84.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
1,4-Dioxane	19000	U	19000	1600	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
Tetrachloroethene	59	U	59	27	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	57		53 - 155	04/09/19 21:13	04/12/19 00:21	1
4-Bromofluorobenzene (Surr)	65		48 - 151	04/09/19 21:13	04/12/19 00:21	1
Dibromofluoromethane (Surr)	56		49 - 138	04/09/19 21:13	04/12/19 00:21	1
Toluene-d8 (Surr)	67		49 - 147	04/09/19 21:13	04/12/19 00:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.9		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	15.1		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_4-5_040619

Lab Sample ID: 240-110665-4

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 81.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	80	U	80	32	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
1,4-Dioxane	25000	U	25000	2200	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
cis-1,2-Dichloroethene	80	U	80	18	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
Tetrachloroethene	80	U	80	36	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
trans-1,2-Dichloroethene	80	U	80	20	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
Trichloroethene	80	U	80	22	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
Vinyl chloride	64	U	64	24	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/09/19 21:13	04/12/19 00:43	1
4-Bromofluorobenzene (Surr)	109		48 - 151	04/09/19 21:13	04/12/19 00:43	1
Dibromofluoromethane (Surr)	95		49 - 138	04/09/19 21:13	04/12/19 00:43	1
Toluene-d8 (Surr)	114		49 - 147	04/09/19 21:13	04/12/19 00:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.8		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	18.2		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_28-29_040619

Lab Sample ID: 240-110665-5

Date Collected: 04/06/19 13:35

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 84.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
Tetrachloroethene	59	U	59	26	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/09/19 21:13	04/15/19 18:52	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 21:13	04/15/19 18:52	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 21:13	04/15/19 18:52	1
Toluene-d8 (Surr)	99		49 - 147	04/09/19 21:13	04/15/19 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.8		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	15.2		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_0-1_040619

Lab Sample ID: 240-110665-6

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 94.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	47	U	47	19	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
cis-1,2-Dichloroethene	47	U	47	11	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
Tetrachloroethene	47	U	47	21	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
trans-1,2-Dichloroethene	47	U	47	12	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
Trichloroethene	47	U	47	13	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		53 - 155	04/09/19 21:13	04/12/19 01:26	1
4-Bromofluorobenzene (Surr)	82		48 - 151	04/09/19 21:13	04/12/19 01:26	1
Dibromofluoromethane (Surr)	73		49 - 138	04/09/19 21:13	04/12/19 01:26	1
Toluene-d8 (Surr)	93		49 - 147	04/09/19 21:13	04/12/19 01:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	5.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_3-4_040619

Lab Sample ID: 240-110665-7

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		53 - 155	04/09/19 21:13	04/12/19 01:48	1
4-Bromofluorobenzene (Surr)	99		48 - 151	04/09/19 21:13	04/12/19 01:48	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 21:13	04/12/19 01:48	1
Toluene-d8 (Surr)	104		49 - 147	04/09/19 21:13	04/12/19 01:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.7		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	11.3		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_2-3_040619

Lab Sample ID: 240-110665-8

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 89.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
Trichloroethene	55	U	55	15	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
Vinyl chloride	44	U	44	17	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/09/19 21:13	04/12/19 02:10	1
4-Bromofluorobenzene (Surr)	92		48 - 151	04/09/19 21:13	04/12/19 02:10	1
Dibromofluoromethane (Surr)	80		49 - 138	04/09/19 21:13	04/12/19 02:10	1
Toluene-d8 (Surr)	94		49 - 147	04/09/19 21:13	04/12/19 02:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.6		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	10.4		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_4-5_040619

Lab Sample ID: 240-110665-9

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 82.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	23	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
Tetrachloroethene	59	U	59	26	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		53 - 155	04/09/19 21:13	04/12/19 02:32	1
4-Bromofluorobenzene (Surr)	102		48 - 151	04/09/19 21:13	04/12/19 02:32	1
Dibromofluoromethane (Surr)	86		49 - 138	04/09/19 21:13	04/12/19 02:32	1
Toluene-d8 (Surr)	105		49 - 147	04/09/19 21:13	04/12/19 02:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.6		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	17.4		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_1-2_040619

Lab Sample ID: 240-110665-10

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 91.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	52	U	52	21	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
cis-1,2-Dichloroethene	52	U	52	12	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
Tetrachloroethene	52	U	52	24	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
trans-1,2-Dichloroethene	52	U	52	13	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
Trichloroethene	52	U	52	14	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		53 - 155	04/09/19 21:13	04/12/19 02:54	1
4-Bromofluorobenzene (Surr)	93		48 - 151	04/09/19 21:13	04/12/19 02:54	1
Dibromofluoromethane (Surr)	78		49 - 138	04/09/19 21:13	04/12/19 02:54	1
Toluene-d8 (Surr)	96		49 - 147	04/09/19 21:13	04/12/19 02:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.0		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	9.0		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110665-11

Date Collected: 04/06/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 16:45	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 16:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:45	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 16:45	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 16:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/16/19 16:45	1
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 16:45	1
Toluene-d8 (Surr)	102		70 - 123		04/16/19 16:45	1
Dibromofluoromethane (Surr)	102		75 - 128		04/16/19 16:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_18-22_040619

Lab Sample ID: 240-110665-12

Date Collected: 04/06/19 17:20

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		63 - 125		04/10/19 19:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 17:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 17:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 17:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 17:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 17:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/16/19 17:08	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/16/19 17:08	1
Toluene-d8 (Surr)	97		70 - 123		04/16/19 17:08	1
Dibromofluoromethane (Surr)	96		75 - 128		04/16/19 17:08	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_5-9_040619

Lab Sample ID: 240-110665-13

Date Collected: 04/06/19 17:50

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U *	2.0	0.86	ug/L			04/10/19 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		63 - 125		04/10/19 19:39	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	20	U	20	3.8	ug/L			04/17/19 15:01	20
cis-1,2-Dichloroethene	37		20	3.2	ug/L			04/17/19 15:01	20
Tetrachloroethene	20	U	20	3.0	ug/L			04/17/19 15:01	20
trans-1,2-Dichloroethene	26		20	3.8	ug/L			04/17/19 15:01	20
Trichloroethene	450		20	2.0	ug/L			04/17/19 15:01	20
Vinyl chloride	20	U	20	4.0	ug/L			04/17/19 15:01	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/17/19 15:01	20
4-Bromofluorobenzene (Surr)	90		59 - 120		04/17/19 15:01	20
Toluene-d8 (Surr)	105		70 - 123		04/17/19 15:01	20
Dibromofluoromethane (Surr)	98		75 - 128		04/17/19 15:01	20

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_4-8_040619

Lab Sample ID: 240-110665-14

Date Collected: 04/06/19 14:25

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 20:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		63 - 125		04/10/19 20:05	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	6.7	U	6.7	1.3	ug/L	-		04/16/19 17:53	6.67
cis-1,2-Dichloroethene	46		6.7	1.1	ug/L			04/16/19 17:53	6.67
Tetrachloroethene	6.7	U	6.7	1.0	ug/L	-		04/16/19 17:53	6.67
trans-1,2-Dichloroethene	3.9	J	6.7	1.3	ug/L			04/16/19 17:53	6.67
Trichloroethene	140		6.7	0.67	ug/L			04/16/19 17:53	6.67
Vinyl chloride	18		6.7	1.3	ug/L			04/16/19 17:53	6.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/16/19 17:53	6.67
4-Bromofluorobenzene (Surr)	83		59 - 120		04/16/19 17:53	6.67
Toluene-d8 (Surr)	105		70 - 123		04/16/19 17:53	6.67
Dibromofluoromethane (Surr)	93		75 - 128		04/16/19 17:53	6.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: DUP-02

Lab Sample ID: 240-110665-15

Date Collected: 04/06/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U *	2.0	0.86	ug/L			04/10/19 20:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		63 - 125		04/10/19 20:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	20	U	20	3.8	ug/L			04/16/19 18:15	20
cis-1,2-Dichloroethene	210		20	3.2	ug/L			04/16/19 18:15	20
Tetrachloroethene	20	U	20	3.0	ug/L			04/16/19 18:15	20
trans-1,2-Dichloroethene	17	J	20	3.8	ug/L			04/16/19 18:15	20
Trichloroethene	440		20	2.0	ug/L			04/16/19 18:15	20
Vinyl chloride	46		20	4.0	ug/L			04/16/19 18:15	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 121		04/16/19 18:15	20
4-Bromofluorobenzene (Surr)	75		59 - 120		04/16/19 18:15	20
Toluene-d8 (Surr)	93		70 - 123		04/16/19 18:15	20
Dibromofluoromethane (Surr)	95		75 - 128		04/16/19 18:15	20

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_9-13_040619

Lab Sample ID: 240-110665-16

Date Collected: 04/06/19 14:10

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U *	2.0	0.86	ug/L			04/10/19 20:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		63 - 125		04/10/19 20:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	17	U	17	3.2	ug/L			04/16/19 18:37	16.67
cis-1,2-Dichloroethene	180		17	2.7	ug/L			04/16/19 18:37	16.67
Tetrachloroethene	17	U	17	2.5	ug/L			04/16/19 18:37	16.67
trans-1,2-Dichloroethene	14	J	17	3.2	ug/L			04/16/19 18:37	16.67
Trichloroethene	410		17	1.7	ug/L			04/16/19 18:37	16.67
Vinyl chloride	48		17	3.3	ug/L			04/16/19 18:37	16.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 121		04/16/19 18:37	16.67
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 18:37	16.67
Toluene-d8 (Surr)	99		70 - 123		04/16/19 18:37	16.67
Dibromofluoromethane (Surr)	95		75 - 128		04/16/19 18:37	16.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_14-18_040619

Lab Sample ID: 240-110665-17

Date Collected: 04/06/19 13:50

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 21:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 21:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	14	U	14	2.7	ug/L	-		04/16/19 20:53	14.28
cis-1,2-Dichloroethene	320		14	2.3	ug/L			04/16/19 20:53	14.28
Tetrachloroethene	14	U	14	2.1	ug/L			04/16/19 20:53	14.28
trans-1,2-Dichloroethene	3.0	J	14	2.7	ug/L			04/16/19 20:53	14.28
Trichloroethene	1.4	J	14	1.4	ug/L			04/16/19 20:53	14.28
Vinyl chloride	330		14	2.9	ug/L			04/16/19 20:53	14.28

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		04/16/19 20:53	14.28
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 20:53	14.28
Toluene-d8 (Surr)	93		70 - 123		04/16/19 20:53	14.28
Dibromofluoromethane (Surr)	109		75 - 128		04/16/19 20:53	14.28

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_27-28_040619

Lab Sample ID: 240-110665-18

Date Collected: 04/06/19 17:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 80.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	62	U	62	25	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
cis-1,2-Dichloroethene	62	U	62	14	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
Tetrachloroethene	62	U	62	28	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
trans-1,2-Dichloroethene	62	U	62	16	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
Trichloroethene	62	U	62	17	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
Vinyl chloride	50	U	50	19	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		53 - 155	04/09/19 21:13	04/12/19 04:42	1
4-Bromofluorobenzene (Surr)	99		48 - 151	04/09/19 21:13	04/12/19 04:42	1
Dibromofluoromethane (Surr)	90		49 - 138	04/09/19 21:13	04/12/19 04:42	1
Toluene-d8 (Surr)	106		49 - 147	04/09/19 21:13	04/12/19 04:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80.7		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	19.3		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_3-4_040619

Lab Sample ID: 240-110665-19

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 92.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
Tetrachloroethene	59	U	59	27	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		53 - 155	04/09/19 21:13	04/12/19 03:15	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 21:13	04/12/19 03:15	1
Dibromofluoromethane (Surr)	87		49 - 138	04/09/19 21:13	04/12/19 03:15	1
Toluene-d8 (Surr)	102		49 - 147	04/09/19 21:13	04/12/19 03:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.9		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	7.1		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_1-2_040619

Lab Sample ID: 240-110665-20

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 97.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		53 - 155	04/09/19 21:13	04/12/19 03:37	1
4-Bromofluorobenzene (Surr)	101		48 - 151	04/09/19 21:13	04/12/19 03:37	1
Dibromofluoromethane (Surr)	82		49 - 138	04/09/19 21:13	04/12/19 03:37	1
Toluene-d8 (Surr)	107		49 - 147	04/09/19 21:13	04/12/19 03:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	97.4		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	2.6		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_2-3_040619

Lab Sample ID: 240-110665-21

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 93.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
cis-1,2-Dichloroethene	48	U	48	11	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
Tetrachloroethene	48	U	48	21	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
Trichloroethene	48	U	48	13	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/09/19 21:13	04/12/19 03:59	1
4-Bromofluorobenzene (Surr)	92		48 - 151	04/09/19 21:13	04/12/19 03:59	1
Dibromofluoromethane (Surr)	63		49 - 138	04/09/19 21:13	04/12/19 03:59	1
Toluene-d8 (Surr)	99		49 - 147	04/09/19 21:13	04/12/19 03:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.9		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	6.1		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_4-5_040619

Lab Sample ID: 240-110665-22

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 96.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	68	U	68	27	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
1,4-Dioxane	21000	U	21000	1800	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
cis-1,2-Dichloroethene	16	J	68	15	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
Tetrachloroethene	68	U	68	30	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
trans-1,2-Dichloroethene	68	U	68	17	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
Trichloroethene	30	J	68	19	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
Vinyl chloride	54	U	54	20	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		53 - 155	04/09/19 21:13	04/12/19 04:20	1
4-Bromofluorobenzene (Surr)	89		48 - 151	04/09/19 21:13	04/12/19 04:20	1
Dibromofluoromethane (Surr)	86		49 - 138	04/09/19 21:13	04/12/19 04:20	1
Toluene-d8 (Surr)	94		49 - 147	04/09/19 21:13	04/12/19 04:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	96.4		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	3.6		0.1	0.1	%			04/09/19 17:09	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110529-F-12 MS	Matrix Spike	88	94	111	94
240-110529-F-12 MSD	Matrix Spike Duplicate	82	88	101	94
240-110665-11	TRIP BLANK	88	80	102	102
240-110665-12	HPT-216_18-22_040619	88	75	97	96
240-110665-13	HPT-216_5-9_040619	89	90	105	98
240-110665-14	HPT-215A_4-8_040619	87	83	105	93
240-110665-15	DUP-02	82	75	93	95
240-110665-16	HPT-215A_9-13_040619	86	80	99	95
240-110665-17	HPT-215A_14-18_040619	107	80	93	109
240-110670-B-9 MS	Matrix Spike	94	107	102	98
240-110670-B-9 MSD	Matrix Spike Duplicate	93	105	103	99
LCS 240-376652/4	Lab Control Sample	83	95	105	94
LCS 240-376671/4	Lab Control Sample	93	106	101	98
LCS 240-376934/4	Lab Control Sample	88	103	111	96
MB 240-376652/6	Method Blank	89	84	107	102
MB 240-376671/6	Method Blank	111	83	94	113
MB 240-376934/6	Method Blank	87	89	105	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	DBFM (49-138)	TOL (49-147)
240-110665-1	HPT-217_1-2_040619	98	105	93	112
240-110665-2	HPT-217_2-3_040619	88	96	85	99
240-110665-3	HPT-217_3-4_040619	57	65	56	67
240-110665-4	HPT-217_4-5_040619	98	109	95	114
240-110665-5	HPT-215A_28-29_040619	88	98	85	99
240-110665-6	HPT-215A_0-1_040619	78	82	73	93
240-110665-7	HPT-215A_3-4_040619	89	99	85	104
240-110665-8	HPT-215A_2-3_040619	86	92	80	94
240-110665-9	HPT-215A_4-5_040619	92	102	86	105
240-110665-10	HPT-215A_1-2_040619	85	93	78	96
240-110665-18	HPT-216_27-28_040619	93	99	90	106
240-110665-18 MS	HPT-216_27-28_040619	91	95	87	102
240-110665-18 MSD	HPT-216_27-28_040619	84	89	82	95
240-110665-19	HPT-216_3-4_040619	93	98	87	102
240-110665-20	HPT-216_1-2_040619	94	101	82	107
240-110665-21	HPT-216_2-3_040619	86	92	63	99
240-110665-22	HPT-216_4-5_040619	90	89	86	94
LCS 240-375550/2-A	Lab Control Sample	83	92	81	96
MB 240-375550/1-A	Method Blank	87	98	82	102

Surrogate Legend

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.

Job ID: 240-110665-1

Project/Site: Ford LTP Livonia MI - E203631

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110458-C-3 MS	Matrix Spike	122
240-110458-C-3 MSD	Matrix Spike Duplicate	117
240-110665-12	HPT-216_18-22_040619	119
240-110665-13	HPT-216_5-9_040619	125
240-110665-14	HPT-215A_4-8_040619	120
240-110665-15	DUP-02	124
240-110665-16	HPT-215A_9-13_040619	121
240-110665-17	HPT-215A_14-18_040619	116
LCS 240-375762/4	Lab Control Sample	116
MB 240-375762/5	Method Blank	116

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376652/6
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 10:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 10:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 10:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/16/19 10:41	1
4-Bromofluorobenzene (Surr)	84		59 - 120		04/16/19 10:41	1
Toluene-d8 (Surr)	107		70 - 123		04/16/19 10:41	1
Dibromofluoromethane (Surr)	102		75 - 128		04/16/19 10:41	1

Lab Sample ID: LCS 240-376652/4
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.67		ug/L		97	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	8.87		ug/L		89	74 - 130
trans-1,2-Dichloroethene	10.0	9.88		ug/L		99	78 - 133
Trichloroethene	10.0	8.99		ug/L		90	76 - 125
Vinyl chloride	10.0	10.2		ug/L		102	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	105		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-F-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	5.0	U	50.0	34.9		ug/L		70	53 - 140
cis-1,2-Dichloroethene	32		50.0	67.3		ug/L		71	64 - 130
Tetrachloroethene	5.0	U F2	50.0	32.8		ug/L		66	51 - 136
trans-1,2-Dichloroethene	4.1	J	50.0	41.2		ug/L		74	68 - 133
Trichloroethene	120	F1	50.0	134	F1	ug/L		36	55 - 131
Vinyl chloride	5.0	U F2	50.0	34.7		ug/L		69	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	111		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110529-F-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	94		75 - 128

Lab Sample ID: 240-110529-F-12 MSD
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,1-Dichloroethene	5.0	U	50.0	49.1		ug/L		98	53 - 140	34	35
cis-1,2-Dichloroethene	32		50.0	77.8		ug/L		92	64 - 130	14	21
Tetrachloroethene	5.0	U F2	50.0	44.2	F2	ug/L		88	51 - 136	30	23
trans-1,2-Dichloroethene	4.1	J	50.0	52.6		ug/L		97	68 - 133	24	24
Trichloroethene	120	F1	50.0	144		ug/L		57	55 - 131	7	23
Vinyl chloride	5.0	U F2	50.0	47.9	F2	ug/L		96	43 - 154	32	29

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	82		70 - 121
<i>4-Bromofluorobenzene (Surr)</i>	88		59 - 120
<i>Toluene-d8 (Surr)</i>	101		70 - 123
<i>Dibromofluoromethane (Surr)</i>	94		75 - 128

Lab Sample ID: MB 240-376671/6
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Method Blank
Prep Type: Total/NA

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 14:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 14:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 14:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 14:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 14:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 14:17	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	111		70 - 121		04/16/19 14:17	1
<i>4-Bromofluorobenzene (Surr)</i>	83		59 - 120		04/16/19 14:17	1
<i>Toluene-d8 (Surr)</i>	94		70 - 123		04/16/19 14:17	1
<i>Dibromofluoromethane (Surr)</i>	113		75 - 128		04/16/19 14:17	1

Lab Sample ID: LCS 240-376671/4
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
1,1-Dichloroethene	10.0	9.33		ug/L		93	65 - 139
cis-1,2-Dichloroethene	10.0	9.16		ug/L		92	76 - 128
Tetrachloroethene	10.0	9.77		ug/L		98	74 - 130
trans-1,2-Dichloroethene	10.0	9.64		ug/L		96	78 - 133
Trichloroethene	10.0	9.21		ug/L		92	76 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-376671/4
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	8.73		ug/L		87	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 121
4-Bromofluorobenzene (Surr)	106		59 - 120
Toluene-d8 (Surr)	101		70 - 123
Dibromofluoromethane (Surr)	98		75 - 128

Lab Sample ID: 240-110670-B-9 MS
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25	U	250	234		ug/L		94	53 - 140
cis-1,2-Dichloroethene	17	J	250	241		ug/L		90	64 - 130
Tetrachloroethene	370		250	628		ug/L		105	51 - 136
trans-1,2-Dichloroethene	25	U	250	245		ug/L		98	68 - 133
Trichloroethene	39		250	261		ug/L		89	55 - 131
Vinyl chloride	25	U	250	238		ug/L		95	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 121
4-Bromofluorobenzene (Surr)	107		59 - 120
Toluene-d8 (Surr)	102		70 - 123
Dibromofluoromethane (Surr)	98		75 - 128

Lab Sample ID: 240-110670-B-9 MSD
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	25	U	250	247		ug/L		99	53 - 140	5	35
cis-1,2-Dichloroethene	17	J	250	255		ug/L		95	64 - 130	6	21
Tetrachloroethene	370		250	627		ug/L		104	51 - 136	0	23
trans-1,2-Dichloroethene	25	U	250	257		ug/L		103	68 - 133	5	24
Trichloroethene	39		250	278		ug/L		96	55 - 131	7	23
Vinyl chloride	25	U	250	237		ug/L		95	43 - 154	0	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 121
4-Bromofluorobenzene (Surr)	105		59 - 120
Toluene-d8 (Surr)	103		70 - 123
Dibromofluoromethane (Surr)	99		75 - 128

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-376934/6
Matrix: Water
Analysis Batch: 376934

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/17/19 14:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/17/19 14:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/17/19 14:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/17/19 14:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/17/19 14:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/17/19 14:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/17/19 14:16	1
4-Bromofluorobenzene (Surr)	89		59 - 120		04/17/19 14:16	1
Toluene-d8 (Surr)	105		70 - 123		04/17/19 14:16	1
Dibromofluoromethane (Surr)	98		75 - 128		04/17/19 14:16	1

Lab Sample ID: LCS 240-376934/4
Matrix: Water
Analysis Batch: 376934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.8		ug/L		108	65 - 139
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	76 - 128
Tetrachloroethene	10.0	9.47		ug/L		95	74 - 130
trans-1,2-Dichloroethene	10.0	10.4		ug/L		104	78 - 133
Trichloroethene	10.0	9.15		ug/L		92	76 - 125
Vinyl chloride	10.0	9.76		ug/L		98	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	103		59 - 120
Toluene-d8 (Surr)	111		70 - 123
Dibromofluoromethane (Surr)	96		75 - 128

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375550/1-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375550

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Trichloroethene	40	U	40	11	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Vinyl chloride	32	U	32	12	ug/Kg		04/09/19 12:37	04/11/19 21:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/09/19 12:37	04/11/19 21:05	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-375550/1-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375550

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 12:37	04/11/19 21:05	1
Dibromofluoromethane (Surr)	82		49 - 138	04/09/19 12:37	04/11/19 21:05	1
Toluene-d8 (Surr)	102		49 - 147	04/09/19 12:37	04/11/19 21:05	1

Lab Sample ID: LCS 240-375550/2-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1000	1080		ug/Kg		108	57 - 139
1,4-Dioxane	20000	19700		ug/Kg		98	51 - 140
cis-1,2-Dichloroethene	1000	969		ug/Kg		97	74 - 123
Tetrachloroethene	1000	958		ug/Kg		96	76 - 120
trans-1,2-Dichloroethene	1000	1090		ug/Kg		109	71 - 133
Trichloroethene	1000	915		ug/Kg		91	73 - 126
Vinyl chloride	1000	1140		ug/Kg		114	52 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	83		53 - 155
4-Bromofluorobenzene (Surr)	92		48 - 151
Dibromofluoromethane (Surr)	81		49 - 138
Toluene-d8 (Surr)	96		49 - 147

Lab Sample ID: 240-110665-18 MS
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: HPT-216_27-28_040619
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	62	U	1380	1480		ug/Kg	☼	107	36 - 150
1,4-Dioxane	19000	U	27600	29800		ug/Kg	☼	108	62 - 158
cis-1,2-Dichloroethene	62	U	1380	1370		ug/Kg	☼	100	50 - 128
Tetrachloroethene	62	U	1380	1270		ug/Kg	☼	92	20 - 151
trans-1,2-Dichloroethene	62	U	1380	1540		ug/Kg	☼	111	44 - 141
Trichloroethene	62	U	1380	1270		ug/Kg	☼	92	25 - 148
Vinyl chloride	50	U	1380	1510		ug/Kg	☼	110	31 - 148

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		53 - 155
4-Bromofluorobenzene (Surr)	95		48 - 151
Dibromofluoromethane (Surr)	87		49 - 138
Toluene-d8 (Surr)	102		49 - 147

Lab Sample ID: 240-110665-18 MSD
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: HPT-216_27-28_040619
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	
										Limit	Limit
1,1-Dichloroethene	62	U	1340	1370		ug/Kg	☼	102	36 - 150	8	40

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110665-18 MSD
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: HPT-216_27-28_040619
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	19000	U	26700	28200		ug/Kg	☼	106	62 - 158	5	40
cis-1,2-Dichloroethene	62	U	1340	1290		ug/Kg	☼	97	50 - 128	6	40
Tetrachloroethene	62	U	1340	1170		ug/Kg	☼	87	20 - 151	9	40
trans-1,2-Dichloroethene	62	U	1340	1400		ug/Kg	☼	105	44 - 141	9	40
Trichloroethene	62	U	1340	1150		ug/Kg	☼	86	25 - 148	10	40
Vinyl chloride	50	U	1340	1420		ug/Kg	☼	106	31 - 148	7	37

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		53 - 155
4-Bromofluorobenzene (Surr)	89		48 - 151
Dibromofluoromethane (Surr)	82		49 - 138
Toluene-d8 (Surr)	95		49 - 147

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375762/5
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 12:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 12:22	1

Lab Sample ID: LCS 240-375762/4
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.9		ug/L		119	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		63 - 125

Lab Sample ID: 240-110458-C-3 MS
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	68		10.0	82.4	4	ug/L		142	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	122		63 - 125

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110458-C-3 MSD
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	68		10.0	79.6	4	ug/L		113	52 - 129	4	13
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	117		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110665-4 DU
Matrix: Solid
Analysis Batch: 375590

Client Sample ID: HPT-217_4-5_040619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	81.8		81.6		%		0.3	20
Percent Moisture	18.2		18.4		%		1	20

Lab Sample ID: 240-110665-18 DU
Matrix: Solid
Analysis Batch: 375590

Client Sample ID: HPT-216_27-28_040619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	80.7		80.8		%		0	20
Percent Moisture	19.3		19.2		%		0.1	20

Lab Sample ID: 240-110665-20 DU
Matrix: Solid
Analysis Batch: 375590

Client Sample ID: HPT-216_1-2_040619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	97.4		97.3		%		0	20
Percent Moisture	2.6		2.7		%		0.8	20

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

GC/MS VOA

Prep Batch: 375550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-1	HPT-217_1-2_040619	Total/NA	Solid	5030B	
240-110665-2	HPT-217_2-3_040619	Total/NA	Solid	5030B	
240-110665-3	HPT-217_3-4_040619	Total/NA	Solid	5030B	
240-110665-4	HPT-217_4-5_040619	Total/NA	Solid	5030B	
240-110665-5	HPT-215A_28-29_040619	Total/NA	Solid	5030B	
240-110665-6	HPT-215A_0-1_040619	Total/NA	Solid	5030B	
240-110665-7	HPT-215A_3-4_040619	Total/NA	Solid	5030B	
240-110665-8	HPT-215A_2-3_040619	Total/NA	Solid	5030B	
240-110665-9	HPT-215A_4-5_040619	Total/NA	Solid	5030B	
240-110665-10	HPT-215A_1-2_040619	Total/NA	Solid	5030B	
240-110665-18	HPT-216_27-28_040619	Total/NA	Solid	5030B	
240-110665-19	HPT-216_3-4_040619	Total/NA	Solid	5030B	
240-110665-20	HPT-216_1-2_040619	Total/NA	Solid	5030B	
240-110665-21	HPT-216_2-3_040619	Total/NA	Solid	5030B	
240-110665-22	HPT-216_4-5_040619	Total/NA	Solid	5030B	
MB 240-375550/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-375550/2-A	Lab Control Sample	Total/NA	Solid	5030B	
240-110665-18 MS	HPT-216_27-28_040619	Total/NA	Solid	5030B	
240-110665-18 MSD	HPT-216_27-28_040619	Total/NA	Solid	5030B	

Analysis Batch: 375762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-12	HPT-216_18-22_040619	Total/NA	Water	8260B SIM	
240-110665-13	HPT-216_5-9_040619	Total/NA	Water	8260B SIM	
240-110665-14	HPT-215A_4-8_040619	Total/NA	Water	8260B SIM	
240-110665-15	DUP-02	Total/NA	Water	8260B SIM	
240-110665-16	HPT-215A_9-13_040619	Total/NA	Water	8260B SIM	
240-110665-17	HPT-215A_14-18_040619	Total/NA	Water	8260B SIM	
MB 240-375762/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-375762/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110458-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110458-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-1	HPT-217_1-2_040619	Total/NA	Solid	8260B MI	375550
240-110665-2	HPT-217_2-3_040619	Total/NA	Solid	8260B MI	375550
240-110665-3	HPT-217_3-4_040619	Total/NA	Solid	8260B MI	375550
240-110665-4	HPT-217_4-5_040619	Total/NA	Solid	8260B MI	375550
240-110665-6	HPT-215A_0-1_040619	Total/NA	Solid	8260B MI	375550
240-110665-7	HPT-215A_3-4_040619	Total/NA	Solid	8260B MI	375550
240-110665-8	HPT-215A_2-3_040619	Total/NA	Solid	8260B MI	375550
240-110665-9	HPT-215A_4-5_040619	Total/NA	Solid	8260B MI	375550
240-110665-10	HPT-215A_1-2_040619	Total/NA	Solid	8260B MI	375550
240-110665-18	HPT-216_27-28_040619	Total/NA	Solid	8260B MI	375550
240-110665-19	HPT-216_3-4_040619	Total/NA	Solid	8260B MI	375550
240-110665-20	HPT-216_1-2_040619	Total/NA	Solid	8260B MI	375550
240-110665-21	HPT-216_2-3_040619	Total/NA	Solid	8260B MI	375550
240-110665-22	HPT-216_4-5_040619	Total/NA	Solid	8260B MI	375550
MB 240-375550/1-A	Method Blank	Total/NA	Solid	8260B MI	375550
LCS 240-375550/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	375550

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

GC/MS VOA (Continued)

Analysis Batch: 376132 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-18 MS	HPT-216_27-28_040619	Total/NA	Solid	8260B MI	375550
240-110665-18 MSD	HPT-216_27-28_040619	Total/NA	Solid	8260B MI	375550

Analysis Batch: 376569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-5	HPT-215A_28-29_040619	Total/NA	Solid	8260B MI	375550

Analysis Batch: 376652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-11	TRIP BLANK	Total/NA	Water	8260B	
240-110665-12	HPT-216_18-22_040619	Total/NA	Water	8260B	
240-110665-14	HPT-215A_4-8_040619	Total/NA	Water	8260B	
240-110665-15	DUP-02	Total/NA	Water	8260B	
240-110665-16	HPT-215A_9-13_040619	Total/NA	Water	8260B	
MB 240-376652/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376652/4	Lab Control Sample	Total/NA	Water	8260B	
240-110529-F-12 MS	Matrix Spike	Total/NA	Water	8260B	
240-110529-F-12 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 376671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-17	HPT-215A_14-18_040619	Total/NA	Water	8260B	
MB 240-376671/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376671/4	Lab Control Sample	Total/NA	Water	8260B	
240-110670-B-9 MS	Matrix Spike	Total/NA	Water	8260B	
240-110670-B-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 376934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-13	HPT-216_5-9_040619	Total/NA	Water	8260B	
MB 240-376934/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376934/4	Lab Control Sample	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 375590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-1	HPT-217_1-2_040619	Total/NA	Solid	Moisture	
240-110665-2	HPT-217_2-3_040619	Total/NA	Solid	Moisture	
240-110665-3	HPT-217_3-4_040619	Total/NA	Solid	Moisture	
240-110665-4	HPT-217_4-5_040619	Total/NA	Solid	Moisture	
240-110665-5	HPT-215A_28-29_040619	Total/NA	Solid	Moisture	
240-110665-6	HPT-215A_0-1_040619	Total/NA	Solid	Moisture	
240-110665-7	HPT-215A_3-4_040619	Total/NA	Solid	Moisture	
240-110665-8	HPT-215A_2-3_040619	Total/NA	Solid	Moisture	
240-110665-9	HPT-215A_4-5_040619	Total/NA	Solid	Moisture	
240-110665-10	HPT-215A_1-2_040619	Total/NA	Solid	Moisture	
240-110665-18	HPT-216_27-28_040619	Total/NA	Solid	Moisture	
240-110665-19	HPT-216_3-4_040619	Total/NA	Solid	Moisture	
240-110665-20	HPT-216_1-2_040619	Total/NA	Solid	Moisture	
240-110665-21	HPT-216_2-3_040619	Total/NA	Solid	Moisture	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

General Chemistry (Continued)

Analysis Batch: 375590 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-22	HPT-216_4-5_040619	Total/NA	Solid	Moisture	
240-110665-4 DU	HPT-217_4-5_040619	Total/NA	Solid	Moisture	
240-110665-18 DU	HPT-216_27-28_040619	Total/NA	Solid	Moisture	
240-110665-20 DU	HPT-216_1-2_040619	Total/NA	Solid	Moisture	

- 1
- 2
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- 12
- 13
- 14

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_1-2_040619

Lab Sample ID: 240-110665-1

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-217_1-2_040619

Lab Sample ID: 240-110665-1

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 82.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 23:37	TJL1	TAL CAN

Client Sample ID: HPT-217_2-3_040619

Lab Sample ID: 240-110665-2

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-217_2-3_040619

Lab Sample ID: 240-110665-2

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 23:59	TJL1	TAL CAN

Client Sample ID: HPT-217_3-4_040619

Lab Sample ID: 240-110665-3

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-217_3-4_040619

Lab Sample ID: 240-110665-3

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 00:21	TJL1	TAL CAN

Client Sample ID: HPT-217_4-5_040619

Lab Sample ID: 240-110665-4

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_4-5_040619

Lab Sample ID: 240-110665-4

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 00:43	TJL1	TAL CAN

Client Sample ID: HPT-215A_28-29_040619

Lab Sample ID: 240-110665-5

Date Collected: 04/06/19 13:35

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-215A_28-29_040619

Lab Sample ID: 240-110665-5

Date Collected: 04/06/19 13:35

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376569	04/15/19 18:52	TJL1	TAL CAN

Client Sample ID: HPT-215A_0-1_040619

Lab Sample ID: 240-110665-6

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-215A_0-1_040619

Lab Sample ID: 240-110665-6

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 01:26	TJL1	TAL CAN

Client Sample ID: HPT-215A_3-4_040619

Lab Sample ID: 240-110665-7

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_3-4_040619

Lab Sample ID: 240-110665-7

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 01:48	TJL1	TAL CAN

Client Sample ID: HPT-215A_2-3_040619

Lab Sample ID: 240-110665-8

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-215A_2-3_040619

Lab Sample ID: 240-110665-8

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 02:10	TJL1	TAL CAN

Client Sample ID: HPT-215A_4-5_040619

Lab Sample ID: 240-110665-9

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-215A_4-5_040619

Lab Sample ID: 240-110665-9

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 82.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 02:32	TJL1	TAL CAN

Client Sample ID: HPT-215A_1-2_040619

Lab Sample ID: 240-110665-10

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_1-2_040619

Lab Sample ID: 240-110665-10

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 91.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 02:54	TJL1	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110665-11

Date Collected: 04/06/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 16:45	LEE	TAL CAN

Client Sample ID: HPT-216_18-22_040619

Lab Sample ID: 240-110665-12

Date Collected: 04/06/19 17:20

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 17:08	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 19:13	SAM	TAL CAN

Client Sample ID: HPT-216_5-9_040619

Lab Sample ID: 240-110665-13

Date Collected: 04/06/19 17:50

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	376934	04/17/19 15:01	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 19:39	SAM	TAL CAN

Client Sample ID: HPT-215A_4-8_040619

Lab Sample ID: 240-110665-14

Date Collected: 04/06/19 14:25

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		6.67	376652	04/16/19 17:53	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 20:05	SAM	TAL CAN

Client Sample ID: DUP-02

Lab Sample ID: 240-110665-15

Date Collected: 04/06/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	376652	04/16/19 18:15	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 20:30	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_9-13_040619

Lab Sample ID: 240-110665-16

Date Collected: 04/06/19 14:10

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		16.67	376652	04/16/19 18:37	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 20:56	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 20:56	SAM	TAL CAN

Client Sample ID: HPT-215A_14-18_040619

Lab Sample ID: 240-110665-17

Date Collected: 04/06/19 13:50

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		14.28	376671	04/16/19 20:53	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 21:21	SAM	TAL CAN

Client Sample ID: HPT-216_27-28_040619

Lab Sample ID: 240-110665-18

Date Collected: 04/06/19 17:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_27-28_040619

Lab Sample ID: 240-110665-18

Date Collected: 04/06/19 17:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 04:42	TJL1	TAL CAN

Client Sample ID: HPT-216_3-4_040619

Lab Sample ID: 240-110665-19

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_3-4_040619

Lab Sample ID: 240-110665-19

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 92.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 03:15	TJL1	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_1-2_040619

Lab Sample ID: 240-110665-20

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_1-2_040619

Lab Sample ID: 240-110665-20

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 97.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 03:37	TJL1	TAL CAN

Client Sample ID: HPT-216_2-3_040619

Lab Sample ID: 240-110665-21

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_2-3_040619

Lab Sample ID: 240-110665-21

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 03:59	TJL1	TAL CAN

Client Sample ID: HPT-216_4-5_040619

Lab Sample ID: 240-110665-22

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_4-5_040619

Lab Sample ID: 240-110665-22

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 04:20	TJL1	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Client Information		Lab P/A: DelMonico, Michael		Carrier Tracking No(s):	
Company: ARCADIS U.S. Inc		E-Mail: michael.delmonico@testamericainc.com			
Address: 28550 Cabot Drive Suite 500		Phone: (989) 619-5009			
City: Novi		State, Zip: MI, 48377			
Phone: 248-722-2411		PO #: MI001318.0002.00002			
Email: Caitlin.O'Neill@arcadis.com		W/O #: E203631			
Project Name: Ford LTP Livonia MI - E203631		Project #: 24015353			
Site:		SSOW#:			

Analysis Requested		Due Date Requested: 4/11/19		TAT Requested (days): 14-20 Day	
Perform MS/MSD (Yes or No)		Field Filtered Sample (Yes or No)		Matrix (Water, Solid, Other)	
8260B, 8260B SIM		8260B, 8260B SIM		Preservation Code:	
8260B, MI-VOCS (Short List)		8260B, MI-VOCS (Short List)		A - HCL	
8260B - VOCs (Short List)		8260B - VOCs (Short List)		B - NaOH	
				C - Zn Acetate	
				D - Nitric Acid	
				E - NaHSO4	
				F - NaOH	
				G - Amchlor	
				H - Ascorbic Acid	
				I - Ice	
				J - DI Water	
				K - EDTA	
				L - EDA	
				M - Hexane	
				N - None	
				O - As/NaO2	
				P - Na2OAS	
				Q - Na2SO3	
				R - Na2S2O3	
				S - H2SO4	
				T - TSP Dodecahydrate	
				U - Acetone	
				V - MCAA	
				W - pH 4-5	
				Z - other (specify)	
				Other:	

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Solid, Other)	Preservation Code	Field Filtered Sample (Yes or No)	8260B, 8260B SIM	8260B, MI-VOCS (Short List)	8260B - VOCs (Short List)	Total Number of Containers	Special Instructions/Note:
HPT-216-18-22-040619	4/16/19	1720	G	Water		N	3	0	3	6	
HPT-216-5-9-040619	4/16/19	1750	G	Water		N	3	0	3	6	
HPT-215A-4-B-040619	4/16/19	1425	G	Water		N	3	0	3	6	
DUP-02	4/16/19		G	Water		N	3	0	3	6	
HPT-215A-9-13-040619	4/16/19	1410	G	Water		N	3	0	3	6	
HPT-215A-14-18-040619	4/16/19	1350	G	Water		N	3	0	3	6	
HPT-216-27-28-040619	4/16/19	1710	G	Solid		N	0	3	0	6	MS/MSD Dry weight included
HPT-216-3-4-040619	4/16/19	1500	G	Solid		N	0	1	0	6	Dry weight included
HPT-216-1-2-040619	4/16/19	1500	G	Solid		N	0	1	0	6	Dry weight included
HPT-216-2-3-040619	4/16/19	1500	G	Solid		N	0	1	0	6	Dry weight included
HPT-216-4-5-040619	4/16/19	1500	G	Solid		N	0	1	0	6	Dry weight included

Possible Hazard Identification		<input checked="" type="checkbox"/> Non-Hazard		<input type="checkbox"/> Flammable		<input type="checkbox"/> Skin Irritant		<input type="checkbox"/> Poison B		<input type="checkbox"/> Unknown		<input type="checkbox"/> Radiological	
Deliverable Requested: I, II, III, IV (Other (specify))													
Empty Kit Relinquished by:													
Relinquished by: [Signature]		Date: 4/16/19		Company: Arcadis		Received by: [Signature]		Date/Time: 4/16/19 20:10		Company: Arcadis			
Relinquished by: [Signature]		Date/Time: 04/08/19 11:00		Company: Arcadis		Reviewed by: [Signature]		Date/Time: 4/8/19 11:00		Company: TH			
Relinquished by: [Signature]		Date/Time: 4/17/19 13:00		Company: Arcadis		Relinquished by: [Signature]		Date/Time: 4/19 8:30		Company: Arcadis			
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:											
Special Instructions/OC Requirements: Submit all results through cadena at 5:15 PM to michael.delmonico@arcadis.com													
Sample Disposal (A fee may be assessed if samples are retained longer than 3 months)		<input type="checkbox"/> Return To Client		<input type="checkbox"/> Disposal By Lab		<input type="checkbox"/> Archive For		<input type="checkbox"/> Months					
Method of Shipment:													



Canton Facility

Client <u>Arcadis</u>	Site Name _____	Cooler unpacked by: <u>[Signature]</u>
Cooler Received on <u>4-9-19</u>	Opened on <u>4-9-19</u>	
FedEx: 1 st <input checked="" type="radio"/> <u>Grd</u> Exp	UPS FAS Clipper	Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # <u>1A</u>	Foam Box	Client-Cooler	Box	Other
Packing material used: <u>Bubble Wrap</u>	Foam	<u>Plastic Bag</u>	None	Other
COOLANT: <u>Wet Ice</u>	Blue Ice	Dry Ice	Water	None

- Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-8 (CF: -0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #36 (CF: +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
- Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
- Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC861525
- Were VOAs on the COC? Yes No
- Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # A139002VB Yes No
- Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: MS

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____



April 18, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110665-1
Sample date: 2019-04-06
Report received by CADENA: 2019-04-18
Initial Data Verification completed by CADENA: 2019-04-18

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC sample -012 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

SPV - SIM GCMS VOC samples -012 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

GCMS VOC QC batch MS/MSD recovery outliers, RPD outliers or time clock issues were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

SIM GCMS VOC QC batch INTERNAL STANDARD response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

7 Water sample(s) were analyzed for GCMS VOC parameter(s).

15 Soil sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110665-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401106651	HPT-217_1-2_040619	4/6/2019	5:45:00	X		
24011066510	HPT-215A_1-2_040619	4/6/2019	9:10:00	X		
24011066511	TRIP BLANK	4/6/2019	12:00:00	X		
24011066512	HPT-216_18-22_040619	4/6/2019	5:20:00	X	X	
24011066513	HPT-216_5-9_040619	4/6/2019	5:50:00	X	X	
24011066514	HPT-215A_4-8_040619	4/6/2019	2:25:00	X	X	
24011066515	DUP-02	4/6/2019	12:00:00	X	X	
24011066516	HPT-215A_9-13_040619	4/6/2019	2:10:00	X	X	
24011066517	HPT-215A_14-18_040619	4/6/2019	1:50:00	X	X	
24011066518	HPT-216_27-28_040619	4/6/2019	5:10:00	X		
24011066519	HPT-216_3-4_040619	4/6/2019	3:00:00	X		
2401106652	HPT-217_2-3_040619	4/6/2019	5:45:00	X		
24011066520	HPT-216_1-2_040619	4/6/2019	3:00:00	X		
24011066521	HPT-216_2-3_040619	4/6/2019	3:00:00	X		
24011066522	HPT-216_4-5_040619	4/6/2019	3:00:00	X		
2401106653	HPT-217_3-4_040619	4/6/2019	5:45:00	X		
2401106654	HPT-217_4-5_040619	4/6/2019	5:45:00	X		
2401106655	HPT-215A_28-29_040619	4/6/2019	1:35:00	X		
2401106656	HPT-215A_0-1_040619	4/6/2019	9:10:00	X		
2401106657	HPT-215A_3-4_040619	4/6/2019	9:10:00	X		
2401106658	HPT-215A_2-3_040619	4/6/2019	9:10:00	X		
2401106659	HPT-215A_4-5_040619	4/6/2019	9:10:00	X		

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110665-1

Sample Name: HPT-216_18-22_040619

Lab Sample ID: 24011066512

Sample Date: 4/6/2019

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units	Qualifier	
GC/MS VOC						
<u>OSW-8260B</u>						
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ	
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ	
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	
Vinyl chloride	75-01-4	ND	1.0	ug/l	UJ	
<u>OSW-8260BBSim</u>						
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 110665-1

Analyte	Cas No.	HPT-217_1-2_040619				HPT-215A_1-2_040619				TRP BLANK				HPT-216_18-22_040619				HPT-216_5-9_040619				HPT-215A_4-8_040619				DUP-02				HPT-215A_9-13_040619				HPT-215A_14-18_040619				HPT-216_17-28_040619							
		Report		Valid		Report		Valid		Report		Valid		Report		Valid		Report		Valid		Report		Valid		Report		Valid		Report		Valid		Report		Valid									
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier								
GC/MS VOC																																													
<u>OSW-82608</u>																																													
1,2-Dichloroethene	75-35-4	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UJ	ND	20	ug/l	---	ND	6.7	ug/l	---	ND	20	ug/l	---	ND	17	ug/l	---	ND	14	ug/l	---	ND	62	ug/kg	---				
1,4-Dioxane	123-91-1	ND	19000	ug/kg	---	ND	16000	ug/kg	---																																				
cis-1,2-Dichloroethene	156-59-2	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UJ	37	20	ug/l	---	46	6.7	ug/l	---	210	20	ug/l	---	180	17	ug/l	---	320	14	ug/l	---	ND	62	ug/kg	---				
Tetrachloroethene	127-18-4	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UJ	ND	20	ug/l	---	ND	6.7	ug/l	---	ND	20	ug/l	---	ND	17	ug/l	---	ND	14	ug/l	---	ND	62	ug/kg	---				
trans-1,2-Dichloroethene	156-60-5	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UJ	26	20	ug/l	---	3.9	6.7	ug/l	J	17	20	ug/l	J	14	17	ug/l	J	3.0	14	ug/l	J	ND	62	ug/kg	---				
Trichloroethene	79-01-6	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UJ	450	20	ug/l	---	140	6.7	ug/l	---	440	20	ug/l	---	410	17	ug/l	---	1.4	14	ug/l	J	ND	62	ug/kg	---				
Vinyl Chloride	75-01-4	ND	49	ug/kg	---	ND	42	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UJ	ND	20	ug/l	---	18	6.7	ug/l	---	46	20	ug/l	---	48	17	ug/l	---	330	14	ug/l	---	ND	50	ug/kg	---				
<u>OSW-82608Sim</u>																																													
1,4-Dioxane	123-91-1													ND	2.0	ug/l	UJ	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---				

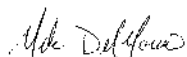
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110996-1
Client Project/Site: Ford LTP Livonia MI - E203728

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/29/2019 4:35:27 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Job ID: 240-110996-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-110996-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/16/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.4° C, 1.6° C and 2.0° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples LIFHP-132_17-21_041419 (240-110996-1), LIFHP-132_12-16_041419 (240-110996-2), LIFHP-132_7-11_041419 (240-110996-3), LIFHP-131_16-20_041419 (240-110996-5), LIFHP-131_11-15_041419 (240-110996-6), LIFHP-131_6-10_041419 (240-110996-7), LIFHP-130_16-20_041419 (240-110996-8), LIFHP-130_11-15_041419 (240-110996-9), LIFHP-130_6-10_041419 (240-110996-10), LIFHP-129_15-19_041419 (240-110996-11), LIFHP-129_10-14_041419 (240-110996-34), LIFHP-129_5-9_041419 (240-110996-35), DUP-06 (240-110996-37), TRIP BLANK (240-110996-38) and TRIP BLANK (240-110996-39) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/21/2019, 04/22/2019 and 04/23/2019.

Samples LIFHP-131_11-15_041419 (240-110996-6)[2.5X], LIFHP-131_6-10_041419 (240-110996-7)[2.5X], LIFHP-129_15-19_041419 (240-110996-11)[5X], LIFHP-129_10-14_041419 (240-110996-34)[25X], LIFHP-129_5-9_041419 (240-110996-35)[13.33X] and DUP-06 (240-110996-37)[2.5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The pH of the samples LIFHP-131_16-20_041419 (240-110996-5) and LIFHP-130_16-20_041419 (240-110996-8) was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if samples

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Job ID: 240-110996-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

are not preserved to a pH of 2.

There was an MS/MSD analyzed in batch 240-377606 but could not be reported because the associated sample needed reanalyzed in a different batch: LIFHP-132_17-21_041419 (240-110996-1), LIFHP-132_7-11_041419 (240-110996-3), LIFHP-131_16-20_041419 (240-110996-5), LIFHP-131_11-15_041419 (240-110996-6), LIFHP-131_6-10_041419 (240-110996-7), LIFHP-130_16-20_041419 (240-110996-8), LIFHP-130_11-15_041419 (240-110996-9), LIFHP-130_6-10_041419 (240-110996-10), LIFHP-129_15-19_041419 (240-110996-11), LIFHP-129_10-14_041419 (240-110996-34), LIFHP-129_5-9_041419 (240-110996-35), DUP-06 (240-110996-37) and TRIP BLANK (240-110996-38).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples LIFHP-131_29-30_041419 (240-110996-12), LIFHP-130_1-2_041419 (240-110996-13), LIFHP-130_2-3_041419 (240-110996-14), LIFHP-130_3-4_041419 (240-110996-15), LIFHP-130_4-5_041419 (240-110996-16), LIFHP-130_5-6_041419 (240-110996-17), LIFHP-130_29-30_041419 (240-110996-18), LIFHP-129_1-2_041419 (240-110996-19), LIFHP-129_2-3_041419 (240-110996-20), LIFHP-129_3-4_041419 (240-110996-21), LIFHP-129_4-5_041419 (240-110996-22), LIFHP-132_1-2_041419 (240-110996-23), LIFHP-132_3-4_041419 (240-110996-24), LIFHP-132_4-5_041419 (240-110996-25), LIFHP-132_5-6_041419 (240-110996-26), LIFHP-132_6-7_041419 (240-110996-27), LIFHP-132_29-30_041419 (240-110996-28), LIFHP-131_1-2_041419 (240-110996-29), LIFHP-131_2-3_041419 (240-110996-30), LIFHP-131_3-4_041419 (240-110996-31), LIFHP-131_4-5_041419 (240-110996-32), LIFHP-131_5-6_041419 (240-110996-33) and LIFHP-129_29-30_041419 (240-110996-36) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were prepared on 04/17/2019 and analyzed on 04/17/2019, 04/18/2019 and 04/19/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-132_17-21_041419 (240-110996-1), LIFHP-132_12-16_041419 (240-110996-2), LIFHP-132_7-11_041419 (240-110996-3), LIFHP-131_16-20_041419 (240-110996-5), LIFHP-131_11-15_041419 (240-110996-6), LIFHP-131_6-10_041419 (240-110996-7), LIFHP-130_16-20_041419 (240-110996-8), LIFHP-130_11-15_041419 (240-110996-9), LIFHP-130_6-10_041419 (240-110996-10), LIFHP-129_15-19_041419 (240-110996-11), LIFHP-129_10-14_041419 (240-110996-34), LIFHP-129_5-9_041419 (240-110996-35) and DUP-06 (240-110996-37) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/17/2019 and 04/22/2019.

The pH is greater than 2 for the following samples: LIFHP-132_12-16_041419 (240-110996-2[MSD]), LIFHP-131_16-20_041419 (240-110996-5) and LIFHP-130_16-20_041419 (240-110996-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples LIFHP-131_29-30_041419 (240-110996-12), LIFHP-130_1-2_041419 (240-110996-13), LIFHP-130_2-3_041419 (240-110996-14), LIFHP-130_3-4_041419 (240-110996-15), LIFHP-130_4-5_041419 (240-110996-16), LIFHP-130_5-6_041419 (240-110996-17), LIFHP-130_29-30_041419 (240-110996-18), LIFHP-129_1-2_041419 (240-110996-19), LIFHP-129_2-3_041419 (240-110996-20), LIFHP-129_3-4_041419 (240-110996-21), LIFHP-129_4-5_041419 (240-110996-22), LIFHP-132_1-2_041419 (240-110996-23), LIFHP-132_3-4_041419 (240-110996-24), LIFHP-132_4-5_041419 (240-110996-25), LIFHP-132_5-6_041419 (240-110996-26), LIFHP-132_6-7_041419 (240-110996-27), LIFHP-132_29-30_041419 (240-110996-28), LIFHP-131_1-2_041419 (240-110996-29), LIFHP-131_2-3_041419 (240-110996-30), LIFHP-131_3-4_041419 (240-110996-31), LIFHP-131_4-5_041419 (240-110996-32), LIFHP-131_5-6_041419 (240-110996-33) and LIFHP-129_29-30_041419 (240-110996-36) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/17/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN
5035	Closed System Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110996-1	LIFHP-132_17-21_041419	Water	04/14/19 10:40	04/16/19 10:00
240-110996-2	LIFHP-132_12-16_041419	Water	04/14/19 11:00	04/16/19 10:00
240-110996-3	LIFHP-132_7-11_041419	Water	04/14/19 11:15	04/16/19 10:00
240-110996-5	LIFHP-131_16-20_041419	Water	04/14/19 13:55	04/16/19 10:00
240-110996-6	LIFHP-131_11-15_041419	Water	04/14/19 14:10	04/16/19 10:00
240-110996-7	LIFHP-131_6-10_041419	Water	04/14/19 14:25	04/16/19 10:00
240-110996-8	LIFHP-130_16-20_041419	Water	04/14/19 16:45	04/16/19 10:00
240-110996-9	LIFHP-130_11-15_041419	Water	04/14/19 17:00	04/16/19 10:00
240-110996-10	LIFHP-130_6-10_041419	Water	04/14/19 17:10	04/16/19 10:00
240-110996-11	LIFHP-129_15-19_041419	Water	04/14/19 19:35	04/16/19 10:00
240-110996-12	LIFHP-131_29-30_041419	Solid	04/14/19 13:40	04/16/19 10:00
240-110996-13	LIFHP-130_1-2_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-14	LIFHP-130_2-3_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-15	LIFHP-130_3-4_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-16	LIFHP-130_4-5_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-17	LIFHP-130_5-6_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-18	LIFHP-130_29-30_041419	Solid	04/14/19 16:25	04/16/19 10:00
240-110996-19	LIFHP-129_1-2_041419	Solid	04/14/19 18:00	04/16/19 10:00
240-110996-20	LIFHP-129_2-3_041419	Solid	04/14/19 18:00	04/16/19 10:00
240-110996-21	LIFHP-129_3-4_041419	Solid	04/14/19 18:00	04/16/19 10:00
240-110996-22	LIFHP-129_4-5_041419	Solid	04/14/19 18:00	04/16/19 10:00
240-110996-23	LIFHP-132_1-2_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-24	LIFHP-132_3-4_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-25	LIFHP-132_4-5_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-26	LIFHP-132_5-6_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-27	LIFHP-132_6-7_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-28	LIFHP-132_29-30_041419	Solid	04/14/19 11:10	04/16/19 10:00
240-110996-29	LIFHP-131_1-2_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-30	LIFHP-131_2-3_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-31	LIFHP-131_3-4_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-32	LIFHP-131_4-5_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-33	LIFHP-131_5-6_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-34	LIFHP-129_10-14_041419	Water	04/14/19 19:55	04/16/19 10:00
240-110996-35	LIFHP-129_5-9_041419	Water	04/14/19 20:05	04/16/19 10:00
240-110996-36	LIFHP-129_29-30_041419	Solid	04/14/19 19:05	04/16/19 10:00
240-110996-37	DUP-06	Water	04/14/19 00:00	04/16/19 10:00
240-110996-38	TRIP BLANK	Water	04/14/19 00:00	04/16/19 10:00
240-110996-39	TRIP BLANK	Water	04/14/19 00:00	04/16/19 10:00

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_17-21_041419

Lab Sample ID: 240-110996-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.87	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: LIFHP-132_12-16_041419

Lab Sample ID: 240-110996-2

No Detections.

Client Sample ID: LIFHP-132_7-11_041419

Lab Sample ID: 240-110996-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.5		1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-131_16-20_041419

Lab Sample ID: 240-110996-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.83	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-131_11-15_041419

Lab Sample ID: 240-110996-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	34		2.5	0.40	ug/L	2.5		8260B	Total/NA
Vinyl chloride	79		2.5	0.50	ug/L	2.5		8260B	Total/NA

Client Sample ID: LIFHP-131_6-10_041419

Lab Sample ID: 240-110996-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.97	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	37		2.5	0.40	ug/L	2.5		8260B	Total/NA
Vinyl chloride	63		2.5	0.50	ug/L	2.5		8260B	Total/NA

Client Sample ID: LIFHP-130_16-20_041419

Lab Sample ID: 240-110996-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.5		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-130_11-15_041419

Lab Sample ID: 240-110996-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.4		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-130_6-10_041419

Lab Sample ID: 240-110996-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.93	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.55	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-129_15-19_041419

Lab Sample ID: 240-110996-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	110		5.0	1.0	ug/L	5		8260B	Total/NA

Client Sample ID: LIFHP-131_29-30_041419

Lab Sample ID: 240-110996-12

No Detections.

Client Sample ID: LIFHP-130_1-2_041419

Lab Sample ID: 240-110996-13

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_2-3_041419 **Lab Sample ID: 240-110996-14**

No Detections.

Client Sample ID: LIFHP-130_3-4_041419 **Lab Sample ID: 240-110996-15**

No Detections.

Client Sample ID: LIFHP-130_4-5_041419 **Lab Sample ID: 240-110996-16**

No Detections.

Client Sample ID: LIFHP-130_5-6_041419 **Lab Sample ID: 240-110996-17**

No Detections.

Client Sample ID: LIFHP-130_29-30_041419 **Lab Sample ID: 240-110996-18**

No Detections.

Client Sample ID: LIFHP-129_1-2_041419 **Lab Sample ID: 240-110996-19**

No Detections.

Client Sample ID: LIFHP-129_2-3_041419 **Lab Sample ID: 240-110996-20**

No Detections.

Client Sample ID: LIFHP-129_3-4_041419 **Lab Sample ID: 240-110996-21**

No Detections.

Client Sample ID: LIFHP-129_4-5_041419 **Lab Sample ID: 240-110996-22**

No Detections.

Client Sample ID: LIFHP-132_1-2_041419 **Lab Sample ID: 240-110996-23**

No Detections.

Client Sample ID: LIFHP-132_3-4_041419 **Lab Sample ID: 240-110996-24**

No Detections.

Client Sample ID: LIFHP-132_4-5_041419 **Lab Sample ID: 240-110996-25**

No Detections.

Client Sample ID: LIFHP-132_5-6_041419 **Lab Sample ID: 240-110996-26**

No Detections.

Client Sample ID: LIFHP-132_6-7_041419 **Lab Sample ID: 240-110996-27**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	20	J	52	12	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-132_29-30_041419 **Lab Sample ID: 240-110996-28**

No Detections.

Client Sample ID: LIFHP-131_1-2_041419 **Lab Sample ID: 240-110996-29**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_2-3_041419

Lab Sample ID: 240-110996-30

No Detections.

Client Sample ID: LIFHP-131_3-4_041419

Lab Sample ID: 240-110996-31

No Detections.

Client Sample ID: LIFHP-131_4-5_041419

Lab Sample ID: 240-110996-32

No Detections.

Client Sample ID: LIFHP-131_5-6_041419

Lab Sample ID: 240-110996-33

No Detections.

Client Sample ID: LIFHP-129_10-14_041419

Lab Sample ID: 240-110996-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	120		25	4.0	ug/L	25		8260B	Total/NA
Vinyl chloride	610		25	5.0	ug/L	25		8260B	Total/NA

Client Sample ID: LIFHP-129_5-9_041419

Lab Sample ID: 240-110996-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	94		13	2.1	ug/L	13.33		8260B	Total/NA
Vinyl chloride	320		13	2.7	ug/L	13.33		8260B	Total/NA

Client Sample ID: LIFHP-129_29-30_041419

Lab Sample ID: 240-110996-36

No Detections.

Client Sample ID: DUP-06

Lab Sample ID: 240-110996-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	38		2.5	0.40	ug/L	2.5		8260B	Total/NA
Vinyl chloride	80		2.5	0.50	ug/L	2.5		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-38

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-39

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_17-21_041419

Lab Sample ID: 240-110996-1

Date Collected: 04/14/19 10:40

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.87	J	2.0	0.86	ug/L			04/17/19 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		04/17/19 17:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 16:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 16:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 16:30	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 121		04/22/19 16:30	1
4-Bromofluorobenzene (Surr)	95		59 - 120		04/22/19 16:30	1
Toluene-d8 (Surr)	92		70 - 123		04/22/19 16:30	1
Dibromofluoromethane (Surr)	96		75 - 128		04/22/19 16:30	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_12-16_041419

Lab Sample ID: 240-110996-2

Date Collected: 04/14/19 11:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 125		04/17/19 18:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/21/19 00:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/21/19 00:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/21/19 00:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/21/19 00:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/21/19 00:30	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/21/19 00:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 121		04/21/19 00:30	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/21/19 00:30	1
Toluene-d8 (Surr)	90		70 - 123		04/21/19 00:30	1
Dibromofluoromethane (Surr)	127		75 - 128		04/21/19 00:30	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_7-11_041419

Lab Sample ID: 240-110996-3

Date Collected: 04/14/19 11:15

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/17/19 19:25	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 16:55	1
cis-1,2-Dichloroethene	1.5		1.0	0.16	ug/L			04/22/19 16:55	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 16:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:55	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 16:55	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 121		04/22/19 16:55	1
4-Bromofluorobenzene (Surr)	102		59 - 120		04/22/19 16:55	1
Toluene-d8 (Surr)	97		70 - 123		04/22/19 16:55	1
Dibromofluoromethane (Surr)	96		75 - 128		04/22/19 16:55	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_16-20_041419

Lab Sample ID: 240-110996-5

Date Collected: 04/14/19 13:55

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 19:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/17/19 19:50	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 17:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 17:20	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 17:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 17:20	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 17:20	1
Vinyl chloride	0.83	J	1.0	0.20	ug/L			04/22/19 17:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/22/19 17:20	1
4-Bromofluorobenzene (Surr)	101		59 - 120		04/22/19 17:20	1
Toluene-d8 (Surr)	96		70 - 123		04/22/19 17:20	1
Dibromofluoromethane (Surr)	93		75 - 128		04/22/19 17:20	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_11-15_041419

Lab Sample ID: 240-110996-6

Date Collected: 04/14/19 14:10

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 20:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 20:16	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.5	U	2.5	0.48	ug/L	-		04/22/19 17:45	2.5
cis-1,2-Dichloroethene	34		2.5	0.40	ug/L			04/22/19 17:45	2.5
Tetrachloroethene	2.5	U	2.5	0.38	ug/L			04/22/19 17:45	2.5
trans-1,2-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 17:45	2.5
Trichloroethene	2.5	U	2.5	0.25	ug/L			04/22/19 17:45	2.5
Vinyl chloride	79		2.5	0.50	ug/L			04/22/19 17:45	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 121		04/22/19 17:45	2.5
4-Bromofluorobenzene (Surr)	104		59 - 120		04/22/19 17:45	2.5
Toluene-d8 (Surr)	97		70 - 123		04/22/19 17:45	2.5
Dibromofluoromethane (Surr)	89		75 - 128		04/22/19 17:45	2.5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_6-10_041419

Lab Sample ID: 240-110996-7

Date Collected: 04/14/19 14:25

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.97	J	2.0	0.86	ug/L			04/17/19 20:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 20:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 18:10	2.5
cis-1,2-Dichloroethene	37		2.5	0.40	ug/L			04/22/19 18:10	2.5
Tetrachloroethene	2.5	U	2.5	0.38	ug/L			04/22/19 18:10	2.5
trans-1,2-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 18:10	2.5
Trichloroethene	2.5	U	2.5	0.25	ug/L			04/22/19 18:10	2.5
Vinyl chloride	63		2.5	0.50	ug/L			04/22/19 18:10	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 121		04/22/19 18:10	2.5
4-Bromofluorobenzene (Surr)	98		59 - 120		04/22/19 18:10	2.5
Toluene-d8 (Surr)	94		70 - 123		04/22/19 18:10	2.5
Dibromofluoromethane (Surr)	95		75 - 128		04/22/19 18:10	2.5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_16-20_041419

Lab Sample ID: 240-110996-8

Date Collected: 04/14/19 16:45

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 21:07	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 18:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		04/22/19 18:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		04/22/19 18:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 18:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		04/22/19 18:34	1
Vinyl chloride	1.5		1.0	0.20	ug/L	-		04/22/19 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/22/19 18:34	1
4-Bromofluorobenzene (Surr)	97		59 - 120		04/22/19 18:34	1
Toluene-d8 (Surr)	94		70 - 123		04/22/19 18:34	1
Dibromofluoromethane (Surr)	88		75 - 128		04/22/19 18:34	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_11-15_041419

Lab Sample ID: 240-110996-9

Date Collected: 04/14/19 17:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 21:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/17/19 21:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 19:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		04/22/19 19:00	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		04/22/19 19:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 19:00	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		04/22/19 19:00	1
Vinyl chloride	1.4		1.0	0.20	ug/L	-		04/22/19 19:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/22/19 19:00	1
4-Bromofluorobenzene (Surr)	102		59 - 120		04/22/19 19:00	1
Toluene-d8 (Surr)	94		70 - 123		04/22/19 19:00	1
Dibromofluoromethane (Surr)	96		75 - 128		04/22/19 19:00	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_6-10_041419

Lab Sample ID: 240-110996-10

Date Collected: 04/14/19 17:10

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.93	J	2.0	0.86	ug/L			04/17/19 21:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 125		04/17/19 21:58	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 19:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 19:25	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 19:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 19:25	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 19:25	1
Vinyl chloride	0.55	J	1.0	0.20	ug/L			04/22/19 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/22/19 19:25	1
4-Bromofluorobenzene (Surr)	99		59 - 120		04/22/19 19:25	1
Toluene-d8 (Surr)	95		70 - 123		04/22/19 19:25	1
Dibromofluoromethane (Surr)	97		75 - 128		04/22/19 19:25	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_15-19_041419

Lab Sample ID: 240-110996-11

Date Collected: 04/14/19 19:35

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 22:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 22:24	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L			04/22/19 19:49	5
cis-1,2-Dichloroethene	5.0	U	5.0	0.80	ug/L			04/22/19 19:49	5
Tetrachloroethene	5.0	U	5.0	0.75	ug/L			04/22/19 19:49	5
trans-1,2-Dichloroethene	5.0	U	5.0	0.95	ug/L			04/22/19 19:49	5
Trichloroethene	5.0	U	5.0	0.50	ug/L			04/22/19 19:49	5
Vinyl chloride	110		5.0	1.0	ug/L			04/22/19 19:49	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 121		04/22/19 19:49	5
4-Bromofluorobenzene (Surr)	101		59 - 120		04/22/19 19:49	5
Toluene-d8 (Surr)	97		70 - 123		04/22/19 19:49	5
Dibromofluoromethane (Surr)	96		75 - 128		04/22/19 19:49	5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_29-30_041419

Lab Sample ID: 240-110996-12

Date Collected: 04/14/19 13:40

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 82.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	60	U	60	24	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
cis-1,2-Dichloroethene	60	U	60	14	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
Tetrachloroethene	60	U	60	27	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
trans-1,2-Dichloroethene	60	U	60	15	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
Trichloroethene	60	U	60	17	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
Vinyl chloride	48	U	48	18	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		53 - 155	04/17/19 10:51	04/17/19 22:34	1
4-Bromofluorobenzene (Surr)	91		48 - 151	04/17/19 10:51	04/17/19 22:34	1
Toluene-d8 (Surr)	95		49 - 147	04/17/19 10:51	04/17/19 22:34	1
Dibromofluoromethane (Surr)	80		49 - 138	04/17/19 10:51	04/17/19 22:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.7		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	17.3		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_1-2_041419

Lab Sample ID: 240-110996-13

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 92.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	20	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
cis-1,2-Dichloroethene	49	U	49	11	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
trans-1,2-Dichloroethene	49	U	49	12	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
Trichloroethene	49	U	49	13	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		53 - 155	04/17/19 10:51	04/17/19 23:39	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/17/19 10:51	04/17/19 23:39	1
Toluene-d8 (Surr)	101		49 - 147	04/17/19 10:51	04/17/19 23:39	1
Dibromofluoromethane (Surr)	83		49 - 138	04/17/19 10:51	04/17/19 23:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.6		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	7.4		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_2-3_041419

Lab Sample ID: 240-110996-14

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 90.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
Trichloroethene	53	U	53	14	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		53 - 155	04/17/19 10:51	04/18/19 00:01	1
4-Bromofluorobenzene (Surr)	108		48 - 151	04/17/19 10:51	04/18/19 00:01	1
Toluene-d8 (Surr)	108		49 - 147	04/17/19 10:51	04/18/19 00:01	1
Dibromofluoromethane (Surr)	87		49 - 138	04/17/19 10:51	04/18/19 00:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.3		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	9.7		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_3-4_041419

Lab Sample ID: 240-110996-15

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 93.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	44	U	44	18	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
cis-1,2-Dichloroethene	44	U	44	10	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
Tetrachloroethene	44	U	44	20	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
trans-1,2-Dichloroethene	44	U	44	11	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
Trichloroethene	44	U	44	12	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
Vinyl chloride	36	U	36	13	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		53 - 155	04/17/19 10:51	04/18/19 00:22	1
4-Bromofluorobenzene (Surr)	103		48 - 151	04/17/19 10:51	04/18/19 00:22	1
Toluene-d8 (Surr)	110		49 - 147	04/17/19 10:51	04/18/19 00:22	1
Dibromofluoromethane (Surr)	88		49 - 138	04/17/19 10:51	04/18/19 00:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	6.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_4-5_041419

Lab Sample ID: 240-110996-16

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	51	U	51	20	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
cis-1,2-Dichloroethene	51	U	51	11	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
Tetrachloroethene	51	U	51	23	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
trans-1,2-Dichloroethene	51	U	51	13	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
Trichloroethene	51	U	51	14	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/17/19 10:51	04/18/19 00:44	1
4-Bromofluorobenzene (Surr)	99		48 - 151	04/17/19 10:51	04/18/19 00:44	1
Toluene-d8 (Surr)	105		49 - 147	04/17/19 10:51	04/18/19 00:44	1
Dibromofluoromethane (Surr)	85		49 - 138	04/17/19 10:51	04/18/19 00:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.5		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	8.5		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_5-6_041419

Lab Sample ID: 240-110996-17

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 86.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		53 - 155	04/17/19 10:51	04/18/19 01:06	1
4-Bromofluorobenzene (Surr)	103		48 - 151	04/17/19 10:51	04/18/19 01:06	1
Toluene-d8 (Surr)	106		49 - 147	04/17/19 10:51	04/18/19 01:06	1
Dibromofluoromethane (Surr)	87		49 - 138	04/17/19 10:51	04/18/19 01:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	13.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_29-30_041419

Lab Sample ID: 240-110996-18

Date Collected: 04/14/19 16:25

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		53 - 155	04/17/19 12:48	04/19/19 20:38	1
4-Bromofluorobenzene (Surr)	87		48 - 151	04/17/19 12:48	04/19/19 20:38	1
Toluene-d8 (Surr)	86		49 - 147	04/17/19 12:48	04/19/19 20:38	1
Dibromofluoromethane (Surr)	77		49 - 138	04/17/19 12:48	04/19/19 20:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.9		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	15.1		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_1-2_041419

Lab Sample ID: 240-110996-19

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 88.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/17/19 10:51	04/18/19 01:27	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/17/19 10:51	04/18/19 01:27	1
Toluene-d8 (Surr)	99		49 - 147	04/17/19 10:51	04/18/19 01:27	1
Dibromofluoromethane (Surr)	80		49 - 138	04/17/19 10:51	04/18/19 01:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.8		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	11.2		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_2-3_041419

Lab Sample ID: 240-110996-20

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 95.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	43	U	43	17	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
cis-1,2-Dichloroethene	43	U	43	9.8	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
Tetrachloroethene	43	U	43	20	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
trans-1,2-Dichloroethene	43	U	43	11	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
Trichloroethene	43	U	43	12	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
Vinyl chloride	35	U	35	13	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		53 - 155	04/17/19 10:51	04/18/19 01:49	1
4-Bromofluorobenzene (Surr)	91		48 - 151	04/17/19 10:51	04/18/19 01:49	1
Toluene-d8 (Surr)	92		49 - 147	04/17/19 10:51	04/18/19 01:49	1
Dibromofluoromethane (Surr)	77		49 - 138	04/17/19 10:51	04/18/19 01:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95.7		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	4.3		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_3-4_041419

Lab Sample ID: 240-110996-21

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 88.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	64	U	64	25	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
cis-1,2-Dichloroethene	64	U	64	14	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
Tetrachloroethene	64	U	64	29	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
trans-1,2-Dichloroethene	64	U	64	16	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
Trichloroethene	64	U	64	17	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
Vinyl chloride	51	U	51	19	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		53 - 155	04/17/19 10:51	04/18/19 02:11	1
4-Bromofluorobenzene (Surr)	125		48 - 151	04/17/19 10:51	04/18/19 02:11	1
Toluene-d8 (Surr)	127		49 - 147	04/17/19 10:51	04/18/19 02:11	1
Dibromofluoromethane (Surr)	107		49 - 138	04/17/19 10:51	04/18/19 02:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	11.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_4-5_041419

Lab Sample ID: 240-110996-22

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 83.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	61	U	61	25	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
cis-1,2-Dichloroethene	61	U	61	14	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
Tetrachloroethene	61	U	61	28	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
trans-1,2-Dichloroethene	61	U	61	15	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
Trichloroethene	61	U	61	17	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
Vinyl chloride	49	U	49	18	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		53 - 155	04/17/19 10:51	04/18/19 02:33	1
4-Bromofluorobenzene (Surr)	103		48 - 151	04/17/19 10:51	04/18/19 02:33	1
Toluene-d8 (Surr)	109		49 - 147	04/17/19 10:51	04/18/19 02:33	1
Dibromofluoromethane (Surr)	91		49 - 138	04/17/19 10:51	04/18/19 02:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.5		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	16.5		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_1-2_041419

Lab Sample ID: 240-110996-23

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 89.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
Trichloroethene	53	U	53	15	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		53 - 155	04/17/19 10:51	04/18/19 02:55	1
4-Bromofluorobenzene (Surr)	90		48 - 151	04/17/19 10:51	04/18/19 02:55	1
Toluene-d8 (Surr)	96		49 - 147	04/17/19 10:51	04/18/19 02:55	1
Dibromofluoromethane (Surr)	70		49 - 138	04/17/19 10:51	04/18/19 02:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.1		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	10.9		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_3-4_041419

Lab Sample ID: 240-110996-24

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
cis-1,2-Dichloroethene	48	U	48	11	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
Tetrachloroethene	48	U	48	22	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
Trichloroethene	48	U	48	13	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		53 - 155	04/17/19 10:51	04/18/19 03:17	1
4-Bromofluorobenzene (Surr)	106		48 - 151	04/17/19 10:51	04/18/19 03:17	1
Toluene-d8 (Surr)	114		49 - 147	04/17/19 10:51	04/18/19 03:17	1
Dibromofluoromethane (Surr)	92		49 - 138	04/17/19 10:51	04/18/19 03:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.0		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	9.0		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_4-5_041419

Lab Sample ID: 240-110996-25

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
Trichloroethene	55	U	55	15	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
Vinyl chloride	44	U	44	17	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		53 - 155	04/17/19 10:51	04/18/19 03:39	1
4-Bromofluorobenzene (Surr)	87		48 - 151	04/17/19 10:51	04/18/19 03:39	1
Toluene-d8 (Surr)	93		49 - 147	04/17/19 10:51	04/18/19 03:39	1
Dibromofluoromethane (Surr)	79		49 - 138	04/17/19 10:51	04/18/19 03:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.2		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	12.8		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_5-6_041419

Lab Sample ID: 240-110996-26

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	22	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
trans-1,2-Dichloroethene	54	U	54	14	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/17/19 10:51	04/18/19 04:00	1
4-Bromofluorobenzene (Surr)	92		48 - 151	04/17/19 10:51	04/18/19 04:00	1
Toluene-d8 (Surr)	101		49 - 147	04/17/19 10:51	04/18/19 04:00	1
Dibromofluoromethane (Surr)	83		49 - 138	04/17/19 10:51	04/18/19 04:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.3		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	12.7		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_6-7_041419

Lab Sample ID: 240-110996-27

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 92.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	52	U	52	21	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
cis-1,2-Dichloroethene	20	J	52	12	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
Tetrachloroethene	52	U	52	23	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
trans-1,2-Dichloroethene	52	U	52	13	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
Trichloroethene	52	U	52	14	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
Vinyl chloride	41	U	41	16	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/17/19 10:51	04/18/19 04:22	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/17/19 10:51	04/18/19 04:22	1
Toluene-d8 (Surr)	102		49 - 147	04/17/19 10:51	04/18/19 04:22	1
Dibromofluoromethane (Surr)	83		49 - 138	04/17/19 10:51	04/18/19 04:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.3		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	7.7		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_29-30_041419

Lab Sample ID: 240-110996-28

Date Collected: 04/14/19 11:10

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 85.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
Vinyl chloride	45	U	45	17	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		53 - 155	04/17/19 10:51	04/18/19 04:43	1
4-Bromofluorobenzene (Surr)	101		48 - 151	04/17/19 10:51	04/18/19 04:43	1
Toluene-d8 (Surr)	105		49 - 147	04/17/19 10:51	04/18/19 04:43	1
Dibromofluoromethane (Surr)	85		49 - 138	04/17/19 10:51	04/18/19 04:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.0		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	15.0		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_1-2_041419

Lab Sample ID: 240-110996-29

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	22	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
trans-1,2-Dichloroethene	54	U	54	14	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		53 - 155	04/17/19 10:51	04/18/19 05:05	1
4-Bromofluorobenzene (Surr)	104		48 - 151	04/17/19 10:51	04/18/19 05:05	1
Toluene-d8 (Surr)	105		49 - 147	04/17/19 10:51	04/18/19 05:05	1
Dibromofluoromethane (Surr)	79		49 - 138	04/17/19 10:51	04/18/19 05:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.8		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	12.2		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_2-3_041419

Lab Sample ID: 240-110996-30

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	58	U	58	23	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
cis-1,2-Dichloroethene	58	U	58	13	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
Tetrachloroethene	58	U	58	26	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
trans-1,2-Dichloroethene	58	U	58	15	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
Trichloroethene	58	U	58	16	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		53 - 155	04/17/19 10:51	04/18/19 05:27	1
4-Bromofluorobenzene (Surr)	107		48 - 151	04/17/19 10:51	04/18/19 05:27	1
Toluene-d8 (Surr)	110		49 - 147	04/17/19 10:51	04/18/19 05:27	1
Dibromofluoromethane (Surr)	88		49 - 138	04/17/19 10:51	04/18/19 05:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	15.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_3-4_041419

Lab Sample ID: 240-110996-31

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		53 - 155	04/17/19 12:48	04/19/19 21:43	1
4-Bromofluorobenzene (Surr)	88		48 - 151	04/17/19 12:48	04/19/19 21:43	1
Toluene-d8 (Surr)	87		49 - 147	04/17/19 12:48	04/19/19 21:43	1
Dibromofluoromethane (Surr)	73		49 - 138	04/17/19 12:48	04/19/19 21:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	8.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_4-5_041419

Lab Sample ID: 240-110996-32

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 85.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		53 - 155	04/17/19 12:48	04/19/19 22:05	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/17/19 12:48	04/19/19 22:05	1
Toluene-d8 (Surr)	94		49 - 147	04/17/19 12:48	04/19/19 22:05	1
Dibromofluoromethane (Surr)	81		49 - 138	04/17/19 12:48	04/19/19 22:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.4		0.1	0.1	%			04/17/19 14:35	1
Percent Moisture	14.6		0.1	0.1	%			04/17/19 14:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_5-6_041419

Lab Sample ID: 240-110996-33

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	56	U	56	22	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
cis-1,2-Dichloroethene	56	U	56	13	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
Tetrachloroethene	56	U	56	25	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
trans-1,2-Dichloroethene	56	U	56	14	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
Trichloroethene	56	U	56	15	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
Vinyl chloride	45	U	45	17	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		53 - 155	04/17/19 12:48	04/19/19 22:26	1
4-Bromofluorobenzene (Surr)	97		48 - 151	04/17/19 12:48	04/19/19 22:26	1
Toluene-d8 (Surr)	100		49 - 147	04/17/19 12:48	04/19/19 22:26	1
Dibromofluoromethane (Surr)	84		49 - 138	04/17/19 12:48	04/19/19 22:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.1		0.1	0.1	%			04/17/19 14:35	1
Percent Moisture	15.9		0.1	0.1	%			04/17/19 14:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_10-14_041419

Lab Sample ID: 240-110996-34

Date Collected: 04/14/19 19:55

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 22:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/17/19 22:49	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	25	U	25	4.8	ug/L			04/22/19 20:14	25
cis-1,2-Dichloroethene	120		25	4.0	ug/L			04/22/19 20:14	25
Tetrachloroethene	25	U	25	3.8	ug/L			04/22/19 20:14	25
trans-1,2-Dichloroethene	25	U	25	4.8	ug/L			04/22/19 20:14	25
Trichloroethene	25	U	25	2.5	ug/L			04/22/19 20:14	25
Vinyl chloride	610		25	5.0	ug/L			04/22/19 20:14	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/22/19 20:14	25
4-Bromofluorobenzene (Surr)	99		59 - 120		04/22/19 20:14	25
Toluene-d8 (Surr)	93		70 - 123		04/22/19 20:14	25
Dibromofluoromethane (Surr)	97		75 - 128		04/22/19 20:14	25

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_5-9_041419

Lab Sample ID: 240-110996-35

Date Collected: 04/14/19 20:05

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/22/19 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/22/19 13:59	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	13	U	13	2.5	ug/L			04/22/19 20:39	13.33
cis-1,2-Dichloroethene	94		13	2.1	ug/L			04/22/19 20:39	13.33
Tetrachloroethene	13	U	13	2.0	ug/L			04/22/19 20:39	13.33
trans-1,2-Dichloroethene	13	U	13	2.5	ug/L			04/22/19 20:39	13.33
Trichloroethene	13	U	13	1.3	ug/L			04/22/19 20:39	13.33
Vinyl chloride	320		13	2.7	ug/L			04/22/19 20:39	13.33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 121		04/22/19 20:39	13.33
4-Bromofluorobenzene (Surr)	102		59 - 120		04/22/19 20:39	13.33
Toluene-d8 (Surr)	94		70 - 123		04/22/19 20:39	13.33
Dibromofluoromethane (Surr)	99		75 - 128		04/22/19 20:39	13.33

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_29-30_041419

Lab Sample ID: 240-110996-36

Date Collected: 04/14/19 19:05

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 83.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	58	U	58	23	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
cis-1,2-Dichloroethene	58	U	58	13	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
Tetrachloroethene	58	U	58	26	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
trans-1,2-Dichloroethene	58	U	58	14	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
Trichloroethene	58	U	58	16	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		53 - 155	04/17/19 12:48	04/19/19 22:48	1
4-Bromofluorobenzene (Surr)	87		48 - 151	04/17/19 12:48	04/19/19 22:48	1
Toluene-d8 (Surr)	93		49 - 147	04/17/19 12:48	04/19/19 22:48	1
Dibromofluoromethane (Surr)	80		49 - 138	04/17/19 12:48	04/19/19 22:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.1		0.1	0.1	%			04/17/19 14:35	1
Percent Moisture	16.9		0.1	0.1	%			04/17/19 14:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: DUP-06

Lab Sample ID: 240-110996-37

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/22/19 14:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/22/19 14:25	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 21:04	2.5
cis-1,2-Dichloroethene	38		2.5	0.40	ug/L			04/22/19 21:04	2.5
Tetrachloroethene	2.5	U	2.5	0.38	ug/L			04/22/19 21:04	2.5
trans-1,2-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 21:04	2.5
Trichloroethene	2.5	U	2.5	0.25	ug/L			04/22/19 21:04	2.5
Vinyl chloride	80		2.5	0.50	ug/L			04/22/19 21:04	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 121		04/22/19 21:04	2.5
4-Bromofluorobenzene (Surr)	107		59 - 120		04/22/19 21:04	2.5
Toluene-d8 (Surr)	97		70 - 123		04/22/19 21:04	2.5
Dibromofluoromethane (Surr)	100		75 - 128		04/22/19 21:04	2.5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-38

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 21:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 21:28	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 21:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 21:28	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 21:28	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 121		04/22/19 21:28	1
4-Bromofluorobenzene (Surr)	103		59 - 120		04/22/19 21:28	1
Toluene-d8 (Surr)	96		70 - 123		04/22/19 21:28	1
Dibromofluoromethane (Surr)	94		75 - 128		04/22/19 21:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-39

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 13:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/23/19 13:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/23/19 13:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 13:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/23/19 13:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/23/19 13:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 121		04/23/19 13:37	1
4-Bromofluorobenzene (Surr)	99		59 - 120		04/23/19 13:37	1
Toluene-d8 (Surr)	97		70 - 123		04/23/19 13:37	1
Dibromofluoromethane (Surr)	98		75 - 128		04/23/19 13:37	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110996-1	LIFHP-132_17-21_041419	92	95	92	96
240-110996-2	LIFHP-132_12-16_041419	116	75	90	127
240-110996-2 MS	LIFHP-132_12-16_041419	95	108	104	102
240-110996-2 MSD	LIFHP-132_12-16_041419	94	105	103	100
240-110996-3	LIFHP-132_7-11_041419	93	102	97	96
240-110996-5	LIFHP-131_16-20_041419	88	101	96	93
240-110996-6	LIFHP-131_11-15_041419	91	104	97	89
240-110996-7	LIFHP-131_6-10_041419	90	98	94	95
240-110996-8	LIFHP-130_16-20_041419	85	97	94	88
240-110996-9	LIFHP-130_11-15_041419	87	102	94	96
240-110996-10	LIFHP-130_6-10_041419	88	99	95	97
240-110996-11	LIFHP-129_15-19_041419	96	101	97	96
240-110996-34	LIFHP-129_10-14_041419	87	99	93	97
240-110996-35	LIFHP-129_5-9_041419	91	102	94	99
240-110996-37	DUP-06	93	107	97	100
240-110996-38	TRIP BLANK	93	103	96	94
240-110996-39	TRIP BLANK	96	99	97	98
LCS 240-377477/4	Lab Control Sample	96	104	100	100
LCS 240-377606/4	Lab Control Sample	86	100	92	101
LCS 240-377778/4	Lab Control Sample	87	95	93	95
MB 240-377477/7	Method Blank	110	76	89	119
MB 240-377606/6	Method Blank	87	102	95	91
MB 240-377778/6	Method Blank	84	97	95	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	TOL (49-147)	DBFM (49-138)
240-110996-12	LIFHP-131_29-30_041419	83	91	95	80
240-110996-12 MS	LIFHP-131_29-30_041419	78	91	94	77
240-110996-12 MSD	LIFHP-131_29-30_041419	83	91	99	81
240-110996-13	LIFHP-130_1-2_041419	89	98	101	83
240-110996-14	LIFHP-130_2-3_041419	94	108	108	87
240-110996-15	LIFHP-130_3-4_041419	92	103	110	88
240-110996-16	LIFHP-130_4-5_041419	88	99	105	85
240-110996-17	LIFHP-130_5-6_041419	93	103	106	87
240-110996-18	LIFHP-130_29-30_041419	83	87	86	77
240-110996-18 MS	LIFHP-130_29-30_041419	86	94	98	84
240-110996-18 MSD	LIFHP-130_29-30_041419	78	85	91	77
240-110996-19	LIFHP-129_1-2_041419	86	94	99	80
240-110996-20	LIFHP-129_2-3_041419	82	91	92	77
240-110996-21	LIFHP-129_3-4_041419	116	125	127	107

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	TOL (49-147)	DBFM (49-138)
240-110996-22	LIFHP-129_4-5_041419	96	103	109	91
240-110996-23	LIFHP-132_1-2_041419	85	90	96	70
240-110996-24	LIFHP-132_3-4_041419	100	106	114	92
240-110996-25	LIFHP-132_4-5_041419	84	87	93	79
240-110996-26	LIFHP-132_5-6_041419	87	92	101	83
240-110996-27	LIFHP-132_6-7_041419	88	94	102	83
240-110996-28	LIFHP-132_29-30_041419	91	101	105	85
240-110996-29	LIFHP-131_1-2_041419	94	104	105	79
240-110996-30	LIFHP-131_2-3_041419	97	107	110	88
240-110996-31	LIFHP-131_3-4_041419	76	88	87	73
240-110996-32	LIFHP-131_4-5_041419	85	94	94	81
240-110996-33	LIFHP-131_5-6_041419	90	97	100	84
240-110996-36	LIFHP-129_29-30_041419	84	87	93	80
240-110996-36 MS	LIFHP-129_29-30_041419	84	86	96	82
240-110996-36 MSD	LIFHP-129_29-30_041419	86	85	95	84
LCS 240-376916/2-A	Lab Control Sample	92	95	99	87
LCS 240-376973/2-A	Lab Control Sample	83	92	95	80
MB 240-376916/1-A	Method Blank	101	108	110	96
MB 240-376973/1-A	Method Blank	76	86	83	70

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (10-150)	BFB (10-150)	TOL (10-150)	DBFM (10-150)
MRL 240-377029/6	Lab Control Sample	89	97	97	87

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-110996-1	LIFHP-132_17-21_041419	100
240-110996-2	LIFHP-132_12-16_041419	103
240-110996-2 MS	LIFHP-132_12-16_041419	107
240-110996-2 MSD	LIFHP-132_12-16_041419	103
240-110996-3	LIFHP-132_7-11_041419	102
240-110996-5	LIFHP-131_16-20_041419	106

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.

Job ID: 240-110996-1

Project/Site: Ford LTP Livonia MI - E203728

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110996-6	LIFHP-131_11-15_041419	104
240-110996-7	LIFHP-131_6-10_041419	104
240-110996-8	LIFHP-130_16-20_041419	104
240-110996-9	LIFHP-130_11-15_041419	106
240-110996-10	LIFHP-130_6-10_041419	105
240-110996-11	LIFHP-129_15-19_041419	104
240-110996-34	LIFHP-129_10-14_041419	102
240-110996-35	LIFHP-129_5-9_041419	102
240-110996-37	DUP-06	101
240-111040-D-3 MS	Matrix Spike	103
240-111040-D-3 MSD	Matrix Spike Duplicate	105
LCS 240-376915/4	Lab Control Sample	99
LCS 240-377588/4	Lab Control Sample	95
MB 240-376915/5	Method Blank	101
MB 240-377588/5	Method Blank	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-377477/7
Matrix: Water
Analysis Batch: 377477

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/20/19 16:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/20/19 16:40	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/20/19 16:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/20/19 16:40	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/20/19 16:40	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/20/19 16:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		04/20/19 16:40	1
4-Bromofluorobenzene (Surr)	76		59 - 120		04/20/19 16:40	1
Toluene-d8 (Surr)	89		70 - 123		04/20/19 16:40	1
Dibromofluoromethane (Surr)	119		75 - 128		04/20/19 16:40	1

Lab Sample ID: LCS 240-377477/4
Matrix: Water
Analysis Batch: 377477

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.92		ug/L		99	65 - 139
cis-1,2-Dichloroethene	10.0	9.56		ug/L		96	76 - 128
Tetrachloroethene	10.0	10.5		ug/L		105	74 - 130
trans-1,2-Dichloroethene	10.0	9.92		ug/L		99	78 - 133
Trichloroethene	10.0	9.63		ug/L		96	76 - 125
Vinyl chloride	10.0	8.30		ug/L		83	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
4-Bromofluorobenzene (Surr)	104		59 - 120
Toluene-d8 (Surr)	100		70 - 123
Dibromofluoromethane (Surr)	100		75 - 128

Lab Sample ID: 240-110996-2 MS
Matrix: Water
Analysis Batch: 377477

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.93		ug/L		99	53 - 140
cis-1,2-Dichloroethene	1.0	U	10.0	9.39		ug/L		94	64 - 130
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	51 - 136
trans-1,2-Dichloroethene	1.0	U	10.0	9.82		ug/L		98	68 - 133
Trichloroethene	1.0	U	10.0	9.00		ug/L		90	55 - 131
Vinyl chloride	1.0	U	10.0	7.95		ug/L		80	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 121
4-Bromofluorobenzene (Surr)	108		59 - 120
Toluene-d8 (Surr)	104		70 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110996-2 MS
Matrix: Water
Analysis Batch: 377477

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	102		75 - 128

Lab Sample ID: 240-110996-2 MSD
Matrix: Water
Analysis Batch: 377477

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	53 - 140	2	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.55		ug/L		95	64 - 130	2	21
Tetrachloroethene	1.0	U	10.0	10.5		ug/L		105	51 - 136	3	23
trans-1,2-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	68 - 133	3	24
Trichloroethene	1.0	U	10.0	9.39		ug/L		94	55 - 131	4	23
Vinyl chloride	1.0	U	10.0	8.61		ug/L		86	43 - 154	8	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 121
4-Bromofluorobenzene (Surr)	105		59 - 120
Toluene-d8 (Surr)	103		70 - 123
Dibromofluoromethane (Surr)	100		75 - 128

Lab Sample ID: MB 240-377606/6
Matrix: Water
Analysis Batch: 377606

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 13:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 13:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 13:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 13:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/22/19 13:12	1
4-Bromofluorobenzene (Surr)	102		59 - 120		04/22/19 13:12	1
Toluene-d8 (Surr)	95		70 - 123		04/22/19 13:12	1
Dibromofluoromethane (Surr)	91		75 - 128		04/22/19 13:12	1

Lab Sample ID: LCS 240-377606/4
Matrix: Water
Analysis Batch: 377606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	10.1		ug/L		101	74 - 130
trans-1,2-Dichloroethene	10.0	10.0		ug/L		100	78 - 133
Trichloroethene	10.0	9.69		ug/L		97	76 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-377606/4

Matrix: Water

Analysis Batch: 377606

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	11.0		ug/L		110	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		70 - 121
4-Bromofluorobenzene (Surr)	100		59 - 120
Toluene-d8 (Surr)	92		70 - 123
Dibromofluoromethane (Surr)	101		75 - 128

Lab Sample ID: MB 240-377778/6

Matrix: Water

Analysis Batch: 377778

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 13:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/23/19 13:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/23/19 13:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 13:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/23/19 13:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/23/19 13:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 121		04/23/19 13:12	1
4-Bromofluorobenzene (Surr)	97		59 - 120		04/23/19 13:12	1
Toluene-d8 (Surr)	95		70 - 123		04/23/19 13:12	1
Dibromofluoromethane (Surr)	99		75 - 128		04/23/19 13:12	1

Lab Sample ID: LCS 240-377778/4

Matrix: Water

Analysis Batch: 377778

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	9.38		ug/L		94	74 - 130
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	78 - 133
Trichloroethene	10.0	9.82		ug/L		98	76 - 125
Vinyl chloride	10.0	10.1		ug/L		101	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	93		70 - 123
Dibromofluoromethane (Surr)	95		75 - 128

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376916/1-A
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 376916

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
Trichloroethene	40	U	40	11	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
Vinyl chloride	32	U	32	12	ug/Kg		04/17/19 10:51	04/17/19 21:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		53 - 155	04/17/19 10:51	04/17/19 21:29	1
4-Bromofluorobenzene (Surr)	108		48 - 151	04/17/19 10:51	04/17/19 21:29	1
Toluene-d8 (Surr)	110		49 - 147	04/17/19 10:51	04/17/19 21:29	1
Dibromofluoromethane (Surr)	96		49 - 138	04/17/19 10:51	04/17/19 21:29	1

Lab Sample ID: LCS 240-376916/2-A
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376916

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1000	1120		ug/Kg		112	57 - 139
cis-1,2-Dichloroethene	1000	1030		ug/Kg		103	74 - 123
Tetrachloroethene	1000	998		ug/Kg		100	76 - 120
trans-1,2-Dichloroethene	1000	1150		ug/Kg		115	71 - 133
Trichloroethene	1000	965		ug/Kg		97	73 - 126
Vinyl chloride	1000	1240		ug/Kg		124	52 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		53 - 155
4-Bromofluorobenzene (Surr)	95		48 - 151
Toluene-d8 (Surr)	99		49 - 147
Dibromofluoromethane (Surr)	87		49 - 138

Lab Sample ID: 240-110996-12 MS
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: LIFHP-131_29-30_041419
Prep Type: Total/NA
Prep Batch: 376916

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	60	U	1310	1390		ug/Kg	☼	106	36 - 150
cis-1,2-Dichloroethene	60	U	1310	1210		ug/Kg	☼	93	50 - 128
Tetrachloroethene	60	U	1310	1250		ug/Kg	☼	96	20 - 151
trans-1,2-Dichloroethene	60	U	1310	1410		ug/Kg	☼	108	44 - 141
Trichloroethene	60	U	1310	1150		ug/Kg	☼	88	25 - 148
Vinyl chloride	48	U	1310	1610		ug/Kg	☼	123	31 - 148

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	78		53 - 155
4-Bromofluorobenzene (Surr)	91		48 - 151
Toluene-d8 (Surr)	94		49 - 147

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110996-12 MS
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: LIFHP-131_29-30_041419
Prep Type: Total/NA
Prep Batch: 376916

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	77		49 - 138

Lab Sample ID: 240-110996-12 MSD
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: LIFHP-131_29-30_041419
Prep Type: Total/NA
Prep Batch: 376916

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1-Dichloroethene	60	U	1330	1500		ug/Kg	☼	113	36 - 150	7	40
cis-1,2-Dichloroethene	60	U	1330	1330		ug/Kg	☼	100	50 - 128	9	40
Tetrachloroethene	60	U	1330	1370		ug/Kg	☼	104	20 - 151	9	40
trans-1,2-Dichloroethene	60	U	1330	1530		ug/Kg	☼	115	44 - 141	8	40
Trichloroethene	60	U	1330	1280		ug/Kg	☼	96	25 - 148	11	40
Vinyl chloride	48	U	1330	1680		ug/Kg	☼	127	31 - 148	5	37

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		53 - 155
4-Bromofluorobenzene (Surr)	91		48 - 151
Toluene-d8 (Surr)	99		49 - 147
Dibromofluoromethane (Surr)	81		49 - 138

Lab Sample ID: MB 240-376973/1-A
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 376973

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
Trichloroethene	40	U	40	11	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
Vinyl chloride	32	U	32	12	ug/Kg		04/17/19 12:48	04/19/19 19:53	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		53 - 155	04/17/19 12:48	04/19/19 19:53	1
4-Bromofluorobenzene (Surr)	86		48 - 151	04/17/19 12:48	04/19/19 19:53	1
Toluene-d8 (Surr)	83		49 - 147	04/17/19 12:48	04/19/19 19:53	1
Dibromofluoromethane (Surr)	70		49 - 138	04/17/19 12:48	04/19/19 19:53	1

Lab Sample ID: LCS 240-376973/2-A
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376973

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1000	1120		ug/Kg		112	57 - 139
cis-1,2-Dichloroethene	1000	947		ug/Kg		95	74 - 123
Tetrachloroethene	1000	991		ug/Kg		99	76 - 120
trans-1,2-Dichloroethene	1000	1100		ug/Kg		110	71 - 133
Trichloroethene	1000	910		ug/Kg		91	73 - 126

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-376973/2-A
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376973

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	1000	1220		ug/Kg		122	52 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		53 - 155
4-Bromofluorobenzene (Surr)	92		48 - 151
Toluene-d8 (Surr)	95		49 - 147
Dibromofluoromethane (Surr)	80		49 - 138

Lab Sample ID: 240-110996-18 MS
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: LIFHP-130_29-30_041419
Prep Type: Total/NA
Prep Batch: 376973

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	57	U	1320	1430		ug/Kg	☼	109	36 - 150
cis-1,2-Dichloroethene	57	U	1320	1300		ug/Kg	☼	99	50 - 128
Tetrachloroethene	57	U	1320	1300		ug/Kg	☼	98	20 - 151
trans-1,2-Dichloroethene	57	U	1320	1490		ug/Kg	☼	113	44 - 141
Trichloroethene	57	U	1320	1260		ug/Kg	☼	96	25 - 148
Vinyl chloride	46	U	1320	1720		ug/Kg	☼	130	31 - 148

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		53 - 155
4-Bromofluorobenzene (Surr)	94		48 - 151
Toluene-d8 (Surr)	98		49 - 147
Dibromofluoromethane (Surr)	84		49 - 138

Lab Sample ID: 240-110996-18 MSD
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: LIFHP-130_29-30_041419
Prep Type: Total/NA
Prep Batch: 376973

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,1-Dichloroethene	57	U	1250	1320		ug/Kg	☼	105	36 - 150	8	40
cis-1,2-Dichloroethene	57	U	1250	1160		ug/Kg	☼	93	50 - 128	12	40
Tetrachloroethene	57	U	1250	1170		ug/Kg	☼	94	20 - 151	10	40
trans-1,2-Dichloroethene	57	U	1250	1370		ug/Kg	☼	109	44 - 141	9	40
Trichloroethene	57	U	1250	1140		ug/Kg	☼	91	25 - 148	10	40
Vinyl chloride	46	U	1250	1540		ug/Kg	☼	123	31 - 148	11	37

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	78		53 - 155
4-Bromofluorobenzene (Surr)	85		48 - 151
Toluene-d8 (Surr)	91		49 - 147
Dibromofluoromethane (Surr)	77		49 - 138

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110996-36 MS

Matrix: Solid
Analysis Batch: 377415

Client Sample ID: LIFHP-129_29-30_041419

Prep Type: Total/NA
Prep Batch: 376973

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	58	U	1320	1450		ug/Kg	☼	110	36 - 150
cis-1,2-Dichloroethene	58	U	1320	1290		ug/Kg	☼	98	50 - 128
Tetrachloroethene	58	U	1320	1250		ug/Kg	☼	95	20 - 151
trans-1,2-Dichloroethene	58	U	1320	1470		ug/Kg	☼	111	44 - 141
Trichloroethene	58	U	1320	1200		ug/Kg	☼	91	25 - 148
Vinyl chloride	46	U	1320	1590		ug/Kg	☼	120	31 - 148

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	84		53 - 155
4-Bromofluorobenzene (Surr)	86		48 - 151
Toluene-d8 (Surr)	96		49 - 147
Dibromofluoromethane (Surr)	82		49 - 138

Lab Sample ID: 240-110996-36 MSD

Matrix: Solid
Analysis Batch: 377415

Client Sample ID: LIFHP-129_29-30_041419

Prep Type: Total/NA
Prep Batch: 376973

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1-Dichloroethene	58	U	1270	1480		ug/Kg	☼	117	36 - 150	2	40
cis-1,2-Dichloroethene	58	U	1270	1280		ug/Kg	☼	101	50 - 128	1	40
Tetrachloroethene	58	U	1270	1200		ug/Kg	☼	94	20 - 151	5	40
trans-1,2-Dichloroethene	58	U	1270	1430		ug/Kg	☼	113	44 - 141	2	40
Trichloroethene	58	U	1270	1170		ug/Kg	☼	92	25 - 148	2	40
Vinyl chloride	46	U	1270	1640		ug/Kg	☼	130	31 - 148	4	37

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	86		53 - 155
4-Bromofluorobenzene (Surr)	85		48 - 151
Toluene-d8 (Surr)	95		49 - 147
Dibromofluoromethane (Surr)	84		49 - 138

Lab Sample ID: MRL 240-377029/6

Matrix: Solid
Analysis Batch: 377029

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	0.00100	0.00136		ng/uL		136	10 - 150
cis-1,2-Dichloroethene	0.00100	0.00125		ng/uL		125	10 - 150
Tetrachloroethene	0.00100	0.00125		ng/uL		125	10 - 150
trans-1,2-Dichloroethene	0.00100	0.00137		ng/uL		137	10 - 150
Trichloroethene	0.00100	0.00110		ng/uL		110	10 - 150
Vinyl chloride	0.00100	0.00160	^	ng/uL		160	10 - 150

Surrogate	MRL	MRL	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	89		10 - 150
4-Bromofluorobenzene (Surr)	97		10 - 150
Toluene-d8 (Surr)	97		10 - 150

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MRL 240-377029/6
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	MRL %Recovery	MRL Qualifier	Limits
Dibromofluoromethane (Surr)	87		10 - 150

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376915/5
Matrix: Water
Analysis Batch: 376915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 12:59	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/17/19 12:59	1			

Lab Sample ID: LCS 240-376915/4
Matrix: Water
Analysis Batch: 376915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		63 - 125				

Lab Sample ID: 240-110996-2 MS
Matrix: Water
Analysis Batch: 376915

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	10.8		ug/L		108	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	107		63 - 125						

Lab Sample ID: 240-110996-2 MSD
Matrix: Water
Analysis Batch: 376915

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.1		ug/L		111	52 - 129	4	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	103		63 - 125								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-377588/5
Matrix: Water
Analysis Batch: 377588

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/22/19 11:51	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125					04/22/19 11:51	1

Lab Sample ID: LCS 240-377588/4
Matrix: Water
Analysis Batch: 377588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	95		63 - 125				

Lab Sample ID: 240-111040-D-3 MS
Matrix: Water
Analysis Batch: 377588

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.2		ug/L		112	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	103		63 - 125						

Lab Sample ID: 240-111040-D-3 MSD
Matrix: Water
Analysis Batch: 377588

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,4-Dioxane	2.0	U	10.0	11.2		ug/L		112	52 - 129	1	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	105		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110996-12 DU
Matrix: Solid
Analysis Batch: 376947

Client Sample ID: LIFHP-131_29-30_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Solids	82.7		82.0		%		0.9	20
Percent Moisture	17.3		18.0		%		4	20

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 240-110996-18 DU
Matrix: Solid
Analysis Batch: 376947

Client Sample ID: LIFHP-130_29-30_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD	
			Result	Qualifier				Limit	Limit
Percent Solids	84.9		86.2		%		1	20	
Percent Moisture	15.1		13.8		%		9	20	

Lab Sample ID: 240-110996-28 DU
Matrix: Solid
Analysis Batch: 376947

Client Sample ID: LIFHP-132_29-30_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD	
			Result	Qualifier				Limit	Limit
Percent Solids	85.0		82.3		%		3	20	
Percent Moisture	15.0		17.7		%		16	20	

Lab Sample ID: 240-110996-36 DU
Matrix: Solid
Analysis Batch: 376947

Client Sample ID: LIFHP-129_29-30_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD	
			Result	Qualifier				Limit	Limit
Percent Solids	83.1		80.0		%		4	20	
Percent Moisture	16.9		20.0		%		17	20	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

GC/MS VOA

Analysis Batch: 376915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-1	LIFHP-132_17-21_041419	Total/NA	Water	8260B SIM	
240-110996-2	LIFHP-132_12-16_041419	Total/NA	Water	8260B SIM	
240-110996-3	LIFHP-132_7-11_041419	Total/NA	Water	8260B SIM	
240-110996-5	LIFHP-131_16-20_041419	Total/NA	Water	8260B SIM	
240-110996-6	LIFHP-131_11-15_041419	Total/NA	Water	8260B SIM	
240-110996-7	LIFHP-131_6-10_041419	Total/NA	Water	8260B SIM	
240-110996-8	LIFHP-130_16-20_041419	Total/NA	Water	8260B SIM	
240-110996-9	LIFHP-130_11-15_041419	Total/NA	Water	8260B SIM	
240-110996-10	LIFHP-130_6-10_041419	Total/NA	Water	8260B SIM	
240-110996-11	LIFHP-129_15-19_041419	Total/NA	Water	8260B SIM	
240-110996-34	LIFHP-129_10-14_041419	Total/NA	Water	8260B SIM	
MB 240-376915/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376915/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110996-2 MS	LIFHP-132_12-16_041419	Total/NA	Water	8260B SIM	
240-110996-2 MSD	LIFHP-132_12-16_041419	Total/NA	Water	8260B SIM	

Prep Batch: 376916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-12	LIFHP-131_29-30_041419	Total/NA	Solid	5035	
240-110996-13	LIFHP-130_1-2_041419	Total/NA	Solid	5035	
240-110996-14	LIFHP-130_2-3_041419	Total/NA	Solid	5035	
240-110996-15	LIFHP-130_3-4_041419	Total/NA	Solid	5035	
240-110996-16	LIFHP-130_4-5_041419	Total/NA	Solid	5035	
240-110996-17	LIFHP-130_5-6_041419	Total/NA	Solid	5035	
240-110996-19	LIFHP-129_1-2_041419	Total/NA	Solid	5035	
240-110996-20	LIFHP-129_2-3_041419	Total/NA	Solid	5035	
240-110996-21	LIFHP-129_3-4_041419	Total/NA	Solid	5035	
240-110996-22	LIFHP-129_4-5_041419	Total/NA	Solid	5035	
240-110996-23	LIFHP-132_1-2_041419	Total/NA	Solid	5035	
240-110996-24	LIFHP-132_3-4_041419	Total/NA	Solid	5035	
240-110996-25	LIFHP-132_4-5_041419	Total/NA	Solid	5035	
240-110996-26	LIFHP-132_5-6_041419	Total/NA	Solid	5035	
240-110996-27	LIFHP-132_6-7_041419	Total/NA	Solid	5035	
240-110996-28	LIFHP-132_29-30_041419	Total/NA	Solid	5035	
240-110996-29	LIFHP-131_1-2_041419	Total/NA	Solid	5035	
240-110996-30	LIFHP-131_2-3_041419	Total/NA	Solid	5035	
MB 240-376916/1-A	Method Blank	Total/NA	Solid	5035	
LCS 240-376916/2-A	Lab Control Sample	Total/NA	Solid	5035	
240-110996-12 MS	LIFHP-131_29-30_041419	Total/NA	Solid	5035	
240-110996-12 MSD	LIFHP-131_29-30_041419	Total/NA	Solid	5035	

Prep Batch: 376973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-18	LIFHP-130_29-30_041419	Total/NA	Solid	5035	
240-110996-31	LIFHP-131_3-4_041419	Total/NA	Solid	5035	
240-110996-32	LIFHP-131_4-5_041419	Total/NA	Solid	5035	
240-110996-33	LIFHP-131_5-6_041419	Total/NA	Solid	5035	
240-110996-36	LIFHP-129_29-30_041419	Total/NA	Solid	5035	
MB 240-376973/1-A	Method Blank	Total/NA	Solid	5035	
LCS 240-376973/2-A	Lab Control Sample	Total/NA	Solid	5035	
240-110996-18 MS	LIFHP-130_29-30_041419	Total/NA	Solid	5035	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

GC/MS VOA (Continued)

Prep Batch: 376973 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-18 MSD	LIFHP-130_29-30_041419	Total/NA	Solid	5035	
240-110996-36 MS	LIFHP-129_29-30_041419	Total/NA	Solid	5035	
240-110996-36 MSD	LIFHP-129_29-30_041419	Total/NA	Solid	5035	

Analysis Batch: 377029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-12	LIFHP-131_29-30_041419	Total/NA	Solid	8260B MI	376916
240-110996-13	LIFHP-130_1-2_041419	Total/NA	Solid	8260B MI	376916
240-110996-14	LIFHP-130_2-3_041419	Total/NA	Solid	8260B MI	376916
240-110996-15	LIFHP-130_3-4_041419	Total/NA	Solid	8260B MI	376916
240-110996-16	LIFHP-130_4-5_041419	Total/NA	Solid	8260B MI	376916
240-110996-17	LIFHP-130_5-6_041419	Total/NA	Solid	8260B MI	376916
240-110996-19	LIFHP-129_1-2_041419	Total/NA	Solid	8260B MI	376916
240-110996-20	LIFHP-129_2-3_041419	Total/NA	Solid	8260B MI	376916
240-110996-21	LIFHP-129_3-4_041419	Total/NA	Solid	8260B MI	376916
240-110996-22	LIFHP-129_4-5_041419	Total/NA	Solid	8260B MI	376916
240-110996-23	LIFHP-132_1-2_041419	Total/NA	Solid	8260B MI	376916
240-110996-24	LIFHP-132_3-4_041419	Total/NA	Solid	8260B MI	376916
240-110996-25	LIFHP-132_4-5_041419	Total/NA	Solid	8260B MI	376916
240-110996-26	LIFHP-132_5-6_041419	Total/NA	Solid	8260B MI	376916
240-110996-27	LIFHP-132_6-7_041419	Total/NA	Solid	8260B MI	376916
240-110996-28	LIFHP-132_29-30_041419	Total/NA	Solid	8260B MI	376916
240-110996-29	LIFHP-131_1-2_041419	Total/NA	Solid	8260B MI	376916
240-110996-30	LIFHP-131_2-3_041419	Total/NA	Solid	8260B MI	376916
MB 240-376916/1-A	Method Blank	Total/NA	Solid	8260B MI	376916
LCS 240-376916/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	376916
MRL 240-377029/6	Lab Control Sample	Total/NA	Solid	8260B MI	
240-110996-12 MS	LIFHP-131_29-30_041419	Total/NA	Solid	8260B MI	376916
240-110996-12 MSD	LIFHP-131_29-30_041419	Total/NA	Solid	8260B MI	376916

Analysis Batch: 377415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-18	LIFHP-130_29-30_041419	Total/NA	Solid	8260B MI	376973
240-110996-31	LIFHP-131_3-4_041419	Total/NA	Solid	8260B MI	376973
240-110996-32	LIFHP-131_4-5_041419	Total/NA	Solid	8260B MI	376973
240-110996-33	LIFHP-131_5-6_041419	Total/NA	Solid	8260B MI	376973
240-110996-36	LIFHP-129_29-30_041419	Total/NA	Solid	8260B MI	376973
MB 240-376973/1-A	Method Blank	Total/NA	Solid	8260B MI	376973
LCS 240-376973/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	376973
240-110996-18 MS	LIFHP-130_29-30_041419	Total/NA	Solid	8260B MI	376973
240-110996-18 MSD	LIFHP-130_29-30_041419	Total/NA	Solid	8260B MI	376973
240-110996-36 MS	LIFHP-129_29-30_041419	Total/NA	Solid	8260B MI	376973
240-110996-36 MSD	LIFHP-129_29-30_041419	Total/NA	Solid	8260B MI	376973

Analysis Batch: 377477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-2	LIFHP-132_12-16_041419	Total/NA	Water	8260B	
MB 240-377477/7	Method Blank	Total/NA	Water	8260B	
LCS 240-377477/4	Lab Control Sample	Total/NA	Water	8260B	
240-110996-2 MS	LIFHP-132_12-16_041419	Total/NA	Water	8260B	
240-110996-2 MSD	LIFHP-132_12-16_041419	Total/NA	Water	8260B	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

GC/MS VOA

Analysis Batch: 377588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-35	LIFHP-129_5-9_041419	Total/NA	Water	8260B SIM	
240-110996-37	DUP-06	Total/NA	Water	8260B SIM	
MB 240-377588/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-377588/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-111040-D-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-111040-D-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 377606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-1	LIFHP-132_17-21_041419	Total/NA	Water	8260B	
240-110996-3	LIFHP-132_7-11_041419	Total/NA	Water	8260B	
240-110996-5	LIFHP-131_16-20_041419	Total/NA	Water	8260B	
240-110996-6	LIFHP-131_11-15_041419	Total/NA	Water	8260B	
240-110996-7	LIFHP-131_6-10_041419	Total/NA	Water	8260B	
240-110996-8	LIFHP-130_16-20_041419	Total/NA	Water	8260B	
240-110996-9	LIFHP-130_11-15_041419	Total/NA	Water	8260B	
240-110996-10	LIFHP-130_6-10_041419	Total/NA	Water	8260B	
240-110996-11	LIFHP-129_15-19_041419	Total/NA	Water	8260B	
240-110996-34	LIFHP-129_10-14_041419	Total/NA	Water	8260B	
240-110996-35	LIFHP-129_5-9_041419	Total/NA	Water	8260B	
240-110996-37	DUP-06	Total/NA	Water	8260B	
240-110996-38	TRIP BLANK	Total/NA	Water	8260B	
MB 240-377606/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377606/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 377778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-39	TRIP BLANK	Total/NA	Water	8260B	
MB 240-377778/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377778/4	Lab Control Sample	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 376947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-12	LIFHP-131_29-30_041419	Total/NA	Solid	Moisture	
240-110996-13	LIFHP-130_1-2_041419	Total/NA	Solid	Moisture	
240-110996-14	LIFHP-130_2-3_041419	Total/NA	Solid	Moisture	
240-110996-15	LIFHP-130_3-4_041419	Total/NA	Solid	Moisture	
240-110996-16	LIFHP-130_4-5_041419	Total/NA	Solid	Moisture	
240-110996-17	LIFHP-130_5-6_041419	Total/NA	Solid	Moisture	
240-110996-18	LIFHP-130_29-30_041419	Total/NA	Solid	Moisture	
240-110996-19	LIFHP-129_1-2_041419	Total/NA	Solid	Moisture	
240-110996-20	LIFHP-129_2-3_041419	Total/NA	Solid	Moisture	
240-110996-21	LIFHP-129_3-4_041419	Total/NA	Solid	Moisture	
240-110996-22	LIFHP-129_4-5_041419	Total/NA	Solid	Moisture	
240-110996-23	LIFHP-132_1-2_041419	Total/NA	Solid	Moisture	
240-110996-24	LIFHP-132_3-4_041419	Total/NA	Solid	Moisture	
240-110996-25	LIFHP-132_4-5_041419	Total/NA	Solid	Moisture	
240-110996-26	LIFHP-132_5-6_041419	Total/NA	Solid	Moisture	
240-110996-27	LIFHP-132_6-7_041419	Total/NA	Solid	Moisture	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

General Chemistry (Continued)

Analysis Batch: 376947 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-28	LIFHP-132_29-30_041419	Total/NA	Solid	Moisture	
240-110996-29	LIFHP-131_1-2_041419	Total/NA	Solid	Moisture	
240-110996-30	LIFHP-131_2-3_041419	Total/NA	Solid	Moisture	
240-110996-31	LIFHP-131_3-4_041419	Total/NA	Solid	Moisture	
240-110996-32	LIFHP-131_4-5_041419	Total/NA	Solid	Moisture	
240-110996-33	LIFHP-131_5-6_041419	Total/NA	Solid	Moisture	
240-110996-36	LIFHP-129_29-30_041419	Total/NA	Solid	Moisture	
240-110996-12 DU	LIFHP-131_29-30_041419	Total/NA	Solid	Moisture	
240-110996-18 DU	LIFHP-130_29-30_041419	Total/NA	Solid	Moisture	
240-110996-28 DU	LIFHP-132_29-30_041419	Total/NA	Solid	Moisture	
240-110996-36 DU	LIFHP-129_29-30_041419	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_17-21_041419

Lab Sample ID: 240-110996-1

Date Collected: 04/14/19 10:40

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 16:30	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 17:42	SAM	TAL CAN

Client Sample ID: LIFHP-132_12-16_041419

Lab Sample ID: 240-110996-2

Date Collected: 04/14/19 11:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377477	04/21/19 00:30	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 18:08	SAM	TAL CAN

Client Sample ID: LIFHP-132_7-11_041419

Lab Sample ID: 240-110996-3

Date Collected: 04/14/19 11:15

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 16:55	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 19:25	SAM	TAL CAN

Client Sample ID: LIFHP-131_16-20_041419

Lab Sample ID: 240-110996-5

Date Collected: 04/14/19 13:55

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 17:20	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 19:50	SAM	TAL CAN

Client Sample ID: LIFHP-131_11-15_041419

Lab Sample ID: 240-110996-6

Date Collected: 04/14/19 14:10

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	377606	04/22/19 17:45	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 20:16	SAM	TAL CAN

Client Sample ID: LIFHP-131_6-10_041419

Lab Sample ID: 240-110996-7

Date Collected: 04/14/19 14:25

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	377606	04/22/19 18:10	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 20:42	SAM	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_16-20_041419

Lab Sample ID: 240-110996-8

Date Collected: 04/14/19 16:45

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 18:34	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 21:07	SAM	TAL CAN

Client Sample ID: LIFHP-130_11-15_041419

Lab Sample ID: 240-110996-9

Date Collected: 04/14/19 17:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 19:00	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 21:33	SAM	TAL CAN

Client Sample ID: LIFHP-130_6-10_041419

Lab Sample ID: 240-110996-10

Date Collected: 04/14/19 17:10

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 19:25	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 21:58	SAM	TAL CAN

Client Sample ID: LIFHP-129_15-19_041419

Lab Sample ID: 240-110996-11

Date Collected: 04/14/19 19:35

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	377606	04/22/19 19:49	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 22:24	SAM	TAL CAN

Client Sample ID: LIFHP-131_29-30_041419

Lab Sample ID: 240-110996-12

Date Collected: 04/14/19 13:40

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-131_29-30_041419

Lab Sample ID: 240-110996-12

Date Collected: 04/14/19 13:40

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/17/19 22:34	TJL1	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_1-2_041419

Lab Sample ID: 240-110996-13

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_1-2_041419

Lab Sample ID: 240-110996-13

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/17/19 23:39	TJL1	TAL CAN

Client Sample ID: LIFHP-130_2-3_041419

Lab Sample ID: 240-110996-14

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_2-3_041419

Lab Sample ID: 240-110996-14

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 00:01	TJL1	TAL CAN

Client Sample ID: LIFHP-130_3-4_041419

Lab Sample ID: 240-110996-15

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_3-4_041419

Lab Sample ID: 240-110996-15

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 00:22	TJL1	TAL CAN

Client Sample ID: LIFHP-130_4-5_041419

Lab Sample ID: 240-110996-16

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_4-5_041419

Lab Sample ID: 240-110996-16

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 00:44	TJL1	TAL CAN

Client Sample ID: LIFHP-130_5-6_041419

Lab Sample ID: 240-110996-17

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_5-6_041419

Lab Sample ID: 240-110996-17

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 01:06	TJL1	TAL CAN

Client Sample ID: LIFHP-130_29-30_041419

Lab Sample ID: 240-110996-18

Date Collected: 04/14/19 16:25

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_29-30_041419

Lab Sample ID: 240-110996-18

Date Collected: 04/14/19 16:25

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 20:38	TJL1	TAL CAN

Client Sample ID: LIFHP-129_1-2_041419

Lab Sample ID: 240-110996-19

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_1-2_041419

Lab Sample ID: 240-110996-19

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 88.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 01:27	TJL1	TAL CAN

Client Sample ID: LIFHP-129_2-3_041419

Lab Sample ID: 240-110996-20

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-129_2-3_041419

Lab Sample ID: 240-110996-20

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 95.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 01:49	TJL1	TAL CAN

Client Sample ID: LIFHP-129_3-4_041419

Lab Sample ID: 240-110996-21

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-129_3-4_041419

Lab Sample ID: 240-110996-21

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 02:11	TJL1	TAL CAN

Client Sample ID: LIFHP-129_4-5_041419

Lab Sample ID: 240-110996-22

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_4-5_041419

Lab Sample ID: 240-110996-22

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 83.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 02:33	TJL1	TAL CAN

Client Sample ID: LIFHP-132_1-2_041419

Lab Sample ID: 240-110996-23

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-132_1-2_041419

Lab Sample ID: 240-110996-23

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 02:55	TJL1	TAL CAN

Client Sample ID: LIFHP-132_3-4_041419

Lab Sample ID: 240-110996-24

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-132_3-4_041419

Lab Sample ID: 240-110996-24

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 03:17	TJL1	TAL CAN

Client Sample ID: LIFHP-132_4-5_041419

Lab Sample ID: 240-110996-25

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_4-5_041419

Lab Sample ID: 240-110996-25

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 03:39	TJL1	TAL CAN

Client Sample ID: LIFHP-132_5-6_041419

Lab Sample ID: 240-110996-26

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-132_5-6_041419

Lab Sample ID: 240-110996-26

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 04:00	TJL1	TAL CAN

Client Sample ID: LIFHP-132_6-7_041419

Lab Sample ID: 240-110996-27

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-132_6-7_041419

Lab Sample ID: 240-110996-27

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 92.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 04:22	TJL1	TAL CAN

Client Sample ID: LIFHP-132_29-30_041419

Lab Sample ID: 240-110996-28

Date Collected: 04/14/19 11:10

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_29-30_041419

Lab Sample ID: 240-110996-28

Date Collected: 04/14/19 11:10

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 85.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 04:43	TJL1	TAL CAN

Client Sample ID: LIFHP-131_1-2_041419

Lab Sample ID: 240-110996-29

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-131_1-2_041419

Lab Sample ID: 240-110996-29

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 05:05	TJL1	TAL CAN

Client Sample ID: LIFHP-131_2-3_041419

Lab Sample ID: 240-110996-30

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-131_2-3_041419

Lab Sample ID: 240-110996-30

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 05:27	TJL1	TAL CAN

Client Sample ID: LIFHP-131_3-4_041419

Lab Sample ID: 240-110996-31

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_3-4_041419

Lab Sample ID: 240-110996-31

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 21:43	TJL1	TAL CAN

Client Sample ID: LIFHP-131_4-5_041419

Lab Sample ID: 240-110996-32

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:35	JMB	TAL CAN

Client Sample ID: LIFHP-131_4-5_041419

Lab Sample ID: 240-110996-32

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 22:05	TJL1	TAL CAN

Client Sample ID: LIFHP-131_5-6_041419

Lab Sample ID: 240-110996-33

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:35	JMB	TAL CAN

Client Sample ID: LIFHP-131_5-6_041419

Lab Sample ID: 240-110996-33

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 22:26	TJL1	TAL CAN

Client Sample ID: LIFHP-129_10-14_041419

Lab Sample ID: 240-110996-34

Date Collected: 04/14/19 19:55

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	377606	04/22/19 20:14	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 22:49	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_5-9_041419

Lab Sample ID: 240-110996-35

Date Collected: 04/14/19 20:05

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		13.33	377606	04/22/19 20:39	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	377588	04/22/19 13:59	SAM	TAL CAN

Client Sample ID: LIFHP-129_29-30_041419

Lab Sample ID: 240-110996-36

Date Collected: 04/14/19 19:05

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:35	JMB	TAL CAN

Client Sample ID: LIFHP-129_29-30_041419

Lab Sample ID: 240-110996-36

Date Collected: 04/14/19 19:05

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 83.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 22:48	TJL1	TAL CAN

Client Sample ID: DUP-06

Lab Sample ID: 240-110996-37

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	377606	04/22/19 21:04	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	377588	04/22/19 14:25	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-38

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 21:28	LRW	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-39

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377778	04/23/19 13:37	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Chain of Custody Record

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Client Information		Lab PM		Carrier Tracking Info		Analysis Requested		Preservation Codes		Special Instructions/Note	
Company: ARCADIS U.S. Inc.	Address: 2855D Cabot Drive, Suite 500, City: Mil, State: MI, Zip: 48377, Phone: 248-722-2411	Client: Christina Weaver (789) 419-5009	Lab PM: DelMonico, Michael	Carrier: 190	Page: 1 of 1	Company: ARCADIS U.S. Inc.	Analysis Requested	Preservation Codes: A-HCl, B-NaOH, C-Zn Acetate, D-Mine Acid, E-NaHSO4, F-AceOH, G-Ampella, H-Acetic Acid, I-Isr, J-Di Water, K-EDTA, L-EDA, Other:	Special Instructions/Note: Reformed MS/MSD, Dry weight included	Client: Christina Weaver (789) 419-5009	Lab PM: DelMonico, Michael
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, O=Other)	Field Filtered Sample (Yes or No)	Reform MS/MSD (Yes or No) <th>Total Number of Containers</th> <th>Retention Codes</th> <th>Special Instructions/Note</th>	Total Number of Containers	Retention Codes	Special Instructions/Note		
LFHP-132-17-21-041419	4/14/19	1040	G	Water	NO	NO	6				
LFHP-132-12-16-041419	4/14/19	1100	G	Water	NO	NO	6				
LFHP-132-7-11-041419	4/14/19	1115	G	Water	NO	NO	6				
LFHP-129-29-30-041419	4/14/19	1905	G	Water	NO	NO	6				
LFHP-131-16-20-041419	4/14/19	1355	G	Water	NO	NO	6				
LFHP-131-11-15-041419	4/14/19	1410	G	Water	NO	NO	6				
LFHP-131-6-10-041419	4/14/19	1425	G	Water	NO	NO	6				
LFHP-130-16-20-041419	4/14/19	1645	G	Water	NO	NO	6				
LFHP-130-11-15-041419	4/14/19	1700	G	Water	NO	NO	6				
LFHP-130-6-10-041419	4/14/19	1710	G	Water	NO	NO	6				
LFHP-129-15-19-041419	4/14/19	1935	G	Water	NO	NO	6				

Due Date Requested: TAT Requested (days): 10-DAY (STD)

PO # M1001318.0002.00002

WS # Cadena # E203631

Project # 24015353

Site: SSOAW

Barcode: 240-113996 Chain of Custody

Retention Codes: 6268B, 6269B, 6269B SIM, 6269B MI - VOCs (Short List), 6269B - VOCs (Short List)

Sample Disposal: Return To Client, Disposal By Lab, Archive For

Special Instructions: OC Requirements Submit all results through CADENA at JIM@ARCADIS.COM

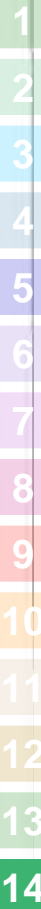
Received by: Christina Weaver, Date/Time: 4/14/19 2200

Received by: Christina Weaver, Date/Time: 4/15/19 0700

Received by: Christina Weaver, Date/Time: 4-15-19 19:50

Custody Seals Intact: A Yes, B No

Client Information Client Contact: Caitlin O'Neill Company: ARCADIS U.S. Inc Address: 28550 Cabot Drive Suite 500 City: Novi State, Zip: MI, 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site:		Lab PM: DelMonico, Michael E-Mail: michael.delmonico@testamericainc.com Phone: (988)-619-5009 Fax: (988)-619-5009		Carrier Tracking No(s): COC No: 240-59392-25341.12 Page 3 of 4 Job #:	
Due Date Requested: TAT Requested (days): 10-DAY (STD)		Analysis Requested			
PO #: M1001318 0002 00002 WO #: Cadena #: E203631 Project #: 24015353 SOW#:		Field Filtered Sample (Yes or No)		Total Number of Containers	
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=other)
LFHP-132-12-041419 LFHP-132-34-041419 LFHP-132-4-5-041419 LFHP-132-5-6-041419 LFHP-132-6-7-041419 LFHP-132-29-30-041419 LFHP-131-1-2-041419 LFHP-131-2-3-041419 LFHP-131-3-4-041419 LFHP-131-4-5-041419 LFHP-131-5-6-041419		4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19	1120 1120 1120 1120 1120 1120 1200 1200 1200 1200 1200	G G G G G G G G G G	Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Perform MS/MSD (Yes or No)		Special Instructions/Note:	
Deliverable Requested: <input type="checkbox"/> I, II, III <input checked="" type="checkbox"/> Other (specify)		Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For <input type="checkbox"/> Months		Dry sample included Dry weight sample included Dry weight included Dry weight included Dry weight included Dry weight included Dry weight included Dry weight included Dry weight included Dry weight included	
Empty Kit Relinquished by:		Date:		Special Instructions/OC Requirements: Submit all results through cadena at tim.tamara@arcadis.com #E203631	
Relinquished by: Christina Weaver Relinquished by: Caitlin O'Neill Relinquished by: Jeni Heel		Date/Time: 4/14/19 2300 Date/Time: 04/15/19 0900 Date/Time: 4-15-19 9:50		Date/Time: 4/14/19 2200 Date/Time: 4-15-19 9:10 Date/Time: 4/16/19 8000	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Company: Arcadis Company: Arcadis Company: E-TR		Company: Arcadis Company: Arcadis Company: AA	



TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

1.8/1.6 2.2/2.0 1.6/1.4
Chain of Custody Record

MICHIGAN
190

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Lab PM		Carrier Tracking (Note)		COC No.					
ARCADIS U.S. Inc.		Christina Weaver		DellMonico, Michael		240-59392-25341, 16					
Address: 28550 Cabot Drive Suite 500		Phone: (989)-619-5009		E-Mail: michael.delmonico@testamericainc.com		Page 4 of 16					
City: Novi		TAT Requested (days): 10-DAY (STD)		Job #		Page 16 of 16					
State, Zip: MI, 48377		PO #: MID001318.0002.00002		Analysis Requested		Preservation Codes:					
Phone: 248-722-2411		WO #: Cadena # E203631		Perform MS/MSD (Yes or No)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHCO3 F - MeOH G - Amelcor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:					
Email: Caitlin.O'Neill@arcadis.com		Project #: 24015353		Field Filtered Sample (Yes or No)		M - Hexane N - None O - NaNO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 X - other (specify)					
Project Name: Ford LTP Livonia MI - E203631		Site: 550WE		Special Instructions/Note:		Total Number of containers					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Snow, Precipitation, Other)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B, 8260B_SIM	8260B MI - VOCs (Short List)	8260B - VOCs (Short List)	Special Instructions/Note:
LTFHP-129_10-14_041419	4/14/19	1955	6	Water		XX	XX				
LTFHP-129_5-9_041419	4/14/19	2005	6	Water		XX	XX				
LTFHP-129_29-30-041419	4/14/19	1905	6	Water		XX	XX				6 g weight included; MS/MSD
DUP-06	4/14/19	---	6	Water		XX	XX				
TRIP Blank	4/14/19	---	---	---							
TRIP Blank	4/14/19	---	---	---							

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV Other (specify)
 Empty Kit Relinquished by: _____ Date: _____
 Relinquished by: Christina Weaver Date/Time: 4/14/19 2200 Company: Arcadis
 Relinquished by: Caitlin O'Neill Date/Time: 04/15/19 0900 Company: Arcadis
 Relinquished by: Steve Hall Date/Time: 4-15-19 950 Company: E-TAC
 Custody Seal No. _____
 Custody Seals Intact: Yes No
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months
 Special Instructions/QC Requirements: Submit all 6 suits through Cadena at \$100/kit @ cadena.com # E 203728
 Method of Shipment: _____
 Received by: Steve Hall Date/Time: 4/14/19 2200 Company: Arcadis
 Received by: Steve Hall Date/Time: 4-15-19 9:10 Company: Arcadis
 Received by: Steve Hall Date/Time: 4/16/19 1000 Company: Arcadis
 Copies/Temperature(s) °C and Other Remarks: _____
 Ver: 01/16/2019

Canton Facility

Client Accuris Site Name 4/16/19 Cooler unpacked by: [Signature]
Cooler Received on 4/16/19 Opened on 4/16/19
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

- Cooler temperature upon receipt
IR GUN# IR-8 (CF -0.2°C) Observed Cooler Temp. 1.8 °C Corrected Cooler Temp. 1.6 °C
IR GUN #36 (CF +0.7°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
- Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Are these work share samples? Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.
- Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738
- Were VOAs on the COC? Yes No
- Were air bubbles >6 mm in any VOA vials? None Larger than this: None Yes No NA
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # N/A Yes No
- Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: Martha

LIFHP-132-29-30-041419 - did not receive
MS/MS volume - will not log MS/MSO -

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



April 29, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 110996-1

Sample date: 2019-04-14

Report received by CADENA: 2019-04-29

Initial Data Verification completed by CADENA: 2019-04-29

Number of Samples: 23

Sample Matrices: Soil

Test Categories: GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC and SIM VOC samples -005, -008 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect. The SIM VOC preservation non-compliance for -002MSD did not result in the qualification of data.

GCMS VOC QC batch MS/MSD issues as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110996-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401109961	LIFHP-132_17-21_041419	4/14/2019	10:40:00	X	X	
24011099610	LIFHP-130_6-10_041419	4/14/2019	5:10:00	X	X	
24011099611	LIFHP-129_15-19_041419	4/14/2019	7:35:00	X	X	
24011099612	LIFHP-131_29-30_041419	4/14/2019	1:40:00	X		
24011099613	LIFHP-130_1-2_041419	4/14/2019	3:15:00	X		
24011099614	LIFHP-130_2-3_041419	4/14/2019	3:15:00	X		
24011099615	LIFHP-130_3-4_041419	4/14/2019	3:15:00	X		
24011099616	LIFHP-130_4-5_041419	4/14/2019	3:15:00	X		
24011099617	LIFHP-130_5-6_041419	4/14/2019	3:15:00	X		
24011099618	LIFHP-130_29-30_041419	4/14/2019	4:25:00	X		
24011099619	LIFHP-129_1-2_041419	4/14/2019	6:00:00	X		
2401109962	LIFHP-132_12-16_041419	4/14/2019	11:00:00	X	X	
24011099620	LIFHP-129_2-3_041419	4/14/2019	6:00:00	X		
24011099621	LIFHP-129_3-4_041419	4/14/2019	6:00:00	X		
24011099622	LIFHP-129_4-5_041419	4/14/2019	6:00:00	X		
24011099623	LIFHP-132_1-2_041419	4/14/2019	11:20:00	X		
24011099624	LIFHP-132_3-4_041419	4/14/2019	11:20:00	X		
24011099625	LIFHP-132_4-5_041419	4/14/2019	11:20:00	X		
24011099626	LIFHP-132_5-6_041419	4/14/2019	11:20:00	X		
24011099627	LIFHP-132_6-7_041419	4/14/2019	11:20:00	X		
24011099628	LIFHP-132_29-30_041419	4/14/2019	11:10:00	X		
24011099629	LIFHP-131_1-2_041419	4/14/2019	12:00:00	X		
2401109963	LIFHP-132_7-11_041419	4/14/2019	11:15:00	X	X	
24011099630	LIFHP-131_2-3_041419	4/14/2019	12:00:00	X		
24011099631	LIFHP-131_3-4_041419	4/14/2019	12:00:00	X		
24011099632	LIFHP-131_4-5_041419	4/14/2019	12:00:00	X		
24011099633	LIFHP-131_5-6_041419	4/14/2019	12:00:00	X		
24011099634	LIFHP-129_10-14_041419	4/14/2019	7:55:00	X	X	
24011099635	LIFHP-129_5-9_041419	4/14/2019	8:05:00	X	X	
24011099636	LIFHP-129_29-30_041419	4/14/2019	7:05:00	X		
24011099637	DUP-06	4/14/2019	12:00:00	X	X	
24011099638	TRIP BLANK	4/14/2019	12:00:00	X		
24011099639	TRIP BLANK	4/14/2019	12:00:00	X		
2401109965	LIFHP-131_16-20_041419	4/14/2019	1:55:00	X	X	
2401109966	LIFHP-131_11-15_041419	4/14/2019	2:10:00	X	X	
2401109967	LIFHP-131_6-10_041419	4/14/2019	2:25:00	X	X	
2401109968	LIFHP-130_16-20_041419	4/14/2019	4:45:00	X	X	
2401109969	LIFHP-130_11-15_041419	4/14/2019	5:00:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110996-1

Sample Name:	LIFHP-131_16-20_041419	LIFHP-130_16-20_041419
Lab Sample ID:	2401109965	2401109968
Sample Date:	4/14/2019	4/14/2019

Analyte	Cas No.	Report		Units	Valid		Report		Valid	
		Result	Limit		Qualifier	Result	Limit	Units	Qualifier	
GC/MS VOC										
<u>OSW-8260B</u>										
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
Vinyl chloride	75-01-4	0.83	1.0	ug/l	J	1.5	1.0	ug/l	J	
<u>OSW-8260BBSim</u>										
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 110996-1

Analyte	Cas No.	Report			Valid			Report			Valid			Report			Valid			Report			Valid			Report			Valid				
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																																	
<u>ODW-82608</u>																																	
1,1-Dichloroethene	75-35-4	ND	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	ND	2.5	ug/l	--	ND	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
cis-1,2-Dichloroethene	156-59-2	38	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	34	2.5	ug/l	--	37	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
Tetrachloroethene	127-18-4	ND	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	ND	2.5	ug/l	--	ND	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
trans-1,2-Dichloroethene	156-60-5	ND	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	ND	2.5	ug/l	--	ND	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
Trichloroethene	79-01-6	ND	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	ND	2.5	ug/l	--	ND	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
Vinyl chloride	75-01-4	80	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	--	0.83	1.0	ug/l	J	79	2.5	ug/l	--	63	2.5	ug/l	--	1.5	1.0	ug/l	J	1.4	1.0	ug/l	--
<u>ODW-82608Sim</u>																																	
1,4-Dioxane	123-91-1	ND	2.0	ug/l	--									ND	2.0	ug/l	UJ	ND	2.0	ug/l	--	0.97	2.0	ug/l	J	ND	2.0	ug/l	UJ	ND	2.0	ug/l	--

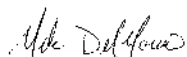
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-125186-1
Client Project/Site: Ford LTP

For:
ARCADIS U.S., Inc.
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Attn: Kristoffer Hinskey



Authorized for release by:
1/28/2020 4:59:09 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Job ID: 240-125186-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP

Report Number: 240-125186-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/21/2020 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-125186-1), LIFHP-133_15-19_011920 (240-125186-2) and LIFHP-133_10-14_011920 (240-125186-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/22/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples LIFHP-133_1-2_011920 (240-125186-4), LIFHP-133_4-5_011920 (240-125186-5), LIFHP-133_6-7_011920 (240-125186-6), LIFHP-133_7-8_011920 (240-125186-7) and LIFHP-133_8-9_011920 (240-125186-8) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/23/2020.

Dibromofluoromethane (Surr) failed the surrogate recovery criteria high for LIFHP-133_1-2_011920 (240-125186-4) and LIFHP-133_4-5_011920 (240-125186-5). Refer to the QC report for details.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Job ID: 240-125186-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

240-420043 and analytical batch 240-420016.

The continuing calibration verification (CCV) associated with batch 240-420016 recovered above the upper control limit for Vinyl Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: LIFHP-133_1-2_011920 (240-125186-4), LIFHP-133_4-5_011920 (240-125186-5), LIFHP-133_6-7_011920 (240-125186-6), LIFHP-133_7-8_011920 (240-125186-7), LIFHP-133_8-9_011920 (240-125186-8) and (CCVIS 240-420016/3).

Surrogate recovery for the following samples were outside the upper control limit: LIFHP-133_1-2_011920 (240-125186-4) and LIFHP-133_4-5_011920 (240-125186-5). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-133_15-19_011920 (240-125186-2) and LIFHP-133_10-14_011920 (240-125186-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 01/27/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples LIFHP-133_1-2_011920 (240-125186-4), LIFHP-133_4-5_011920 (240-125186-5), LIFHP-133_6-7_011920 (240-125186-6), LIFHP-133_7-8_011920 (240-125186-7) and LIFHP-133_8-9_011920 (240-125186-8) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 01/21/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125186-1	TRIP BLANK	Water	01/19/20 00:00	01/21/20 11:30	
240-125186-2	LIFHP-133_15-19_011920	Water	01/19/20 16:55	01/21/20 11:30	
240-125186-3	LIFHP-133_10-14_011920	Water	01/19/20 00:00	01/21/20 11:30	
240-125186-4	LIFHP-133_1-2_011920	Solid	01/19/20 13:08	01/21/20 11:30	
240-125186-5	LIFHP-133_4-5_011920	Solid	01/19/20 13:10	01/21/20 11:30	
240-125186-6	LIFHP-133_6-7_011920	Solid	01/19/20 13:12	01/21/20 11:30	
240-125186-7	LIFHP-133_7-8_011920	Solid	01/19/20 13:14	01/21/20 11:30	
240-125186-8	LIFHP-133_8-9_011920	Solid	01/19/20 13:16	01/21/20 11:30	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125186-1

No Detections.

Client Sample ID: LIFHP-133_15-19_011920

Lab Sample ID: 240-125186-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-133_10-14_011920

Lab Sample ID: 240-125186-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.37	J	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-133_1-2_011920

Lab Sample ID: 240-125186-4

No Detections.

Client Sample ID: LIFHP-133_4-5_011920

Lab Sample ID: 240-125186-5

No Detections.

Client Sample ID: LIFHP-133_6-7_011920

Lab Sample ID: 240-125186-6

No Detections.

Client Sample ID: LIFHP-133_7-8_011920

Lab Sample ID: 240-125186-7

No Detections.

Client Sample ID: LIFHP-133_8-9_011920

Lab Sample ID: 240-125186-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125186-1

Date Collected: 01/19/20 00:00

Matrix: Water

Date Received: 01/21/20 11:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 17:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/22/20 17:04	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/22/20 17:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 17:04	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/22/20 17:04	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/22/20 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 130		01/22/20 17:04	1
4-Bromofluorobenzene (Surr)	75		47 - 134		01/22/20 17:04	1
Toluene-d8 (Surr)	96		69 - 122		01/22/20 17:04	1
Dibromofluoromethane (Surr)	115		78 - 129		01/22/20 17:04	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_15-19_011920

Lab Sample ID: 240-125186-2

Date Collected: 01/19/20 16:55

Matrix: Water

Date Received: 01/21/20 11:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		01/27/20 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		01/27/20 19:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/22/20 17:28	1
cis-1,2-Dichloroethene	1.1		1.0	0.16	ug/L			01/22/20 17:28	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/22/20 17:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 17:28	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/22/20 17:28	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/22/20 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		01/22/20 17:28	1
4-Bromofluorobenzene (Surr)	69		47 - 134		01/22/20 17:28	1
Toluene-d8 (Surr)	98		69 - 122		01/22/20 17:28	1
Dibromofluoromethane (Surr)	111		78 - 129		01/22/20 17:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_10-14_011920

Lab Sample ID: 240-125186-3

Date Collected: 01/19/20 00:00

Matrix: Water

Date Received: 01/21/20 11:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		01/27/20 19:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		01/27/20 19:58	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/22/20 17:51	1
cis-1,2-Dichloroethene	0.37	J	1.0	0.16	ug/L	-		01/22/20 17:51	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		01/22/20 17:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/22/20 17:51	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		01/22/20 17:51	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		01/22/20 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/22/20 17:51	1
4-Bromofluorobenzene (Surr)	72		47 - 134		01/22/20 17:51	1
Toluene-d8 (Surr)	92		69 - 122		01/22/20 17:51	1
Dibromofluoromethane (Surr)	108		78 - 129		01/22/20 17:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_1-2_011920

Lab Sample ID: 240-125186-4

Date Collected: 01/19/20 13:08

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 85.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
Trichloroethene	53	U	53	15	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	123		47 - 136	01/23/20 11:16	01/23/20 16:59	1
4-Bromofluorobenzene (Surr)	101		51 - 124	01/23/20 11:16	01/23/20 16:59	1
Dibromofluoromethane (Surr)	128	X	49 - 122	01/23/20 11:16	01/23/20 16:59	1
Toluene-d8 (Surr)	109		55 - 123	01/23/20 11:16	01/23/20 16:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.7		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	14.3		0.1	0.1	%			01/21/20 15:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_4-5_011920

Lab Sample ID: 240-125186-5

Date Collected: 01/19/20 13:10

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 86.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
1,4-Dioxane	17000	U	17000	1400	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
Trichloroethene	53	U	53	15	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		47 - 136	01/23/20 11:16	01/23/20 17:21	1
4-Bromofluorobenzene (Surr)	100		51 - 124	01/23/20 11:16	01/23/20 17:21	1
Dibromofluoromethane (Surr)	126	X	49 - 122	01/23/20 11:16	01/23/20 17:21	1
Toluene-d8 (Surr)	109		55 - 123	01/23/20 11:16	01/23/20 17:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.1		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	13.9		0.1	0.1	%			01/21/20 15:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_6-7_011920

Lab Sample ID: 240-125186-6

Date Collected: 01/19/20 13:12

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 88.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		47 - 136	01/23/20 11:16	01/23/20 17:44	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/23/20 11:16	01/23/20 17:44	1
Dibromofluoromethane (Surr)	113		49 - 122	01/23/20 11:16	01/23/20 17:44	1
Toluene-d8 (Surr)	97		55 - 123	01/23/20 11:16	01/23/20 17:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.6		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	11.4		0.1	0.1	%			01/21/20 15:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_7-8_011920

Lab Sample ID: 240-125186-7

Date Collected: 01/19/20 13:14

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 91.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
cis-1,2-Dichloroethene	48	U	48	11	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
Tetrachloroethene	48	U	48	21	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
Trichloroethene	48	U	48	13	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		47 - 136	01/23/20 11:16	01/23/20 18:06	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/23/20 11:16	01/23/20 18:06	1
Dibromofluoromethane (Surr)	107		49 - 122	01/23/20 11:16	01/23/20 18:06	1
Toluene-d8 (Surr)	93		55 - 123	01/23/20 11:16	01/23/20 18:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.3		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	8.7		0.1	0.1	%			01/21/20 15:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_8-9_011920

Lab Sample ID: 240-125186-8

Date Collected: 01/19/20 13:16

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 89.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		47 - 136	01/23/20 11:16	01/23/20 18:29	1
4-Bromofluorobenzene (Surr)	95		51 - 124	01/23/20 11:16	01/23/20 18:29	1
Dibromofluoromethane (Surr)	112		49 - 122	01/23/20 11:16	01/23/20 18:29	1
Toluene-d8 (Surr)	102		55 - 123	01/23/20 11:16	01/23/20 18:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.0		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	11.0		0.1	0.1	%			01/21/20 15:10	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-125186-1	TRIP BLANK	98	75	96	115
240-125186-2	LIFHP-133_15-19_011920	96	69	98	111
240-125186-3	LIFHP-133_10-14_011920	94	72	92	108
LCS 240-419869/4	Lab Control Sample	82	95	102	98
MB 240-419869/7	Method Blank	94	73	94	109

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (47-136)	BFB (51-124)	DBFM (49-122)	TOL (55-123)
240-125186-4	LIFHP-133_1-2_011920	123	101	128 X	109
240-125186-5	LIFHP-133_4-5_011920	120	100	126 X	109
240-125186-6	LIFHP-133_6-7_011920	113	88	113	97
240-125186-7	LIFHP-133_7-8_011920	106	88	107	93
240-125186-8	LIFHP-133_8-9_011920	111	95	112	102
LCS 240-420043/2-A	Lab Control Sample	95	79	102	87
MB 240-420043/1-A	Method Blank	95	75	99	82

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-125084-C-4 MS	Matrix Spike	101
240-125084-C-4 MSD	Matrix Spike Duplicate	101
240-125186-2	LIFHP-133_15-19_011920	101
240-125186-3	LIFHP-133_10-14_011920	100
LCS 240-420320/4	Lab Control Sample	96
MB 240-420320/5	Method Blank	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-419869/7
Matrix: Water
Analysis Batch: 419869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 14:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/22/20 14:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/22/20 14:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 14:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/22/20 14:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/22/20 14:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/22/20 14:41	1
4-Bromofluorobenzene (Surr)	73		47 - 134		01/22/20 14:41	1
Toluene-d8 (Surr)	94		69 - 122		01/22/20 14:41	1
Dibromofluoromethane (Surr)	109		78 - 129		01/22/20 14:41	1

Lab Sample ID: LCS 240-419869/4
Matrix: Water
Analysis Batch: 419869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.4		ug/L		104	73 - 129
cis-1,2-Dichloroethene	10.0	10.5		ug/L		105	75 - 124
Tetrachloroethene	10.0	9.89		ug/L		99	70 - 125
trans-1,2-Dichloroethene	10.0	11.1		ug/L		111	74 - 130
Trichloroethene	10.0	10.2		ug/L		102	71 - 121
Vinyl chloride	10.0	7.88		ug/L		79	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	102		69 - 122
Dibromofluoromethane (Surr)	98		78 - 129

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420043/1-A
Matrix: Solid
Analysis Batch: 420016

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
Tetrachloroethene	40	U	40	18	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
Trichloroethene	40	U	40	11	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
Vinyl chloride	32	U	32	12	ug/Kg		01/23/20 11:16	01/23/20 15:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		47 - 136	01/23/20 11:16	01/23/20 15:52	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-420043/1-A
Matrix: Solid
Analysis Batch: 420016

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420043

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	75		51 - 124	01/23/20 11:16	01/23/20 15:52	1
Dibromofluoromethane (Surr)	99		49 - 122	01/23/20 11:16	01/23/20 15:52	1
Toluene-d8 (Surr)	82		55 - 123	01/23/20 11:16	01/23/20 15:52	1

Lab Sample ID: LCS 240-420043/2-A
Matrix: Solid
Analysis Batch: 420016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1000	1130		ug/Kg		113	48 - 140
1,4-Dioxane	20000	26900		ug/Kg		135	44 - 154
cis-1,2-Dichloroethene	1000	1120		ug/Kg		112	76 - 120
Tetrachloroethene	1000	917		ug/Kg		92	75 - 124
trans-1,2-Dichloroethene	1000	1060		ug/Kg		106	74 - 125
Trichloroethene	1000	1120		ug/Kg		112	75 - 123
Vinyl chloride	1000	1060		ug/Kg		106	39 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		47 - 136
4-Bromofluorobenzene (Surr)	79		51 - 124
Dibromofluoromethane (Surr)	102		49 - 122
Toluene-d8 (Surr)	87		55 - 123

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420320/5
Matrix: Water
Analysis Batch: 420320

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/27/20 11:23	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	97		63 - 125		01/27/20 11:23	1

Lab Sample ID: LCS 240-420320/4
Matrix: Water
Analysis Batch: 420320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,4-Dioxane	10.0	9.97		ug/L		100	59 - 131

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		63 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125084-C-4 MS
Matrix: Water
Analysis Batch: 420320

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	8.8		10.0	17.5		ug/L		87	52 - 129
Surrogate	%Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	101		63 - 125						

Lab Sample ID: 240-125084-C-4 MSD
Matrix: Water
Analysis Batch: 420320

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	8.8		10.0	17.7		ug/L		89	52 - 129	1	13
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	101		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-125186-4 DU
Matrix: Solid
Analysis Batch: 419761

Client Sample ID: LIFHP-133_1-2_011920
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	85.7		86.3		%			20
Percent Moisture	14.3		13.7		%			20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

GC/MS VOA

Analysis Batch: 419869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-1	TRIP BLANK	Total/NA	Water	8260B	
240-125186-2	LIFHP-133_15-19_011920	Total/NA	Water	8260B	
240-125186-3	LIFHP-133_10-14_011920	Total/NA	Water	8260B	
MB 240-419869/7	Method Blank	Total/NA	Water	8260B	
LCS 240-419869/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 420016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-4	LIFHP-133_1-2_011920	Total/NA	Solid	8260B MI	420043
240-125186-5	LIFHP-133_4-5_011920	Total/NA	Solid	8260B MI	420043
240-125186-6	LIFHP-133_6-7_011920	Total/NA	Solid	8260B MI	420043
240-125186-7	LIFHP-133_7-8_011920	Total/NA	Solid	8260B MI	420043
240-125186-8	LIFHP-133_8-9_011920	Total/NA	Solid	8260B MI	420043
MB 240-420043/1-A	Method Blank	Total/NA	Solid	8260B MI	420043
LCS 240-420043/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420043

Prep Batch: 420043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-4	LIFHP-133_1-2_011920	Total/NA	Solid	5030B	
240-125186-5	LIFHP-133_4-5_011920	Total/NA	Solid	5030B	
240-125186-6	LIFHP-133_6-7_011920	Total/NA	Solid	5030B	
240-125186-7	LIFHP-133_7-8_011920	Total/NA	Solid	5030B	
240-125186-8	LIFHP-133_8-9_011920	Total/NA	Solid	5030B	
MB 240-420043/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420043/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 420320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-2	LIFHP-133_15-19_011920	Total/NA	Water	8260B SIM	
240-125186-3	LIFHP-133_10-14_011920	Total/NA	Water	8260B SIM	
MB 240-420320/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-420320/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125084-C-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-125084-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

General Chemistry

Analysis Batch: 419761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-4	LIFHP-133_1-2_011920	Total/NA	Solid	Moisture	
240-125186-5	LIFHP-133_4-5_011920	Total/NA	Solid	Moisture	
240-125186-6	LIFHP-133_6-7_011920	Total/NA	Solid	Moisture	
240-125186-7	LIFHP-133_7-8_011920	Total/NA	Solid	Moisture	
240-125186-8	LIFHP-133_8-9_011920	Total/NA	Solid	Moisture	
240-125186-4 DU	LIFHP-133_1-2_011920	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125186-1

Date Collected: 01/19/20 00:00

Matrix: Water

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	419869	01/22/20 17:04	LRW	TAL CAN

Client Sample ID: LIFHP-133_15-19_011920

Lab Sample ID: 240-125186-2

Date Collected: 01/19/20 16:55

Matrix: Water

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	419869	01/22/20 17:28	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420320	01/27/20 19:33	SAM	TAL CAN

Client Sample ID: LIFHP-133_10-14_011920

Lab Sample ID: 240-125186-3

Date Collected: 01/19/20 00:00

Matrix: Water

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	419869	01/22/20 17:51	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420320	01/27/20 19:58	SAM	TAL CAN

Client Sample ID: LIFHP-133_1-2_011920

Lab Sample ID: 240-125186-4

Date Collected: 01/19/20 13:08

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Client Sample ID: LIFHP-133_1-2_011920

Lab Sample ID: 240-125186-4

Date Collected: 01/19/20 13:08

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 85.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 16:59	HMB	TAL CAN

Client Sample ID: LIFHP-133_4-5_011920

Lab Sample ID: 240-125186-5

Date Collected: 01/19/20 13:10

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_4-5_011920

Lab Sample ID: 240-125186-5

Date Collected: 01/19/20 13:10

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 17:21	HMB	TAL CAN

Client Sample ID: LIFHP-133_6-7_011920

Lab Sample ID: 240-125186-6

Date Collected: 01/19/20 13:12

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Client Sample ID: LIFHP-133_6-7_011920

Lab Sample ID: 240-125186-6

Date Collected: 01/19/20 13:12

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 17:44	HMB	TAL CAN

Client Sample ID: LIFHP-133_7-8_011920

Lab Sample ID: 240-125186-7

Date Collected: 01/19/20 13:14

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Client Sample ID: LIFHP-133_7-8_011920

Lab Sample ID: 240-125186-7

Date Collected: 01/19/20 13:14

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 91.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 18:06	HMB	TAL CAN

Client Sample ID: LIFHP-133_8-9_011920

Lab Sample ID: 240-125186-8

Date Collected: 01/19/20 13:16

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_8-9_011920

Lab Sample ID: 240-125186-8

Date Collected: 01/19/20 13:16

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 89.0

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 18:29	HMB	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Chain of Custody Record 378428 eurofins

MICHIGAN
190

Environment Testing
TestAmerica

Regulatory Program: DW APDES RCRA CERCLA Other

Client Contact: **ACADIS**
 Company Name: **ACADIS**
 Address: **2850 CABOT DR, STE 500**
 City/State/Zip: **NOVI MI 48377**
 Phone: **248-414-2290**
 Fax: _____
 Project Name: **FORD LIP**
 Site: **FORD LIP**
 P.O.#: _____

Site Contact: **PAUL PERRY** Date: **01/14/2020**
 Lab Contact: **MIKE DELORENZO** Carrier: _____
 Tel/Email: **248-519-5462**
 Analysis Turnaround Time: _____
 CALENDAR DAYS WORKING DAYS
 TAT # different from below: **5 DAY**
 2 weeks 1 week 2 days 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (G-Camp, G-Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Sample Specific Notes
TRIP BLANK				AQ	2	N	N	TRIP BLANK
LIFHP-133-15-19-011920	01/19/20	16:55	G	GW	6	N	N	
LIFHP-133-10-14-011920		0000	G	GW	6	N	N	
XXXXXXXXXX								
LIFHP-133-12-011920	12-08		G	S	2	N	N	
LIFHP-133-45-011920	13-10		G	S	2	N	N	
LIFHP-133-67-011920	13-12		G	S	2	N	N	
LIFHP-133-78-011920	13-14		G	S	2	N	N	
LIFHP-133-39-011920	13-16		G	S	2	N	N	
XXXXXXXXXX								



Preservation Used: Ice HC H2SO4 HNO3 NaOH Other: **None**
 Possible Hazard Identification: _____
 Are any samples from a listed EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Resorbable Skin Irritant Poison B Volatile

Special Instructions/IQC Requirements & Comments:
SUBMIT ALL RESULTS THROUGH CADEMIA AT JIM TOMALIA@CADEMIA.COM
CADENA #E203728

Custody Seal No.: _____
 Relinquished by: **Cathy Croco** Company: **ACADIS** Date/Time: **01/14/20 2:30**
 Relinquished by: **Mike Perry** Company: **ACADIS** Date/Time: **1/20/20 1:30**
 Relinquished by: **ETA** Company: **ETA** Date/Time: **1-20-20 12:20**



Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login #: 125186

Canton Facility

Client Accela Site Name _____

Cooler unpacked by:

Cooler Received on 1-21-20 Opened on 1-21-20

Adrian Gortez

FedEx: Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____

Storage Location _____

TestAmerica Cooler # 1 Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7°C) Observed Cooler Temp. 15 °C Corrected Cooler Temp. 2.2 °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364

13. Were VOAs on the COC? Yes NA

14. Were air bubbles >6 mm in any VOA vials? None Larger than this. Yes No NA

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot# 0119701E Yes No NA

16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



January 28, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30016346.0001B - onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 125186-1

Sample date: 2020-01-19

Report received by CADENA: 2020-01-28

Initial Data Verification completed by CADENA: 2020-01-28

Number of Samples:5

Sample Matrices:Soil

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

GCMS VOC samples -004, -005 SURROGATE recoveries were outliers biased high for at least 1 surrogate. Associated client sample results were non-detect so qualification was not required based on these high bias QC outliers.

GCMS VOC QC batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 125186-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401251861	TRIP BLANK	1/19/2020	12:00:00	X		
2401251862	LIFHP-133_15-19_011920	1/19/2020	4:55:00	X	X	
2401251863	LIFHP-133_10-14_011920	1/19/2020	12:00:00	X	X	
2401251864	LIFHP-133_1-2_011920	1/19/2020	1:08:00	X		
2401251865	LIFHP-133_4-5_011920	1/19/2020	1:10:00	X		
2401251866	LIFHP-133_6-7_011920	1/19/2020	1:12:00	X		
2401251867	LIFHP-133_7-8_011920	1/19/2020	1:14:00	X		
2401251868	LIFHP-133_8-9_011920	1/19/2020	1:16:00	X		

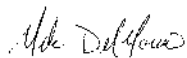
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-125446-1
Client Project/Site: Ford LTP Livonia MI
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/5/2020 2:21:53 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Job ID: 240-125446-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI

Report Number: 240-125446-1

Revision

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Report revised on 2/5/2020 to correct the ID on sample 9

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/28/2020 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.2° C and 2.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-125446-1), LIFHP-134_18-22_012620 (240-125446-7), LIFHP-134_13-17_012620 (240-125446-8) and LIFHP-134_8-12_012620 (240-125446-9) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/29/2020 and 01/30/2020.

The following sample submitted for volatiles analysis was received with insufficient preservation (pH >2): LIFHP-134_18-22_012620 (240-125446-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Job ID: 240-125446-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Samples LIFHP-134_1-2_012620 (240-125446-2), LIFHP-134_3-4_012620 (240-125446-3), LIFHP-134_4-5_012620 (240-125446-4), LIFHP-134_5-6_012620 (240-125446-5) and LIFHP-134_6-7_012620 (240-125446-6) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/30/2020.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-420691 and analytical batch 240-420880.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-134_18-22_012620 (240-125446-7), LIFHP-134_13-17_012620 (240-125446-8) and LIFHP-134_8-12_012620 (240-125446-9) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 01/29/2020.

The following sample was submitted for volatile analysis with insufficient preservation (pH>2): LIFHP-134_18-22_012620 (240-125446-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples LIFHP-134_1-2_012620 (240-125446-2), LIFHP-134_3-4_012620 (240-125446-3), LIFHP-134_4-5_012620 (240-125446-4), LIFHP-134_5-6_012620 (240-125446-5) and LIFHP-134_6-7_012620 (240-125446-6) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 01/28/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125446-1	TRIP BLANK	Water	01/26/20 00:00	01/28/20 08:20	
240-125446-2	LIFHP-134_1-2_012620	Solid	01/26/20 08:32	01/28/20 08:20	
240-125446-3	LIFHP-134_3-4_012620	Solid	01/26/20 08:34	01/28/20 08:20	
240-125446-4	LIFHP-134_4-5_012620	Solid	01/26/20 08:36	01/28/20 08:20	
240-125446-5	LIFHP-134_5-6_012620	Solid	01/26/20 08:38	01/28/20 08:20	
240-125446-6	LIFHP-134_6-7_012620	Solid	01/26/20 08:40	01/28/20 08:20	
240-125446-7	LIFHP-134_18-22_012620	Water	01/26/20 10:08	01/28/20 08:20	
240-125446-8	LIFHP-134_13-17_012620	Water	01/26/20 10:22	01/28/20 08:20	
240-125446-9	LIFHP-134_8-12_012620	Water	01/26/20 10:32	01/28/20 08:20	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125446-1

No Detections.

Client Sample ID: LIFHP-134_1-2_012620

Lab Sample ID: 240-125446-2

No Detections.

Client Sample ID: LIFHP-134_3-4_012620

Lab Sample ID: 240-125446-3

No Detections.

Client Sample ID: LIFHP-134_4-5_012620

Lab Sample ID: 240-125446-4

No Detections.

Client Sample ID: LIFHP-134_5-6_012620

Lab Sample ID: 240-125446-5

No Detections.

Client Sample ID: LIFHP-134_6-7_012620

Lab Sample ID: 240-125446-6

No Detections.

Client Sample ID: LIFHP-134_18-22_012620

Lab Sample ID: 240-125446-7

No Detections.

Client Sample ID: LIFHP-134_13-17_012620

Lab Sample ID: 240-125446-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	6.3		2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: LIFHP-134_8-12_012620

Lab Sample ID: 240-125446-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.94	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	9.5		1.0	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125446-1

Date Collected: 01/26/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 18:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 18:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:01	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 18:01	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 18:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		01/29/20 18:01	1
4-Bromofluorobenzene (Surr)	99		47 - 134		01/29/20 18:01	1
Toluene-d8 (Surr)	94		69 - 122		01/29/20 18:01	1
Dibromofluoromethane (Surr)	86		78 - 129		01/29/20 18:01	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_1-2_012620

Lab Sample ID: 240-125446-2

Date Collected: 01/26/20 08:32

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 89.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		47 - 136	01/29/20 11:09	01/30/20 21:19	1
4-Bromofluorobenzene (Surr)	108		51 - 124	01/29/20 11:09	01/30/20 21:19	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 11:09	01/30/20 21:19	1
Toluene-d8 (Surr)	105		55 - 123	01/29/20 11:09	01/30/20 21:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.3		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	10.7		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_3-4_012620

Lab Sample ID: 240-125446-3

Date Collected: 01/26/20 08:34

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
cis-1,2-Dichloroethene	48	U	48	11	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
Tetrachloroethene	48	U	48	21	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
Trichloroethene	48	U	48	13	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		47 - 136	01/29/20 11:09	01/30/20 21:43	1
4-Bromofluorobenzene (Surr)	115		51 - 124	01/29/20 11:09	01/30/20 21:43	1
Dibromofluoromethane (Surr)	105		49 - 122	01/29/20 11:09	01/30/20 21:43	1
Toluene-d8 (Surr)	111		55 - 123	01/29/20 11:09	01/30/20 21:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.4		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	8.6		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_4-5_012620

Lab Sample ID: 240-125446-4

Date Collected: 01/26/20 08:36

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	19	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
cis-1,2-Dichloroethene	49	U	49	11	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
trans-1,2-Dichloroethene	49	U	49	12	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
Trichloroethene	49	U	49	13	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		47 - 136	01/29/20 11:09	01/30/20 22:08	1
4-Bromofluorobenzene (Surr)	110		51 - 124	01/29/20 11:09	01/30/20 22:08	1
Dibromofluoromethane (Surr)	104		49 - 122	01/29/20 11:09	01/30/20 22:08	1
Toluene-d8 (Surr)	107		55 - 123	01/29/20 11:09	01/30/20 22:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.1		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	9.9		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_5-6_012620

Lab Sample ID: 240-125446-5

Date Collected: 01/26/20 08:38

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 93.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	45	U	45	18	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
1,4-Dioxane	14000	U	14000	1200	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
cis-1,2-Dichloroethene	45	U	45	10	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
Tetrachloroethene	45	U	45	20	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
trans-1,2-Dichloroethene	45	U	45	11	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
Trichloroethene	45	U	45	12	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
Vinyl chloride	36	U	36	14	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		47 - 136	01/29/20 11:09	01/30/20 22:32	1
4-Bromofluorobenzene (Surr)	101		51 - 124	01/29/20 11:09	01/30/20 22:32	1
Dibromofluoromethane (Surr)	97		49 - 122	01/29/20 11:09	01/30/20 22:32	1
Toluene-d8 (Surr)	99		55 - 123	01/29/20 11:09	01/30/20 22:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.8		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	6.2		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_6-7_012620

Lab Sample ID: 240-125446-6

Date Collected: 01/26/20 08:40

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 89.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	20	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
cis-1,2-Dichloroethene	49	U	49	11	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
trans-1,2-Dichloroethene	49	U	49	12	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
Trichloroethene	49	U	49	13	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		47 - 136	01/29/20 11:09	01/30/20 22:56	1
4-Bromofluorobenzene (Surr)	99		51 - 124	01/29/20 11:09	01/30/20 22:56	1
Dibromofluoromethane (Surr)	97		49 - 122	01/29/20 11:09	01/30/20 22:56	1
Toluene-d8 (Surr)	98		55 - 123	01/29/20 11:09	01/30/20 22:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.9		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	10.1		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_18-22_012620

Lab Sample ID: 240-125446-7

Date Collected: 01/26/20 10:08

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 18:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		01/29/20 18:39	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 18:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 18:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 18:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		01/29/20 18:26	1
4-Bromofluorobenzene (Surr)	103		47 - 134		01/29/20 18:26	1
Toluene-d8 (Surr)	100		69 - 122		01/29/20 18:26	1
Dibromofluoromethane (Surr)	88		78 - 129		01/29/20 18:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_13-17_012620

Lab Sample ID: 240-125446-8

Date Collected: 01/26/20 10:22

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	6.3		2.0	0.86	ug/L			01/29/20 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		01/29/20 19:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 16:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 16:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 16:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 16:23	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 16:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 16:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/30/20 16:23	1
4-Bromofluorobenzene (Surr)	101		47 - 134		01/30/20 16:23	1
Toluene-d8 (Surr)	98		69 - 122		01/30/20 16:23	1
Dibromofluoromethane (Surr)	86		78 - 129		01/30/20 16:23	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_8-12_012620

Lab Sample ID: 240-125446-9

Date Collected: 01/26/20 10:32

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.94	J	2.0	0.86	ug/L	-		01/29/20 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		01/29/20 19:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/30/20 16:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		01/30/20 16:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		01/30/20 16:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/30/20 16:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		01/30/20 16:48	1
Vinyl chloride	9.5		1.0	0.20	ug/L	-		01/30/20 16:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/30/20 16:48	1
4-Bromofluorobenzene (Surr)	103		47 - 134		01/30/20 16:48	1
Toluene-d8 (Surr)	99		69 - 122		01/30/20 16:48	1
Dibromofluoromethane (Surr)	89		78 - 129		01/30/20 16:48	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-125366-C-1 MS	Matrix Spike	97	99	98	88
240-125366-C-1 MSD	Matrix Spike Duplicate	95	97	98	86
240-125417-A-2 MS	Matrix Spike	95	100	100	89
240-125417-C-2 MSD	Matrix Spike Duplicate	93	101	100	91
240-125446-1	TRIP BLANK	93	99	94	86
240-125446-7	LIFHP-134_18-22_012620	92	103	100	88
240-125446-8	LIFHP-134_13-17_012620	94	101	98	86
240-125446-9	LIFHP-134_8-12_012620	95	103	99	89
LCS 240-420726/4	Lab Control Sample	93	102	97	88
LCS 240-420869/4	Lab Control Sample	93	107	97	88
MB 240-420726/7	Method Blank	93	104	97	86
MB 240-420869/7	Method Blank	95	105	100	89

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (47-136)	BFB (51-124)	DBFM (49-122)	TOL (55-123)
240-125446-2	LIFHP-134_1-2_012620	111	108	100	105
240-125446-3	LIFHP-134_3-4_012620	116	115	105	111
240-125446-4	LIFHP-134_4-5_012620	114	110	104	107
240-125446-5	LIFHP-134_5-6_012620	107	101	97	99
240-125446-6	LIFHP-134_6-7_012620	107	99	97	98
LCS 240-420691/2-A	Lab Control Sample	86	88	83	88
MB 240-420691/1-A	Method Blank	86	84	78	82

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-125446-7	LIFHP-134_18-22_012620	99
240-125446-8	LIFHP-134_13-17_012620	100
240-125446-9	LIFHP-134_8-12_012620	99
240-125447-A-8 MS	Matrix Spike	97
240-125447-A-8 MSD	Matrix Spike Duplicate	100
LCS 240-420655/4	Lab Control Sample	96

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
MB 240-420655/5	Method Blank	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420726/7
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 14:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 14:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 14:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		01/29/20 14:39	1
4-Bromofluorobenzene (Surr)	104		47 - 134		01/29/20 14:39	1
Toluene-d8 (Surr)	97		69 - 122		01/29/20 14:39	1
Dibromofluoromethane (Surr)	86		78 - 129		01/29/20 14:39	1

Lab Sample ID: LCS 240-420726/4
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124
Tetrachloroethene	10.0	10.1		ug/L		101	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.48		ug/L		95	71 - 121
Vinyl chloride	10.0	10.1		ug/L		101	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	68 - 121
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	69 - 126
Trichloroethene	1.0	U	10.0	9.24		ug/L		92	56 - 124
Vinyl chloride	1.0	U	10.0	9.77		ug/L		98	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	100		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	89		78 - 129

Lab Sample ID: 240-125417-C-2 MSD
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 132	3	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.0		ug/L		100	68 - 121	3	35
Tetrachloroethene	1.0	U	10.0	9.78		ug/L		98	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	69 - 126	0	35
Trichloroethene	1.0	U	10.0	8.91		ug/L		89	56 - 124	4	35
Vinyl chloride	1.0	U	10.0	10.7		ug/L		107	49 - 136	9	35

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	93		75 - 130
<i>4-Bromofluorobenzene (Surr)</i>	101		47 - 134
<i>Toluene-d8 (Surr)</i>	100		69 - 122
<i>Dibromofluoromethane (Surr)</i>	91		78 - 129

Lab Sample ID: MB 240-420869/7
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 15:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 15:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 15:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 15:34	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	95		75 - 130		01/30/20 15:34	1
<i>4-Bromofluorobenzene (Surr)</i>	105		47 - 134		01/30/20 15:34	1
<i>Toluene-d8 (Surr)</i>	100		69 - 122		01/30/20 15:34	1
<i>Dibromofluoromethane (Surr)</i>	89		78 - 129		01/30/20 15:34	1

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.2		ug/L		102	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.67		ug/L		97	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	9.71		ug/L		97	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125366-C-1 MS
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	100	U	1000	886		ug/L		89	64 - 132
cis-1,2-Dichloroethene	58	J	1000	1070		ug/L		101	68 - 121
Tetrachloroethene	100	U	1000	850		ug/L		85	52 - 129
trans-1,2-Dichloroethene	100	U	1000	948		ug/L		95	69 - 126
Trichloroethene	100	U	1000	848		ug/L		85	56 - 124
Vinyl chloride	100	U	1000	904		ug/L		90	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125366-C-1 MSD
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	100	U	1000	922		ug/L		92	64 - 132	4	35
cis-1,2-Dichloroethene	58	J	1000	1080		ug/L		102	68 - 121	1	35
Tetrachloroethene	100	U	1000	854		ug/L		85	52 - 129	0	35
trans-1,2-Dichloroethene	100	U	1000	1010		ug/L		101	69 - 126	6	35
Trichloroethene	100	U	1000	836		ug/L		84	56 - 124	1	35
Vinyl chloride	100	U	1000	985		ug/L		98	49 - 136	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	97		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420691/1-A
Matrix: Solid
Analysis Batch: 420880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420691

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
Tetrachloroethene	40	U	40	18	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
Trichloroethene	40	U	40	11	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
Vinyl chloride	32	U	32	12	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		47 - 136	01/29/20 11:09	01/30/20 14:51	1
4-Bromofluorobenzene (Surr)	84		51 - 124	01/29/20 11:09	01/30/20 14:51	1
Dibromofluoromethane (Surr)	78		49 - 122	01/29/20 11:09	01/30/20 14:51	1
Toluene-d8 (Surr)	82		55 - 123	01/29/20 11:09	01/30/20 14:51	1

Lab Sample ID: LCS 240-420691/2-A
Matrix: Solid
Analysis Batch: 420880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1000	939		ug/Kg	-	94	48 - 140
1,4-Dioxane	20000	18600		ug/Kg	-	93	44 - 154
cis-1,2-Dichloroethene	1000	936		ug/Kg	-	94	76 - 120
Tetrachloroethene	1000	946		ug/Kg	-	95	75 - 124
trans-1,2-Dichloroethene	1000	932		ug/Kg	-	93	74 - 125
Trichloroethene	1000	942		ug/Kg	-	94	75 - 123
Vinyl chloride	1000	789		ug/Kg	-	79	39 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		47 - 136
4-Bromofluorobenzene (Surr)	88		51 - 124
Dibromofluoromethane (Surr)	83		49 - 122
Toluene-d8 (Surr)	88		55 - 123

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420655/5
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		01/29/20 11:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 125		01/29/20 11:49	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420655/4
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.75		ug/L		98	59 - 131
Surrogate	%Recovery	LCS Qualifier	LCS Limits				
1,2-Dichloroethane-d4 (Surr)	96		63 - 125				

Lab Sample ID: 240-125447-A-8 MS
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.1	J	10.0	10.9		ug/L		98	52 - 129
Surrogate	%Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	97		63 - 125						

Lab Sample ID: 240-125447-A-8 MSD
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.1	J	10.0	10.2		ug/L		91	52 - 129	6	13
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	100		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-125448-B-11 DU
Matrix: Solid
Analysis Batch: 420559

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	91.6		91.0		%		0.7	20
Percent Moisture	8.4		9.0		%		7	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

GC/MS VOA

Analysis Batch: 420655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-7	LIFHP-134_18-22_012620	Total/NA	Water	8260B SIM	
240-125446-8	LIFHP-134_13-17_012620	Total/NA	Water	8260B SIM	
240-125446-9	LIFHP-134_8-12_012620	Total/NA	Water	8260B SIM	
MB 240-420655/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-420655/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125447-A-8 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-125447-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Prep Batch: 420691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-2	LIFHP-134_1-2_012620	Total/NA	Solid	5030B	
240-125446-3	LIFHP-134_3-4_012620	Total/NA	Solid	5030B	
240-125446-4	LIFHP-134_4-5_012620	Total/NA	Solid	5030B	
240-125446-5	LIFHP-134_5-6_012620	Total/NA	Solid	5030B	
240-125446-6	LIFHP-134_6-7_012620	Total/NA	Solid	5030B	
MB 240-420691/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420691/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 420726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-1	TRIP BLANK	Total/NA	Water	8260B	
240-125446-7	LIFHP-134_18-22_012620	Total/NA	Water	8260B	
MB 240-420726/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420726/4	Lab Control Sample	Total/NA	Water	8260B	
240-125417-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-125417-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 420869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-8	LIFHP-134_13-17_012620	Total/NA	Water	8260B	
240-125446-9	LIFHP-134_8-12_012620	Total/NA	Water	8260B	
MB 240-420869/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420869/4	Lab Control Sample	Total/NA	Water	8260B	
240-125366-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-125366-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 420880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-2	LIFHP-134_1-2_012620	Total/NA	Solid	8260B MI	420691
240-125446-3	LIFHP-134_3-4_012620	Total/NA	Solid	8260B MI	420691
240-125446-4	LIFHP-134_4-5_012620	Total/NA	Solid	8260B MI	420691
240-125446-5	LIFHP-134_5-6_012620	Total/NA	Solid	8260B MI	420691
240-125446-6	LIFHP-134_6-7_012620	Total/NA	Solid	8260B MI	420691
MB 240-420691/1-A	Method Blank	Total/NA	Solid	8260B MI	420691
LCS 240-420691/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420691

General Chemistry

Analysis Batch: 420559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-2	LIFHP-134_1-2_012620	Total/NA	Solid	Moisture	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

General Chemistry (Continued)

Analysis Batch: 420559 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-3	LIFHP-134_3-4_012620	Total/NA	Solid	Moisture	
240-125446-4	LIFHP-134_4-5_012620	Total/NA	Solid	Moisture	
240-125446-5	LIFHP-134_5-6_012620	Total/NA	Solid	Moisture	
240-125446-6	LIFHP-134_6-7_012620	Total/NA	Solid	Moisture	
240-125448-B-11 DU	Duplicate	Total/NA	Solid	Moisture	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125446-1

Date Collected: 01/26/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420726	01/29/20 18:01	LRW	TAL CAN

Client Sample ID: LIFHP-134_1-2_012620

Lab Sample ID: 240-125446-2

Date Collected: 01/26/20 08:32

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_1-2_012620

Lab Sample ID: 240-125446-2

Date Collected: 01/26/20 08:32

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 21:19	HMB	TAL CAN

Client Sample ID: LIFHP-134_3-4_012620

Lab Sample ID: 240-125446-3

Date Collected: 01/26/20 08:34

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_3-4_012620

Lab Sample ID: 240-125446-3

Date Collected: 01/26/20 08:34

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 21:43	HMB	TAL CAN

Client Sample ID: LIFHP-134_4-5_012620

Lab Sample ID: 240-125446-4

Date Collected: 01/26/20 08:36

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_4-5_012620

Lab Sample ID: 240-125446-4

Date Collected: 01/26/20 08:36

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 22:08	HMB	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_5-6_012620

Lab Sample ID: 240-125446-5

Date Collected: 01/26/20 08:38

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_5-6_012620

Lab Sample ID: 240-125446-5

Date Collected: 01/26/20 08:38

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 22:32	HMB	TAL CAN

Client Sample ID: LIFHP-134_6-7_012620

Lab Sample ID: 240-125446-6

Date Collected: 01/26/20 08:40

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_6-7_012620

Lab Sample ID: 240-125446-6

Date Collected: 01/26/20 08:40

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 89.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 22:56	HMB	TAL CAN

Client Sample ID: LIFHP-134_18-22_012620

Lab Sample ID: 240-125446-7

Date Collected: 01/26/20 10:08

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420726	01/29/20 18:26	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 18:39	SAM	TAL CAN

Client Sample ID: LIFHP-134_13-17_012620

Lab Sample ID: 240-125446-8

Date Collected: 01/26/20 10:22

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 16:23	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 19:04	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_8-12_012620

Lab Sample ID: 240-125446-9

Date Collected: 01/26/20 10:32

Matrix: Water

Date Received: 01/28/20 08:20

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	8260B		1	420869	01/30/20 16:48	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 19:30	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20 *
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Address:

Regulatory Program: DW HSPDES RCRA DDEP

Project Manager: KRAS HINSKEY Site Contact: IAN SPAST Date: 01/26/2020

Tel/Email: 269-571-5402 Lab Contact: MIKE DELMONICO Carrier: COC No. 1 of COCs

Company Name: ARCADIS Client Contact: CABOT DR, STE 500
Address: 28550 CABOT DR, STE 500
City/State/Zip: NWI / IN / 46317
Phone: 219-734-2240
Fax:
Project Name: FORD LTP
Site: FORD LTP
POF:

Analysis Turnaround Time: WORKING DAYS
CALENDAR DAYS: 5 DAY
TAT if different from below: 5 DAY
 2 weeks 3 weeks 2 days 1 day

Matrix: RUSH
TAT

Sample Date	Sample Time	Sample Type (G=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Sample Specific Notes
			AG	1	N		TRIP BLANK
	08:32	G	SO	2	N		
	08:34	G	SO	2	N		
	08:56	G	SO	2	N		
	08:58	G	SO	2	N		
	08:40	G	SO	2	N		
	10:08	G	GW	6	N		
	10:22	G	GW	6	N		
	10:52	G	GW	6	N		

Barcode: 240-125446 Chain of Custody

Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=Nach, 6=Other

Possible Hazaro Identification: Are any samples from a listed EPA Hazarous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments: SUBMIT ALL RESULTS TO FORD CABOT AT JIM.TOMALIA@CADENA.COM

Relinquished by: Heather Cuser
Relinquished by: Keith Gibson
Relinquished by: Molly Haxnew

Received by: NIM CAD STORAGE ARCADIS
Received by: Molly Haxnew ARCADIS
Received by: Jim Tomalia ETAL-MI

Company: ARCADIS
Company: ARCADIS
Company: ETAL-MI

Date/Time: 01/26/20 14:10
Date/Time: 1/27/20 12:00
Date/Time: 1/27/20 15:00

Therm ID No.:
Dates/Time: 1/26/20 14:10
Dates/Time: 1/27/20 12:00
Dates/Time: 1/28/20 08:30



Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login #: 175446

Canton Facility

Client: Arcadis Site Name: _____ Cooler unpacked by: Adam Gannett
 Cooler Received on: 1-28-20 Opened on: 1-29-20
 FedEx: 1st ~~Grd~~ ~~Exp~~ UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other
 Packing material used: Bubble Wrap Foam Plastic Bag None Other
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN # IR-10 (CF: +0.7 °C) Observed Cooler Temp: _____ °C Corrected Cooler Temp: _____ °C
 IR GUN # IR-11 (CF: +0.9 °C) Observed Cooler Temp: _____ °C Corrected Cooler Temp: _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ea Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0177015 Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: AAJ

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 05, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30016346.0001B - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 125446-1
Sample date: 2020-01-26
Report received by CADENA: 2020-02-04
Initial Data Verification completed by CADENA: 2020-02-04
Number of Samples:5
Sample Matrices:Soil
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

This report was revised to change a sample name.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOL and SIM sample -007 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

GCMS VOC QC batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 125446-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401254461	TRIP BLANK	1/26/2020	12:00:00	X		
2401254462	LIFHP-134_1-2_012620	1/26/2020	8:32:00	X		
2401254463	LIFHP-134_3-4_012620	1/26/2020	8:34:00	X		
2401254464	LIFHP-134_4-5_012620	1/26/2020	8:36:00	X		
2401254465	LIFHP-134_5-6_012620	1/26/2020	8:38:00	X		
2401254466	LIFHP-134_6-7_012620	1/26/2020	8:40:00	X		
2401254467	LIFHP-134_18-22_012620	1/26/2020	10:08:00	X	X	
2401254468	LIFHP-134_13-17_012620	1/26/2020	10:22:00	X	X	
2401254469	LIFHP-134_8-12_012620	1/26/2020	10:32:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 125446-1

Sample Name: LIFHP-134_18-22_012620

Lab Sample ID: 2401254467

Sample Date: 1/26/2020

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units	Qualifier	
GC/MS VOC						
<u>OSW-8260B</u>						
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ	
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ	
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	
Vinyl chloride	75-01-4	ND	1.0	ug/l	UJ	
<u>OSW-8260BBSim</u>						
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 125446-1

Analyte	Cas No.	TRIP BLANK				LIFHP-134_1-2_012620				LIFHP-134_3-4_012620				LIFHP-134_4-5_012620				LIFHP-134_5-6_012620				LIFHP-134_6-7_012620				LIFHP-134_18-22_012620				LIFHP-134_13-17_012620				LIFHP-134_8-12_012620			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier				

GC/MS VOC

OSW-8260B

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	48	ug/kg	---	ND	49	ug/kg	---	ND	45	ug/kg	---	ND	49	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dioxane	123-91-1					ND	16000	ug/kg	---	ND	15000	ug/kg	---	ND	15000	ug/kg	---	ND	14000	ug/kg	---	ND	15000	ug/kg	---												
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	48	ug/kg	---	ND	49	ug/kg	---	ND	45	ug/kg	---	ND	49	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	48	ug/kg	---	ND	49	ug/kg	---	ND	45	ug/kg	---	ND	49	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	48	ug/kg	---	ND	49	ug/kg	---	ND	45	ug/kg	---	ND	49	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	48	ug/kg	---	ND	49	ug/kg	---	ND	45	ug/kg	---	ND	49	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	40	ug/kg	---	ND	38	ug/kg	---	ND	39	ug/kg	---	ND	36	ug/kg	---	ND	39	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	9.5	1.0	ug/l	---

OSW-8260BBSim

1,4-Dioxane	123-91-1																																				6.3	2.0	ug/l	---	0.94	2.0	ug/l	---
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ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-125447-1
Client Project/Site: Ford LTP Livonia MI

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/4/2020 9:46:20 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Job ID: 240-125447-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI

Report Number: 240-125447-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/28/2020 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.2° C and 2.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-125447-1), LIFHP-135_16-20_012620 (240-125447-7) and LIFHP-135_11-15_012620 (240-125447-8) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/29/2020 and 01/30/2020.

The following sample was submitted for volatile analysis with insufficient preservation (pH>2): LIFHP-135_16-20_012620 (240-125447-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples LIFHP-135_1-2_012620 (240-125447-2), LIFHP-135_3-4_012620 (240-125447-3), LIFHP-135_5-6_012620 (240-125447-4), LIFHP-135_6-7_012620 (240-125447-5) and LIFHP-135_7-8_012620 (240-125447-6) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/30/2020.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Job ID: 240-125447-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-135_16-20_012620 (240-125447-7) and LIFHP-135_11-15_012620 (240-125447-8) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 01/29/2020.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-420691 and analytical batch 240-420880.

The following sample was submitted for volatile analysis with insufficient preservation (pH>2): LIFHP-135_16-20_012620 (240-125447-7).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples LIFHP-135_1-2_012620 (240-125447-2), LIFHP-135_3-4_012620 (240-125447-3), LIFHP-135_5-6_012620 (240-125447-4), LIFHP-135_6-7_012620 (240-125447-5) and LIFHP-135_7-8_012620 (240-125447-6) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 01/28/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125447-1	TRIP BLANK	Water	01/25/20 00:00	01/28/20 08:20	
240-125447-2	LIFHP-135_1-2_012620	Solid	01/25/20 16:57	01/28/20 08:20	
240-125447-3	LIFHP-135_3-4_012620	Solid	01/25/20 17:02	01/28/20 08:20	
240-125447-4	LIFHP-135_5-6_012620	Solid	01/25/20 17:06	01/28/20 08:20	
240-125447-5	LIFHP-135_6-7_012620	Solid	01/25/20 17:13	01/28/20 08:20	
240-125447-6	LIFHP-135_7-8_012620	Solid	01/25/20 17:16	01/28/20 08:20	
240-125447-7	LIFHP-135_16-20_012620	Water	01/25/20 18:50	01/28/20 08:20	
240-125447-8	LIFHP-135_11-15_012620	Water	01/25/20 19:00	01/28/20 08:20	

Detection Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: TRIP BLANK **Lab Sample ID: 240-125447-1**

No Detections.

Client Sample ID: LIFHP-135_1-2_012620 **Lab Sample ID: 240-125447-2**

No Detections.

Client Sample ID: LIFHP-135_3-4_012620 **Lab Sample ID: 240-125447-3**

No Detections.

Client Sample ID: LIFHP-135_5-6_012620 **Lab Sample ID: 240-125447-4**

No Detections.

Client Sample ID: LIFHP-135_6-7_012620 **Lab Sample ID: 240-125447-5**

No Detections.

Client Sample ID: LIFHP-135_7-8_012620 **Lab Sample ID: 240-125447-6**

No Detections.

Client Sample ID: LIFHP-135_16-20_012620 **Lab Sample ID: 240-125447-7**

No Detections.

Client Sample ID: LIFHP-135_11-15_012620 **Lab Sample ID: 240-125447-8**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125447-1

Date Collected: 01/25/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 18:51	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 18:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:51	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 18:51	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 18:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		01/29/20 18:51	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/29/20 18:51	1
Toluene-d8 (Surr)	98		69 - 122		01/29/20 18:51	1
Dibromofluoromethane (Surr)	89		78 - 129		01/29/20 18:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_1-2_012620

Lab Sample ID: 240-125447-2

Date Collected: 01/25/20 16:57

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		47 - 136	01/29/20 11:09	01/30/20 23:21	1
4-Bromofluorobenzene (Surr)	109		51 - 124	01/29/20 11:09	01/30/20 23:21	1
Dibromofluoromethane (Surr)	70		49 - 122	01/29/20 11:09	01/30/20 23:21	1
Toluene-d8 (Surr)	103		55 - 123	01/29/20 11:09	01/30/20 23:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.5		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	9.5		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_3-4_012620

Lab Sample ID: 240-125447-3

Date Collected: 01/25/20 17:02

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 94.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	52	U	52	21	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
cis-1,2-Dichloroethene	52	U	52	12	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
Tetrachloroethene	52	U	52	23	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
trans-1,2-Dichloroethene	52	U	52	13	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
Trichloroethene	52	U	52	14	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		47 - 136	01/29/20 13:47	01/30/20 20:10	1
4-Bromofluorobenzene (Surr)	87		51 - 124	01/29/20 13:47	01/30/20 20:10	1
Dibromofluoromethane (Surr)	98		49 - 122	01/29/20 13:47	01/30/20 20:10	1
Toluene-d8 (Surr)	100		55 - 123	01/29/20 13:47	01/30/20 20:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94.6		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	5.4		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_5-6_012620

Lab Sample ID: 240-125447-4

Date Collected: 01/25/20 17:06

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 92.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		47 - 136	01/29/20 13:47	01/30/20 20:33	1
4-Bromofluorobenzene (Surr)	90		51 - 124	01/29/20 13:47	01/30/20 20:33	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 13:47	01/30/20 20:33	1
Toluene-d8 (Surr)	101		55 - 123	01/29/20 13:47	01/30/20 20:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.8		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	7.2		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_6-7_012620

Lab Sample ID: 240-125447-5

Date Collected: 01/25/20 17:13

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 95.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	46	U	46	18	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
1,4-Dioxane	14000	U	14000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
cis-1,2-Dichloroethene	46	U	46	10	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
Tetrachloroethene	46	U	46	21	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
trans-1,2-Dichloroethene	46	U	46	12	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
Trichloroethene	46	U	46	13	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
Vinyl chloride	37	U	37	14	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		47 - 136	01/29/20 13:47	01/30/20 20:55	1
4-Bromofluorobenzene (Surr)	84		51 - 124	01/29/20 13:47	01/30/20 20:55	1
Dibromofluoromethane (Surr)	93		49 - 122	01/29/20 13:47	01/30/20 20:55	1
Toluene-d8 (Surr)	96		55 - 123	01/29/20 13:47	01/30/20 20:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95.8		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	4.2		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_7-8_012620

Lab Sample ID: 240-125447-6

Date Collected: 01/25/20 17:16

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 94.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	46	U	46	18	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
1,4-Dioxane	14000	U	14000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
cis-1,2-Dichloroethene	46	U	46	10	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
Tetrachloroethene	46	U	46	21	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
trans-1,2-Dichloroethene	46	U	46	12	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
Trichloroethene	46	U	46	13	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
Vinyl chloride	37	U	37	14	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		47 - 136	01/29/20 13:47	01/30/20 21:18	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/29/20 13:47	01/30/20 21:18	1
Dibromofluoromethane (Surr)	98		49 - 122	01/29/20 13:47	01/30/20 21:18	1
Toluene-d8 (Surr)	95		55 - 123	01/29/20 13:47	01/30/20 21:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94.9		0.1	0.1	%			01/28/20 15:58	1
Percent Moisture	5.1		0.1	0.1	%			01/28/20 15:58	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_16-20_012620

Lab Sample ID: 240-125447-7

Date Collected: 01/25/20 18:50

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 14:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		01/29/20 14:23	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 17:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 17:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 17:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 17:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 17:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/30/20 17:12	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/30/20 17:12	1
Toluene-d8 (Surr)	100		69 - 122		01/30/20 17:12	1
Dibromofluoromethane (Surr)	90		78 - 129		01/30/20 17:12	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_11-15_012620

Lab Sample ID: 240-125447-8

Date Collected: 01/25/20 19:00

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1	J	2.0	0.86	ug/L	-		01/29/20 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		63 - 125		01/29/20 14:48	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/30/20 17:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		01/30/20 17:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		01/30/20 17:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/30/20 17:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		01/30/20 17:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		01/30/20 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/30/20 17:37	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/30/20 17:37	1
Toluene-d8 (Surr)	97		69 - 122		01/30/20 17:37	1
Dibromofluoromethane (Surr)	90		78 - 129		01/30/20 17:37	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-125366-C-1 MS	Matrix Spike	97	99	98	88
240-125366-C-1 MSD	Matrix Spike Duplicate	95	97	98	86
240-125417-A-2 MS	Matrix Spike	95	100	100	89
240-125417-C-2 MSD	Matrix Spike Duplicate	93	101	100	91
240-125447-1	TRIP BLANK	96	102	98	89
240-125447-7	LIFHP-135_16-20_012620	94	102	100	90
240-125447-8	LIFHP-135_11-15_012620	94	102	97	90
LCS 240-420726/4	Lab Control Sample	93	102	97	88
LCS 240-420869/4	Lab Control Sample	93	107	97	88
MB 240-420726/7	Method Blank	93	104	97	86
MB 240-420869/7	Method Blank	95	105	100	89

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (47-136)	BFB (51-124)	DBFM (49-122)	TOL (55-123)
240-125447-2	LIFHP-135_1-2_012620	109	109	70	103
240-125447-3	LIFHP-135_3-4_012620	98	87	98	100
240-125447-4	LIFHP-135_5-6_012620	103	90	100	101
240-125447-5	LIFHP-135_6-7_012620	94	84	93	96
240-125447-6	LIFHP-135_7-8_012620	101	88	98	95
240-125448-B-6-A MS	Matrix Spike	101	94	104	102
240-125448-C-6-A MSD	Matrix Spike Duplicate	94	87	97	97
LCS 240-420691/2-A	Lab Control Sample	86	88	83	88
LCS 240-420730/2-A	Lab Control Sample	93	86	95	94
LCSD 240-420730/3-A	Lab Control Sample Dup	90	85	95	92
MB 240-420691/1-A	Method Blank	86	84	78	82
MB 240-420730/1-A	Method Blank	89	78	91	88

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-125447-7	LIFHP-135_16-20_012620	99
240-125447-8	LIFHP-135_11-15_012620	98

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-125447-8 MS	LIFHP-135_11-15_012620	97
240-125447-8 MSD	LIFHP-135_11-15_012620	100
LCS 240-420655/4	Lab Control Sample	96
MB 240-420655/5	Method Blank	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420726/7
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 14:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 14:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 14:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		01/29/20 14:39	1
4-Bromofluorobenzene (Surr)	104		47 - 134		01/29/20 14:39	1
Toluene-d8 (Surr)	97		69 - 122		01/29/20 14:39	1
Dibromofluoromethane (Surr)	86		78 - 129		01/29/20 14:39	1

Lab Sample ID: LCS 240-420726/4
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124
Tetrachloroethene	10.0	10.1		ug/L		101	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.48		ug/L		95	71 - 121
Vinyl chloride	10.0	10.1		ug/L		101	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	68 - 121
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	69 - 126
Trichloroethene	1.0	U	10.0	9.24		ug/L		92	56 - 124
Vinyl chloride	1.0	U	10.0	9.77		ug/L		98	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	100		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-125417-C-2 MSD
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 132	3	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.0		ug/L		100	68 - 121	3	35
Tetrachloroethene	1.0	U	10.0	9.78		ug/L		98	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	69 - 126	0	35
Trichloroethene	1.0	U	10.0	8.91		ug/L		89	56 - 124	4	35
Vinyl chloride	1.0	U	10.0	10.7		ug/L		107	49 - 136	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	101		47 - 134
Toluene-d8 (Surr)	100		69 - 122
Dibromofluoromethane (Surr)	91		78 - 129

Lab Sample ID: MB 240-420869/7
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 15:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 15:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 15:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 15:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/30/20 15:34	1
4-Bromofluorobenzene (Surr)	105		47 - 134		01/30/20 15:34	1
Toluene-d8 (Surr)	100		69 - 122		01/30/20 15:34	1
Dibromofluoromethane (Surr)	89		78 - 129		01/30/20 15:34	1

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.2		ug/L		102	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.67		ug/L		97	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420869/4

Matrix: Water

Analysis Batch: 420869

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	9.71		ug/L		97	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125366-C-1 MS

Matrix: Water

Analysis Batch: 420869

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	100	U	1000	886		ug/L		89	64 - 132
cis-1,2-Dichloroethene	58	J	1000	1070		ug/L		101	68 - 121
Tetrachloroethene	100	U	1000	850		ug/L		85	52 - 129
trans-1,2-Dichloroethene	100	U	1000	948		ug/L		95	69 - 126
Trichloroethene	100	U	1000	848		ug/L		85	56 - 124
Vinyl chloride	100	U	1000	904		ug/L		90	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125366-C-1 MSD

Matrix: Water

Analysis Batch: 420869

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	100	U	1000	922		ug/L		92	64 - 132	4	35
cis-1,2-Dichloroethene	58	J	1000	1080		ug/L		102	68 - 121	1	35
Tetrachloroethene	100	U	1000	854		ug/L		85	52 - 129	0	35
trans-1,2-Dichloroethene	100	U	1000	1010		ug/L		101	69 - 126	6	35
Trichloroethene	100	U	1000	836		ug/L		84	56 - 124	1	35
Vinyl chloride	100	U	1000	985		ug/L		98	49 - 136	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	97		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420691/1-A
Matrix: Solid
Analysis Batch: 420880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420691

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	40	U	40	16	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
Tetrachloroethene	40	U	40	18	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
Trichloroethene	40	U	40	11	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
Vinyl chloride	32	U	32	12	ug/Kg		01/29/20 11:09	01/30/20 14:51	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	86		47 - 136	01/29/20 11:09	01/30/20 14:51	1
4-Bromofluorobenzene (Surr)	84		51 - 124	01/29/20 11:09	01/30/20 14:51	1
Dibromofluoromethane (Surr)	78		49 - 122	01/29/20 11:09	01/30/20 14:51	1
Toluene-d8 (Surr)	82		55 - 123	01/29/20 11:09	01/30/20 14:51	1

Lab Sample ID: LCS 240-420691/2-A
Matrix: Solid
Analysis Batch: 420880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420691

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
1,1-Dichloroethene	1000	939		ug/Kg		94	48 - 140
1,4-Dioxane	20000	18600		ug/Kg		93	44 - 154
cis-1,2-Dichloroethene	1000	936		ug/Kg		94	76 - 120
Tetrachloroethene	1000	946		ug/Kg		95	75 - 124
trans-1,2-Dichloroethene	1000	932		ug/Kg		93	74 - 125
Trichloroethene	1000	942		ug/Kg		94	75 - 123
Vinyl chloride	1000	789		ug/Kg		79	39 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	86		47 - 136
4-Bromofluorobenzene (Surr)	88		51 - 124
Dibromofluoromethane (Surr)	83		49 - 122
Toluene-d8 (Surr)	88		55 - 123

Lab Sample ID: MB 240-420730/1-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420730

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	40	U	40	16	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Tetrachloroethene	40	U	40	18	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Trichloroethene	40	U	40	11	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Vinyl chloride	32	U	32	12	ug/Kg		01/29/20 13:47	01/30/20 19:02	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-420730/1-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420730

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	89		47 - 136	01/29/20 13:47	01/30/20 19:02	1
4-Bromofluorobenzene (Surr)	78		51 - 124	01/29/20 13:47	01/30/20 19:02	1
Dibromofluoromethane (Surr)	91		49 - 122	01/29/20 13:47	01/30/20 19:02	1
Toluene-d8 (Surr)	88		55 - 123	01/29/20 13:47	01/30/20 19:02	1

Lab Sample ID: LCS 240-420730/2-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	%Rec.
1,4-Dioxane	20000	20100		ug/Kg		101	44 - 154	
cis-1,2-Dichloroethene	1000	1020		ug/Kg		102	76 - 120	
Tetrachloroethene	1000	953		ug/Kg		95	75 - 124	
trans-1,2-Dichloroethene	1000	1050		ug/Kg		105	74 - 125	
Trichloroethene	1000	984		ug/Kg		98	75 - 123	
Vinyl chloride	1000	892		ug/Kg		89	39 - 140	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	93		47 - 136
4-Bromofluorobenzene (Surr)	86		51 - 124
Dibromofluoromethane (Surr)	95		49 - 122
Toluene-d8 (Surr)	94		55 - 123

Lab Sample ID: LCSD 240-420730/3-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,4-Dioxane	20000	17300		ug/Kg		87	44 - 154	15	40
cis-1,2-Dichloroethene	1000	1040		ug/Kg		104	76 - 120	2	40
Tetrachloroethene	1000	954		ug/Kg		95	75 - 124	0	40
trans-1,2-Dichloroethene	1000	1070		ug/Kg		107	74 - 125	2	40
Trichloroethene	1000	1030		ug/Kg		103	75 - 123	5	40
Vinyl chloride	1000	887		ug/Kg		89	39 - 140	1	40

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		47 - 136
4-Bromofluorobenzene (Surr)	85		51 - 124
Dibromofluoromethane (Surr)	95		49 - 122
Toluene-d8 (Surr)	92		55 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125448-B-6-A MS
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 420730
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	65	U	1430	1580		ug/Kg	☼	110	20 - 150
1,4-Dioxane	20000	U F2	28600	21100	J	ug/Kg	☼	74	48 - 149
cis-1,2-Dichloroethene	65	U	1430	1630		ug/Kg	☼	114	35 - 130
Tetrachloroethene	65	U	1430	1460		ug/Kg	☼	102	13 - 144
trans-1,2-Dichloroethene	65	U	1430	1650		ug/Kg	☼	115	31 - 138
Trichloroethene	65	U	1430	1610		ug/Kg	☼	113	10 - 162
Vinyl chloride	52	U	1430	1260		ug/Kg	☼	88	15 - 150
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	101		47 - 136						
4-Bromofluorobenzene (Surr)	94		51 - 124						
Dibromofluoromethane (Surr)	104		49 - 122						
Toluene-d8 (Surr)	102		55 - 123						

Lab Sample ID: 240-125448-C-6-A MSD
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 420730
%Rec.

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1-Dichloroethene	65	U	1340	1350		ug/Kg	☼	101	20 - 150	16	40
1,4-Dioxane	20000	U F2	26700	34500	F2	ug/Kg	☼	129	48 - 149	48	40
cis-1,2-Dichloroethene	65	U	1340	1420		ug/Kg	☼	106	35 - 130	14	40
Tetrachloroethene	65	U	1340	1220		ug/Kg	☼	92	13 - 144	18	40
trans-1,2-Dichloroethene	65	U	1340	1400		ug/Kg	☼	105	31 - 138	17	40
Trichloroethene	65	U	1340	1440		ug/Kg	☼	108	10 - 162	11	40
Vinyl chloride	52	U	1340	1040		ug/Kg	☼	78	15 - 150	19	40
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	94		47 - 136								
4-Bromofluorobenzene (Surr)	87		51 - 124								
Dibromofluoromethane (Surr)	97		49 - 122								
Toluene-d8 (Surr)	97		55 - 123								

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420655/5
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 11:49	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		63 - 125						
							Prepared	Analyzed	Dil Fac
								01/29/20 11:49	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420655/4
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.75		ug/L		98	59 - 131
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	96		63 - 125				

Lab Sample ID: 240-125447-8 MS
Matrix: Water
Analysis Batch: 420655

Client Sample ID: LIFHP-135_11-15_012620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.1	J	10.0	10.9		ug/L		98	52 - 129
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		63 - 125						

Lab Sample ID: 240-125447-8 MSD
Matrix: Water
Analysis Batch: 420655

Client Sample ID: LIFHP-135_11-15_012620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,4-Dioxane	1.1	J	10.0	10.2		ug/L		91	52 - 129	6	13
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	100		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-125447-2 DU
Matrix: Solid
Analysis Batch: 420559

Client Sample ID: LIFHP-135_1-2_012620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Solids	90.5		89.6		%		1	20
Percent Moisture	9.5		10.4		%		9	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

GC/MS VOA

Analysis Batch: 420655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-7	LIFHP-135_16-20_012620	Total/NA	Water	8260B SIM	
240-125447-8	LIFHP-135_11-15_012620	Total/NA	Water	8260B SIM	
MB 240-420655/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-420655/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125447-8 MS	LIFHP-135_11-15_012620	Total/NA	Water	8260B SIM	
240-125447-8 MSD	LIFHP-135_11-15_012620	Total/NA	Water	8260B SIM	

Prep Batch: 420691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-2	LIFHP-135_1-2_012620	Total/NA	Solid	5030B	
MB 240-420691/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420691/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 420726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-1	TRIP BLANK	Total/NA	Water	8260B	
MB 240-420726/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420726/4	Lab Control Sample	Total/NA	Water	8260B	
240-125417-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-125417-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Prep Batch: 420730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-3	LIFHP-135_3-4_012620	Total/NA	Solid	5030B	
240-125447-4	LIFHP-135_5-6_012620	Total/NA	Solid	5030B	
240-125447-5	LIFHP-135_6-7_012620	Total/NA	Solid	5030B	
240-125447-6	LIFHP-135_7-8_012620	Total/NA	Solid	5030B	
MB 240-420730/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420730/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 240-420730/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
240-125448-B-6-A MS	Matrix Spike	Total/NA	Solid	5030B	
240-125448-C-6-A MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	

Analysis Batch: 420869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-7	LIFHP-135_16-20_012620	Total/NA	Water	8260B	
240-125447-8	LIFHP-135_11-15_012620	Total/NA	Water	8260B	
MB 240-420869/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420869/4	Lab Control Sample	Total/NA	Water	8260B	
240-125366-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-125366-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 420880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-2	LIFHP-135_1-2_012620	Total/NA	Solid	8260B MI	420691
MB 240-420691/1-A	Method Blank	Total/NA	Solid	8260B MI	420691
LCS 240-420691/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420691

Analysis Batch: 420938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-3	LIFHP-135_3-4_012620	Total/NA	Solid	8260B MI	420730

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

GC/MS VOA (Continued)

Analysis Batch: 420938 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-4	LIFHP-135_5-6_012620	Total/NA	Solid	8260B MI	420730
240-125447-5	LIFHP-135_6-7_012620	Total/NA	Solid	8260B MI	420730
240-125447-6	LIFHP-135_7-8_012620	Total/NA	Solid	8260B MI	420730
MB 240-420730/1-A	Method Blank	Total/NA	Solid	8260B MI	420730
LCS 240-420730/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420730
LCSD 240-420730/3-A	Lab Control Sample Dup	Total/NA	Solid	8260B MI	420730
240-125448-B-6-A MS	Matrix Spike	Total/NA	Solid	8260B MI	420730
240-125448-C-6-A MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B MI	420730

General Chemistry

Analysis Batch: 420559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-2	LIFHP-135_1-2_012620	Total/NA	Solid	Moisture	
240-125447-3	LIFHP-135_3-4_012620	Total/NA	Solid	Moisture	
240-125447-4	LIFHP-135_5-6_012620	Total/NA	Solid	Moisture	
240-125447-5	LIFHP-135_6-7_012620	Total/NA	Solid	Moisture	
240-125447-6	LIFHP-135_7-8_012620	Total/NA	Solid	Moisture	
240-125447-2 DU	LIFHP-135_1-2_012620	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125447-1

Date Collected: 01/25/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420726	01/29/20 18:51	LRW	TAL CAN

Client Sample ID: LIFHP-135_1-2_012620

Lab Sample ID: 240-125447-2

Date Collected: 01/25/20 16:57

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-135_1-2_012620

Lab Sample ID: 240-125447-2

Date Collected: 01/25/20 16:57

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 23:21	HMB	TAL CAN

Client Sample ID: LIFHP-135_3-4_012620

Lab Sample ID: 240-125447-3

Date Collected: 01/25/20 17:02

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-135_3-4_012620

Lab Sample ID: 240-125447-3

Date Collected: 01/25/20 17:02

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 94.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 20:10	TJL1	TAL CAN

Client Sample ID: LIFHP-135_5-6_012620

Lab Sample ID: 240-125447-4

Date Collected: 01/25/20 17:06

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-135_5-6_012620

Lab Sample ID: 240-125447-4

Date Collected: 01/25/20 17:06

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 20:33	TJL1	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_6-7_012620

Lab Sample ID: 240-125447-5

Date Collected: 01/25/20 17:13

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-135_6-7_012620

Lab Sample ID: 240-125447-5

Date Collected: 01/25/20 17:13

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 20:55	TJL1	TAL CAN

Client Sample ID: LIFHP-135_7-8_012620

Lab Sample ID: 240-125447-6

Date Collected: 01/25/20 17:16

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:58	BLW	TAL CAN

Client Sample ID: LIFHP-135_7-8_012620

Lab Sample ID: 240-125447-6

Date Collected: 01/25/20 17:16

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 94.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 21:18	TJL1	TAL CAN

Client Sample ID: LIFHP-135_16-20_012620

Lab Sample ID: 240-125447-7

Date Collected: 01/25/20 18:50

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 17:12	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 14:23	SAM	TAL CAN

Client Sample ID: LIFHP-135_11-15_012620

Lab Sample ID: 240-125447-8

Date Collected: 01/25/20 19:00

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 17:37	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 14:48	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

TestAmerica Michigan
18448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.229.2763 Fax: 412.963.2478

MICHIGAN
190

Chain of Custody Record

221043

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (6/13)

Regulatory Program: RCRA SWDES Other

Client Contact		Project Manager: 1553 MONSIEY		Site Contact: IAN BOST		Date: 1/25/20		COC No: 1125120	
Company Name: ARCADIS		Tel/Fax: 269-579-5402		Lab Contact: ANNE TRAVINSKY		Carrier:		Sampler:	
Address: 28550 Cabot Dr Ste 500		Analysis Turnaround Time		Vial Contact: ANNE TRAVINSKY		For Lab Use Only:		Walk-in Client	
City/State/Zip: Ann Arbor MI 48106		CALENDAR DAYS		Vial Contact: ANNE TRAVINSKY		Lab Sampling		Job / SDG No:	
Phone: 734-394-1340		WEEKEND DAYS		Vial Contact: ANNE TRAVINSKY		Sample Specific Notes:			
Fax:		TAT (delivered from lab)		Vial Contact: ANNE TRAVINSKY					
Project Name: FSD GTP		3 weeks		Vial Contact: ANNE TRAVINSKY					
Site: FSD GTP		2 weeks		Vial Contact: ANNE TRAVINSKY					
PO#:		1 day		Vial Contact: ANNE TRAVINSKY					
Sample Identification		Sample Date	Sample Time	Sample Type (IC-comp, GC, etc)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Other
Top Blank									
LIFHP-135-1-2-012520		1/25/20	1657	G	HAZ	1	X	X	Included Dry Weight
LIFHP-135-3-4-012520		1/25/20	1702	G	S	2	X	X	"
LIFHP-135-5-6-012520		1/25/20	1706	G	S	2	X	X	"
LIFHP-135-6-7-012520		1/25/20	1713	G	S	2	X	X	"
LIFHP-135-7-8-012520		1/25/20	1716	G	S	2	X	X	"
LIFHP-135-8-9-012520		1/25/20	1720	G	HAZ	6	X	X	"
LIFHP-135-10-11-012520		1/25/20	1850	G	HAZ	6	X	X	"
LIFHP-135-11-12-012520		1/25/20	1900	G	HAZ	6	X	X	"



Preservation Used: IC-2-HCl H2SO4 HNO3 H2O2 Other: **HAZ DONE**

Possible Hazard Identification: Please list any EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/ICC Requirements & Comments: **STONET ALL RESULTS THROUGH CADEVA # E 203720**

Received by: **ARCADIS** Date/Time: **01/25/20 12:00**

Relinquished by: **CAITH GILES** Date/Time: **01/27/20 12:00**

Relinquished by: **MOLLY MAXSON** Date/Time: **1/27/20 15:58**

Company: **ARCADIS**

Company: **ARCADIS**

Company: **ARCADIS**

Canton Facility

Client Arcadis

Site Name

Cooler unpacked by:

Cooler Received on 1-29-20

Opened on 1-29-20

Adam Gannett

FedEx: 1st ~~Grd~~ UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN #IR-10 (CF +0.7 °C) Observed Cooler Temp: _____ °C Corrected Cooler Temp: _____ °C
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp: _____ °C Corrected Cooler Temp: _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ea Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials? Yes No Larger than this.

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 017761E Yes No

16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM: _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

AG

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 04, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30016346.0001B - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 125447-1
Sample date: 2020-01-25
Report received by CADENA: 2020-02-04
Initial Data Verification completed by CADENA: 2020-02-04
Number of Samples:5
Sample Matrices:Soil
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOL and SIM sample -007 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

GCMS VOC QC batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

GCMS VOC QC batch MS/MSD recovery outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 125447-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401254471	TRIP BLANK	1/25/2020	12:00:00	X		
2401254472	LIFHP-135_1-2_012620	1/25/2020	4:57:00	X		
2401254473	LIFHP-135_3-4_012620	1/25/2020	5:02:00	X		
2401254474	LIFHP-135_5-6_012620	1/25/2020	5:06:00	X		
2401254475	LIFHP-135_6-7_012620	1/25/2020	5:13:00	X		
2401254476	LIFHP-135_7-8_012620	1/25/2020	5:16:00	X		
2401254477	LIFHP-135_16-20_012620	1/25/2020	6:50:00	X	X	
2401254478	LIFHP-135_11-15_012620	1/25/2020	7:00:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 125447-1

Sample Name: LIFHP-135_16-20_012620

Lab Sample ID: 2401254477

Sample Date: 1/25/2020

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units	Qualifier	
GC/MS VOC						
<u>OSW-8260B</u>						
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ	
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ	
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	
Vinyl chloride	75-01-4	ND	1.0	ug/l	UJ	
<u>OSW-8260BBSim</u>						
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 125447-1

Sample Name: TRIP BLANK	LIFHP-135_1-2_012620	LIFHP-135_3-4_012620	LIFHP-135_5-6_012620	LIFHP-135_6-7_012620	LIFHP-135_7-8_012620	LIFHP-135_16-20_012620	LIFHP-135_11-15_012620
Lab Sample ID: 2401254471	2401254472	2401254473	2401254474	2401254475	2401254476	2401254477	2401254478
Sample Date: 1/25/2020	1/25/2020	1/25/2020	1/25/2020	1/25/2020	1/25/2020	1/25/2020	1/25/2020

Analyte	Cas No.	LIFHP-135_1-2_012620				LIFHP-135_3-4_012620				LIFHP-135_5-6_012620				LIFHP-135_6-7_012620				LIFHP-135_7-8_012620				LIFHP-135_16-20_012620				LIFHP-135_11-15_012620							
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier				
GC/MS VOC																																	
<u>OSW-8260B</u>																																	
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
1,4-Dioxane	123-91-1					ND	16000	ug/kg	---	ND	16000	ug/kg	---	ND	16000	ug/kg	---	ND	14000	ug/kg	---	ND	14000	ug/kg	---								
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	40	ug/kg	---	ND	41	ug/kg	---	ND	40	ug/kg	---	ND	37	ug/kg	---	ND	37	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---


ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-125448-1
Client Project/Site: Ford LTP Livonia MI

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/3/2020 11:26:26 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Job ID: 240-125448-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI

Report Number: 240-125448-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/28/2020 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.2° C and 2.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples LIFHP-137_21-25_012620 (240-125448-7), LIFHP-137_13-17_012620 (240-125448-8), LIFHP-137_8-12_012620 (240-125448-9), LIFHP-136_11-15_012620 (240-125448-15), LIFHP-136_16-20_012620 (240-125448-16), LIFHP-136_21-25_012620 (240-125448-17) and TRIP BLANK (240-125448-18) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/29/2020 and 01/30/2020.

The following samples were submitted for volatile analysis with insufficient preservation (pH>2): LIFHP-137_21-25_012620 (240-125448-7), LIFHP-137_8-12_012620 (240-125448-9) and LIFHP-136_11-15_012620 (240-125448-15).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples DUP-01_012620 (240-125448-1), LIFHP-137_1-2_012620 (240-125448-2), LIFHP-137_5-6_012620 (240-125448-3), LIFHP-137_6-7_012620 (240-125448-4), LIFHP-137_22-23_012620 (240-125448-5), LIFHP-137_24-25_012620 (240-125448-6), LIFHP-136_1-2_012620 (240-125448-10), LIFHP-136_3-4_012620 (240-125448-11), LIFHP-136_9-10_012620 (240-125448-12), LIFHP-136_20-21_012620 (240-125448-13) and LIFHP-136_21-22_012620 (240-125448-14) were analyzed for volatile organic

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Job ID: 240-125448-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/30/2020 and 01/31/2020.

1,4-Dioxane exceeded the RPD limit for the MSD of sample LIFHP-137_24-25_012620MSD (240-125448-6) in batch 240-420938. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-137_21-25_012620 (240-125448-7), LIFHP-137_13-17_012620 (240-125448-8), LIFHP-137_8-12_012620 (240-125448-9), LIFHP-136_11-15_012620 (240-125448-15), LIFHP-136_16-20_012620 (240-125448-16) and LIFHP-136_21-25_012620 (240-125448-17) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 01/29/2020.

The pH is greater than 2 for the following samples LIFHP-137_21-25_012620 (240-125448-7), LIFHP-136_16-20_012620 (240-125448-16) and LIFHP-136_21-25_012620 (240-125448-17).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples DUP-01_012620 (240-125448-1), LIFHP-137_1-2_012620 (240-125448-2), LIFHP-137_5-6_012620 (240-125448-3), LIFHP-137_6-7_012620 (240-125448-4), LIFHP-137_22-23_012620 (240-125448-5), LIFHP-137_24-25_012620 (240-125448-6), LIFHP-136_1-2_012620 (240-125448-10), LIFHP-136_3-4_012620 (240-125448-11), LIFHP-136_9-10_012620 (240-125448-12), LIFHP-136_20-21_012620 (240-125448-13) and LIFHP-136_21-22_012620 (240-125448-14) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 01/28/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125448-1	DUP-01_012620	Solid	01/26/20 00:00	01/28/20 08:20	
240-125448-2	LIFHP-137_1-2_012620	Solid	01/26/20 16:40	01/28/20 08:20	
240-125448-3	LIFHP-137_5-6_012620	Solid	01/26/20 16:50	01/28/20 08:20	
240-125448-4	LIFHP-137_6-7_012620	Solid	01/26/20 16:52	01/28/20 08:20	
240-125448-5	LIFHP-137_22-23_012620	Solid	01/26/20 17:30	01/28/20 08:20	
240-125448-6	LIFHP-137_24-25_012620	Solid	01/26/20 17:35	01/28/20 08:20	
240-125448-7	LIFHP-137_21-25_012620	Water	01/26/20 18:05	01/28/20 08:20	
240-125448-8	LIFHP-137_13-17_012620	Water	01/26/20 18:15	01/28/20 08:20	
240-125448-9	LIFHP-137_8-12_012620	Water	01/26/20 18:35	01/28/20 08:20	
240-125448-10	LIFHP-136_1-2_012620	Solid	01/26/20 13:53	01/28/20 08:20	
240-125448-11	LIFHP-136_3-4_012620	Solid	01/26/20 13:56	01/28/20 08:20	
240-125448-12	LIFHP-136_9-10_012620	Solid	01/26/20 14:03	01/28/20 08:20	
240-125448-13	LIFHP-136_20-21_012620	Solid	01/26/20 14:39	01/28/20 08:20	
240-125448-14	LIFHP-136_21-22_012620	Solid	01/26/20 14:41	01/28/20 08:20	
240-125448-15	LIFHP-136_11-15_012620	Water	01/26/20 16:10	01/28/20 08:20	
240-125448-16	LIFHP-136_16-20_012620	Water	01/26/20 15:36	01/28/20 08:20	
240-125448-17	LIFHP-136_21-25_012620	Water	01/26/20 15:25	01/28/20 08:20	
240-125448-18	TRIP BLANK	Water	01/26/20 00:00	01/28/20 08:20	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: DUP-01_012620

Lab Sample ID: 240-125448-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	450		49	11	ug/Kg	1	☼	8260B MI	Total/NA
trans-1,2-Dichloroethene	49		49	12	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	1800		49	13	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-137_1-2_012620

Lab Sample ID: 240-125448-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	220		49	11	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	420		49	13	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-137_5-6_012620

Lab Sample ID: 240-125448-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	75		48	11	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	210		48	13	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-137_6-7_012620

Lab Sample ID: 240-125448-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	390		47	11	ug/Kg	1	☼	8260B MI	Total/NA
trans-1,2-Dichloroethene	36	J	47	12	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	1500		47	13	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-137_22-23_012620

Lab Sample ID: 240-125448-5

No Detections.

Client Sample ID: LIFHP-137_24-25_012620

Lab Sample ID: 240-125448-6

No Detections.

Client Sample ID: LIFHP-137_21-25_012620

Lab Sample ID: 240-125448-7

No Detections.

Client Sample ID: LIFHP-137_13-17_012620

Lab Sample ID: 240-125448-8

No Detections.

Client Sample ID: LIFHP-137_8-12_012620

Lab Sample ID: 240-125448-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.3	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	13		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.1		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	0.28	J	1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	6.6		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-136_1-2_012620

Lab Sample ID: 240-125448-10

No Detections.

Client Sample ID: LIFHP-136_3-4_012620

Lab Sample ID: 240-125448-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	38	J	48	11	ug/Kg	1	☼	8260B MI	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_9-10_012620

Lab Sample ID: 240-125448-12

No Detections.

Client Sample ID: LIFHP-136_20-21_012620

Lab Sample ID: 240-125448-13

No Detections.

Client Sample ID: LIFHP-136_21-22_012620

Lab Sample ID: 240-125448-14

No Detections.

Client Sample ID: LIFHP-136_11-15_012620

Lab Sample ID: 240-125448-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.66	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.30	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-136_16-20_012620

Lab Sample ID: 240-125448-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: LIFHP-136_21-25_012620

Lab Sample ID: 240-125448-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.3	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125448-18

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: DUP-01_012620

Lab Sample ID: 240-125448-1

Date Collected: 01/26/20 00:00

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	20	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
cis-1,2-Dichloroethene	450		49	11	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
trans-1,2-Dichloroethene	49		49	12	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
Trichloroethene	1800		49	13	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		47 - 136	01/29/20 13:47	01/30/20 21:40	1
4-Bromofluorobenzene (Surr)	93		51 - 124	01/29/20 13:47	01/30/20 21:40	1
Dibromofluoromethane (Surr)	99		49 - 122	01/29/20 13:47	01/30/20 21:40	1
Toluene-d8 (Surr)	97		55 - 123	01/29/20 13:47	01/30/20 21:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.5		0.1	0.1	%			01/28/20 15:26	1
Percent Moisture	9.5		0.1	0.1	%			01/28/20 15:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_1-2_012620

Lab Sample ID: 240-125448-2

Date Collected: 01/26/20 16:40

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	19	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
cis-1,2-Dichloroethene	220		49	11	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
trans-1,2-Dichloroethene	49	U	49	12	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
Trichloroethene	420		49	13	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		47 - 136	01/29/20 13:47	01/30/20 22:02	1
4-Bromofluorobenzene (Surr)	96		51 - 124	01/29/20 13:47	01/30/20 22:02	1
Dibromofluoromethane (Surr)	104		49 - 122	01/29/20 13:47	01/30/20 22:02	1
Toluene-d8 (Surr)	102		55 - 123	01/29/20 13:47	01/30/20 22:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.3		0.1	0.1	%			01/28/20 15:26	1
Percent Moisture	9.7		0.1	0.1	%			01/28/20 15:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_5-6_012620

Lab Sample ID: 240-125448-3

Date Collected: 01/26/20 16:50

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
cis-1,2-Dichloroethene	75		48	11	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
Tetrachloroethene	48	U	48	22	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
Trichloroethene	210		48	13	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
Vinyl chloride	39	U	39	14	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		47 - 136	01/29/20 13:47	01/30/20 22:25	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/29/20 13:47	01/30/20 22:25	1
Dibromofluoromethane (Surr)	95		49 - 122	01/29/20 13:47	01/30/20 22:25	1
Toluene-d8 (Surr)	94		55 - 123	01/29/20 13:47	01/30/20 22:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.6		0.1	0.1	%			01/28/20 15:26	1
Percent Moisture	8.4		0.1	0.1	%			01/28/20 15:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_6-7_012620

Lab Sample ID: 240-125448-4

Date Collected: 01/26/20 16:52

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 93.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	47	U	47	19	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
cis-1,2-Dichloroethene	390		47	11	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
Tetrachloroethene	47	U	47	21	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
trans-1,2-Dichloroethene	36	J	47	12	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
Trichloroethene	1500		47	13	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		47 - 136	01/29/20 13:47	01/30/20 22:47	1
4-Bromofluorobenzene (Surr)	91		51 - 124	01/29/20 13:47	01/30/20 22:47	1
Dibromofluoromethane (Surr)	98		49 - 122	01/29/20 13:47	01/30/20 22:47	1
Toluene-d8 (Surr)	101		55 - 123	01/29/20 13:47	01/30/20 22:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.7		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	6.3		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_22-23_012620

Lab Sample ID: 240-125448-5

Date Collected: 01/26/20 17:30

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 83.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	58	U	58	23	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
cis-1,2-Dichloroethene	58	U	58	13	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
Tetrachloroethene	58	U	58	26	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
trans-1,2-Dichloroethene	58	U	58	15	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
Trichloroethene	58	U	58	16	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
Vinyl chloride	47	U	47	17	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		47 - 136	01/29/20 13:47	01/30/20 23:10	1
4-Bromofluorobenzene (Surr)	92		51 - 124	01/29/20 13:47	01/30/20 23:10	1
Dibromofluoromethane (Surr)	103		49 - 122	01/29/20 13:47	01/30/20 23:10	1
Toluene-d8 (Surr)	100		55 - 123	01/29/20 13:47	01/30/20 23:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.1		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	16.9		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_24-25_012620

Lab Sample ID: 240-125448-6

Date Collected: 01/26/20 17:35

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 79.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	65	U	65	26	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
1,4-Dioxane	20000	U F2	20000	1800	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
cis-1,2-Dichloroethene	65	U	65	15	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
Tetrachloroethene	65	U	65	29	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
trans-1,2-Dichloroethene	65	U	65	16	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
Trichloroethene	65	U	65	18	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
Vinyl chloride	52	U	52	19	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		47 - 136	01/29/20 13:47	01/30/20 23:32	1
4-Bromofluorobenzene (Surr)	92		51 - 124	01/29/20 13:47	01/30/20 23:32	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 13:47	01/30/20 23:32	1
Toluene-d8 (Surr)	100		55 - 123	01/29/20 13:47	01/30/20 23:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.2		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	20.8		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_21-25_012620

Lab Sample ID: 240-125448-7

Date Collected: 01/26/20 18:05

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		01/29/20 16:06	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 18:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 18:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 18:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 18:02	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 18:02	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		01/30/20 18:02	1
4-Bromofluorobenzene (Surr)	100		47 - 134		01/30/20 18:02	1
Toluene-d8 (Surr)	97		69 - 122		01/30/20 18:02	1
Dibromofluoromethane (Surr)	87		78 - 129		01/30/20 18:02	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_13-17_012620

Lab Sample ID: 240-125448-8

Date Collected: 01/26/20 18:15

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		01/29/20 16:31	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 18:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 18:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 18:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 18:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 18:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/30/20 18:26	1
4-Bromofluorobenzene (Surr)	103		47 - 134		01/30/20 18:26	1
Toluene-d8 (Surr)	98		69 - 122		01/30/20 18:26	1
Dibromofluoromethane (Surr)	87		78 - 129		01/30/20 18:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_8-12_012620

Lab Sample ID: 240-125448-9

Date Collected: 01/26/20 18:35

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.3	J	2.0	0.86	ug/L	-		01/29/20 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		01/29/20 16:57	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/30/20 18:51	1
cis-1,2-Dichloroethene	13		1.0	0.16	ug/L	-		01/30/20 18:51	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		01/30/20 18:51	1
trans-1,2-Dichloroethene	1.1		1.0	0.19	ug/L	-		01/30/20 18:51	1
Trichloroethene	0.28	J	1.0	0.10	ug/L	-		01/30/20 18:51	1
Vinyl chloride	6.6		1.0	0.20	ug/L	-		01/30/20 18:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		01/30/20 18:51	1
4-Bromofluorobenzene (Surr)	100		47 - 134		01/30/20 18:51	1
Toluene-d8 (Surr)	101		69 - 122		01/30/20 18:51	1
Dibromofluoromethane (Surr)	91		78 - 129		01/30/20 18:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_1-2_012620

Lab Sample ID: 240-125448-10

Date Collected: 01/26/20 13:53

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 95.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	45	U	45	18	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
1,4-Dioxane	14000	U	14000	1200	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
cis-1,2-Dichloroethene	45	U	45	10	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
Tetrachloroethene	45	U	45	20	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
trans-1,2-Dichloroethene	45	U	45	11	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
Trichloroethene	45	U	45	12	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
Vinyl chloride	36	U	36	14	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		47 - 136	01/29/20 13:47	01/31/20 00:39	1
4-Bromofluorobenzene (Surr)	90		51 - 124	01/29/20 13:47	01/31/20 00:39	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 13:47	01/31/20 00:39	1
Toluene-d8 (Surr)	102		55 - 123	01/29/20 13:47	01/31/20 00:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95.7		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	4.3		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_3-4_012620

Lab Sample ID: 240-125448-11

Date Collected: 01/26/20 13:56

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
cis-1,2-Dichloroethene	38	J	48	11	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
Tetrachloroethene	48	U	48	21	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
Trichloroethene	48	U	48	13	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		47 - 136	01/29/20 13:47	01/31/20 01:02	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/29/20 13:47	01/31/20 01:02	1
Dibromofluoromethane (Surr)	103		49 - 122	01/29/20 13:47	01/31/20 01:02	1
Toluene-d8 (Surr)	101		55 - 123	01/29/20 13:47	01/31/20 01:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.6		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	8.4		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_9-10_012620

Lab Sample ID: 240-125448-12

Date Collected: 01/26/20 14:03

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 84.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
Trichloroethene	55	U	55	15	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
Vinyl chloride	44	U	44	16	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		47 - 136	01/29/20 13:47	01/31/20 01:24	1
4-Bromofluorobenzene (Surr)	91		51 - 124	01/29/20 13:47	01/31/20 01:24	1
Dibromofluoromethane (Surr)	98		49 - 122	01/29/20 13:47	01/31/20 01:24	1
Toluene-d8 (Surr)	101		55 - 123	01/29/20 13:47	01/31/20 01:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.1		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	15.9		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_20-21_012620

Lab Sample ID: 240-125448-13

Date Collected: 01/26/20 14:39

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 79.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	62	U	62	25	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
cis-1,2-Dichloroethene	62	U	62	14	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
Tetrachloroethene	62	U	62	28	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
trans-1,2-Dichloroethene	62	U	62	15	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
Trichloroethene	62	U	62	17	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
Vinyl chloride	49	U	49	19	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		47 - 136	01/29/20 13:47	01/31/20 01:47	1
4-Bromofluorobenzene (Surr)	95		51 - 124	01/29/20 13:47	01/31/20 01:47	1
Dibromofluoromethane (Surr)	103		49 - 122	01/29/20 13:47	01/31/20 01:47	1
Toluene-d8 (Surr)	106		55 - 123	01/29/20 13:47	01/31/20 01:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.8		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	20.2		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_21-22_012620

Lab Sample ID: 240-125448-14

Date Collected: 01/26/20 14:41

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 81.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
1,4-Dioxane	19000	U	19000	1600	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
Tetrachloroethene	59	U	59	27	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
Trichloroethene	59	U	59	16	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		47 - 136	01/29/20 13:47	01/31/20 02:09	1
4-Bromofluorobenzene (Surr)	90		51 - 124	01/29/20 13:47	01/31/20 02:09	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 13:47	01/31/20 02:09	1
Toluene-d8 (Surr)	99		55 - 123	01/29/20 13:47	01/31/20 02:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.0		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	19.0		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_11-15_012620

Lab Sample ID: 240-125448-15

Date Collected: 01/26/20 16:10

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.8	J	2.0	0.86	ug/L			01/29/20 17:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125					01/29/20 17:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 19:16	1
cis-1,2-Dichloroethene	0.66	J	1.0	0.16	ug/L			01/30/20 19:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 19:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 19:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 19:16	1
Vinyl chloride	0.30	J	1.0	0.20	ug/L			01/30/20 19:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 130					01/30/20 19:16	1
4-Bromofluorobenzene (Surr)	102		47 - 134					01/30/20 19:16	1
Toluene-d8 (Surr)	101		69 - 122					01/30/20 19:16	1
Dibromofluoromethane (Surr)	93		78 - 129					01/30/20 19:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_16-20_012620

Lab Sample ID: 240-125448-16

Date Collected: 01/26/20 15:36

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1	J	2.0	0.86	ug/L			01/29/20 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		01/29/20 17:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 19:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 19:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 19:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 19:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 19:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 19:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/30/20 19:41	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/30/20 19:41	1
Toluene-d8 (Surr)	98		69 - 122		01/30/20 19:41	1
Dibromofluoromethane (Surr)	88		78 - 129		01/30/20 19:41	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_21-25_012620

Lab Sample ID: 240-125448-17

Date Collected: 01/26/20 15:25

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.3	J	2.0	0.86	ug/L			01/29/20 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		01/29/20 18:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 20:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 20:06	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 20:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 20:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 20:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 20:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		01/30/20 20:06	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/30/20 20:06	1
Toluene-d8 (Surr)	99		69 - 122		01/30/20 20:06	1
Dibromofluoromethane (Surr)	87		78 - 129		01/30/20 20:06	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125448-18

Date Collected: 01/26/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 19:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 19:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 19:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 19:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 19:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/29/20 19:16	1
4-Bromofluorobenzene (Surr)	105		47 - 134		01/29/20 19:16	1
Toluene-d8 (Surr)	101		69 - 122		01/29/20 19:16	1
Dibromofluoromethane (Surr)	90		78 - 129		01/29/20 19:16	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-125366-C-1 MS	Matrix Spike	97	99	98	88
240-125366-C-1 MSD	Matrix Spike Duplicate	95	97	98	86
240-125417-A-2 MS	Matrix Spike	95	100	100	89
240-125417-C-2 MSD	Matrix Spike Duplicate	93	101	100	91
240-125448-7	LIFHP-137_21-25_012620	92	100	97	87
240-125448-8	LIFHP-137_13-17_012620	94	103	98	87
240-125448-9	LIFHP-137_8-12_012620	96	100	101	91
240-125448-15	LIFHP-136_11-15_012620	98	102	101	93
240-125448-16	LIFHP-136_16-20_012620	95	102	98	88
240-125448-17	LIFHP-136_21-25_012620	96	102	99	87
240-125448-18	TRIP BLANK	95	105	101	90
LCS 240-420726/4	Lab Control Sample	93	102	97	88
LCS 240-420869/4	Lab Control Sample	93	107	97	88
MB 240-420726/7	Method Blank	93	104	97	86
MB 240-420869/7	Method Blank	95	105	100	89

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (47-136)	BFB (51-124)	DBFM (49-122)	TOL (55-123)
240-125448-1	DUP-01_012620	98	93	99	97
240-125448-2	LIFHP-137_1-2_012620	103	96	104	102
240-125448-3	LIFHP-137_5-6_012620	95	88	95	94
240-125448-4	LIFHP-137_6-7_012620	100	91	98	101
240-125448-5	LIFHP-137_22-23_012620	105	92	103	100
240-125448-6	LIFHP-137_24-25_012620	103	92	100	100
240-125448-6 MS	LIFHP-137_24-25_012620	101	94	104	102
240-125448-6 MSD	LIFHP-137_24-25_012620	94	87	97	97
240-125448-10	LIFHP-136_1-2_012620	101	90	100	102
240-125448-11	LIFHP-136_3-4_012620	101	88	103	101
240-125448-12	LIFHP-136_9-10_012620	100	91	98	101
240-125448-13	LIFHP-136_20-21_012620	105	95	103	106
240-125448-14	LIFHP-136_21-22_012620	103	90	100	99
LCS 240-420730/2-A	Lab Control Sample	93	86	95	94
LCSD 240-420730/3-A	Lab Control Sample Dup	90	85	95	92
MB 240-420730/1-A	Method Blank	89	78	91	88

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-125447-A-8 MS	Matrix Spike	97
240-125447-A-8 MSD	Matrix Spike Duplicate	100
240-125448-7	LIFHP-137_21-25_012620	102
240-125448-8	LIFHP-137_13-17_012620	100
240-125448-9	LIFHP-137_8-12_012620	99
240-125448-15	LIFHP-136_11-15_012620	99
240-125448-16	LIFHP-136_16-20_012620	101
240-125448-17	LIFHP-136_21-25_012620	101
LCS 240-420655/4	Lab Control Sample	96
MB 240-420655/5	Method Blank	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420726/7
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 14:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 14:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 14:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		01/29/20 14:39	1
4-Bromofluorobenzene (Surr)	104		47 - 134		01/29/20 14:39	1
Toluene-d8 (Surr)	97		69 - 122		01/29/20 14:39	1
Dibromofluoromethane (Surr)	86		78 - 129		01/29/20 14:39	1

Lab Sample ID: LCS 240-420726/4
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124
Tetrachloroethene	10.0	10.1		ug/L		101	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.48		ug/L		95	71 - 121
Vinyl chloride	10.0	10.1		ug/L		101	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	68 - 121
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	69 - 126
Trichloroethene	1.0	U	10.0	9.24		ug/L		92	56 - 124
Vinyl chloride	1.0	U	10.0	9.77		ug/L		98	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	100		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-125417-C-2 MSD
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 132	3	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.0		ug/L		100	68 - 121	3	35
Tetrachloroethene	1.0	U	10.0	9.78		ug/L		98	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	69 - 126	0	35
Trichloroethene	1.0	U	10.0	8.91		ug/L		89	56 - 124	4	35
Vinyl chloride	1.0	U	10.0	10.7		ug/L		107	49 - 136	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	101		47 - 134
Toluene-d8 (Surr)	100		69 - 122
Dibromofluoromethane (Surr)	91		78 - 129

Lab Sample ID: MB 240-420869/7
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 15:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 15:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 15:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 15:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/30/20 15:34	1
4-Bromofluorobenzene (Surr)	105		47 - 134		01/30/20 15:34	1
Toluene-d8 (Surr)	100		69 - 122		01/30/20 15:34	1
Dibromofluoromethane (Surr)	89		78 - 129		01/30/20 15:34	1

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.2		ug/L		102	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.67		ug/L		97	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	9.71		ug/L		97	61 - 134
Surrogate							
	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	93		75 - 130				
4-Bromofluorobenzene (Surr)	107		47 - 134				
Toluene-d8 (Surr)	97		69 - 122				
Dibromofluoromethane (Surr)	88		78 - 129				

Lab Sample ID: 240-125366-C-1 MS
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	100	U	1000	886		ug/L		89	64 - 132
cis-1,2-Dichloroethene	58	J	1000	1070		ug/L		101	68 - 121
Tetrachloroethene	100	U	1000	850		ug/L		85	52 - 129
trans-1,2-Dichloroethene	100	U	1000	948		ug/L		95	69 - 126
Trichloroethene	100	U	1000	848		ug/L		85	56 - 124
Vinyl chloride	100	U	1000	904		ug/L		90	49 - 136
Surrogate									
	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		75 - 130						
4-Bromofluorobenzene (Surr)	99		47 - 134						
Toluene-d8 (Surr)	98		69 - 122						
Dibromofluoromethane (Surr)	88		78 - 129						

Lab Sample ID: 240-125366-C-1 MSD
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	100	U	1000	922		ug/L		92	64 - 132	4	35
cis-1,2-Dichloroethene	58	J	1000	1080		ug/L		102	68 - 121	1	35
Tetrachloroethene	100	U	1000	854		ug/L		85	52 - 129	0	35
trans-1,2-Dichloroethene	100	U	1000	1010		ug/L		101	69 - 126	6	35
Trichloroethene	100	U	1000	836		ug/L		84	56 - 124	1	35
Vinyl chloride	100	U	1000	985		ug/L		98	49 - 136	9	35
Surrogate											
	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	95		75 - 130								
4-Bromofluorobenzene (Surr)	97		47 - 134								
Toluene-d8 (Surr)	98		69 - 122								
Dibromofluoromethane (Surr)	86		78 - 129								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420730/1-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420730

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	40	U	40	16	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Tetrachloroethene	40	U	40	18	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Trichloroethene	40	U	40	11	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Vinyl chloride	32	U	32	12	ug/Kg		01/29/20 13:47	01/30/20 19:02	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	89		47 - 136	01/29/20 13:47	01/30/20 19:02	1
4-Bromofluorobenzene (Surr)	78		51 - 124	01/29/20 13:47	01/30/20 19:02	1
Dibromofluoromethane (Surr)	91		49 - 122	01/29/20 13:47	01/30/20 19:02	1
Toluene-d8 (Surr)	88		55 - 123	01/29/20 13:47	01/30/20 19:02	1

Lab Sample ID: LCS 240-420730/2-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
1,1-Dichloroethene	1000	1070		ug/Kg		107	48 - 140
1,4-Dioxane	20000	20100		ug/Kg		101	44 - 154
cis-1,2-Dichloroethene	1000	1020		ug/Kg		102	76 - 120
Tetrachloroethene	1000	953		ug/Kg		95	75 - 124
trans-1,2-Dichloroethene	1000	1050		ug/Kg		105	74 - 125
Trichloroethene	1000	984		ug/Kg		98	75 - 123
Vinyl chloride	1000	892		ug/Kg		89	39 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	93		47 - 136
4-Bromofluorobenzene (Surr)	86		51 - 124
Dibromofluoromethane (Surr)	95		49 - 122
Toluene-d8 (Surr)	94		55 - 123

Lab Sample ID: LCSD 240-420730/3-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
1,1-Dichloroethene	1000	1090		ug/Kg		109	48 - 140	2	40
1,4-Dioxane	20000	17300		ug/Kg		87	44 - 154	15	40
cis-1,2-Dichloroethene	1000	1040		ug/Kg		104	76 - 120	2	40
Tetrachloroethene	1000	954		ug/Kg		95	75 - 124	0	40
trans-1,2-Dichloroethene	1000	1070		ug/Kg		107	74 - 125	2	40
Trichloroethene	1000	1030		ug/Kg		103	75 - 123	5	40
Vinyl chloride	1000	887		ug/Kg		89	39 - 140	1	40

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 240-420730/3-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420730

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		47 - 136
4-Bromofluorobenzene (Surr)	85		51 - 124
Dibromofluoromethane (Surr)	95		49 - 122
Toluene-d8 (Surr)	92		55 - 123

Lab Sample ID: 240-125448-6 MS
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: LIFHP-137_24-25_012620
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	65	U	1430	1580		ug/Kg	☼	110	20 - 150
1,4-Dioxane	20000	U F2	28600	21100	J	ug/Kg	☼	74	48 - 149
cis-1,2-Dichloroethene	65	U	1430	1630		ug/Kg	☼	114	35 - 130
Tetrachloroethene	65	U	1430	1460		ug/Kg	☼	102	13 - 144
trans-1,2-Dichloroethene	65	U	1430	1650		ug/Kg	☼	115	31 - 138
Trichloroethene	65	U	1430	1610		ug/Kg	☼	113	10 - 162
Vinyl chloride	52	U	1430	1260		ug/Kg	☼	88	15 - 150

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		47 - 136
4-Bromofluorobenzene (Surr)	94		51 - 124
Dibromofluoromethane (Surr)	104		49 - 122
Toluene-d8 (Surr)	102		55 - 123

Lab Sample ID: 240-125448-6 MSD
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: LIFHP-137_24-25_012620
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1-Dichloroethene	65	U	1340	1350		ug/Kg	☼	101	20 - 150	16	40
1,4-Dioxane	20000	U F2	26700	34500	F2	ug/Kg	☼	129	48 - 149	48	40
cis-1,2-Dichloroethene	65	U	1340	1420		ug/Kg	☼	106	35 - 130	14	40
Tetrachloroethene	65	U	1340	1220		ug/Kg	☼	92	13 - 144	18	40
trans-1,2-Dichloroethene	65	U	1340	1400		ug/Kg	☼	105	31 - 138	17	40
Trichloroethene	65	U	1340	1440		ug/Kg	☼	108	10 - 162	11	40
Vinyl chloride	52	U	1340	1040		ug/Kg	☼	78	15 - 150	19	40

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		47 - 136
4-Bromofluorobenzene (Surr)	87		51 - 124
Dibromofluoromethane (Surr)	97		49 - 122
Toluene-d8 (Surr)	97		55 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420655/5
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 11:49	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 125					01/29/20 11:49	1

Lab Sample ID: LCS 240-420655/4
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.75		ug/L		98	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	96		63 - 125				

Lab Sample ID: 240-125447-A-8 MS
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.1	J	10.0	10.9		ug/L		98	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		63 - 125						

Lab Sample ID: 240-125447-A-8 MSD
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.1	J	10.0	10.2		ug/L		91	52 - 129	6	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	100		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-125448-6 DU
Matrix: Solid
Analysis Batch: 420559

Client Sample ID: LIFHP-137_24-25_012620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	79.2		80.1		%		1	20
Percent Moisture	20.8		19.9		%		5	20

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 240-125448-11 DU

Matrix: Solid

Analysis Batch: 420559

Client Sample ID: LIFHP-136_3-4_012620

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Solids	91.6		91.0		%		0.7	20
Percent Moisture	8.4		9.0		%		7	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

GC/MS VOA

Analysis Batch: 420655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-7	LIFHP-137_21-25_012620	Total/NA	Water	8260B SIM	
240-125448-8	LIFHP-137_13-17_012620	Total/NA	Water	8260B SIM	
240-125448-9	LIFHP-137_8-12_012620	Total/NA	Water	8260B SIM	
240-125448-15	LIFHP-136_11-15_012620	Total/NA	Water	8260B SIM	
240-125448-16	LIFHP-136_16-20_012620	Total/NA	Water	8260B SIM	
240-125448-17	LIFHP-136_21-25_012620	Total/NA	Water	8260B SIM	
MB 240-420655/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-420655/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125447-A-8 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-125447-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 420726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-18	TRIP BLANK	Total/NA	Water	8260B	
MB 240-420726/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420726/4	Lab Control Sample	Total/NA	Water	8260B	
240-125417-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-125417-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Prep Batch: 420730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-1	DUP-01_012620	Total/NA	Solid	5030B	
240-125448-2	LIFHP-137_1-2_012620	Total/NA	Solid	5030B	
240-125448-3	LIFHP-137_5-6_012620	Total/NA	Solid	5030B	
240-125448-4	LIFHP-137_6-7_012620	Total/NA	Solid	5030B	
240-125448-5	LIFHP-137_22-23_012620	Total/NA	Solid	5030B	
240-125448-6	LIFHP-137_24-25_012620	Total/NA	Solid	5030B	
240-125448-10	LIFHP-136_1-2_012620	Total/NA	Solid	5030B	
240-125448-11	LIFHP-136_3-4_012620	Total/NA	Solid	5030B	
240-125448-12	LIFHP-136_9-10_012620	Total/NA	Solid	5030B	
240-125448-13	LIFHP-136_20-21_012620	Total/NA	Solid	5030B	
240-125448-14	LIFHP-136_21-22_012620	Total/NA	Solid	5030B	
MB 240-420730/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420730/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 240-420730/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
240-125448-6 MS	LIFHP-137_24-25_012620	Total/NA	Solid	5030B	
240-125448-6 MSD	LIFHP-137_24-25_012620	Total/NA	Solid	5030B	

Analysis Batch: 420869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-7	LIFHP-137_21-25_012620	Total/NA	Water	8260B	
240-125448-8	LIFHP-137_13-17_012620	Total/NA	Water	8260B	
240-125448-9	LIFHP-137_8-12_012620	Total/NA	Water	8260B	
240-125448-15	LIFHP-136_11-15_012620	Total/NA	Water	8260B	
240-125448-16	LIFHP-136_16-20_012620	Total/NA	Water	8260B	
240-125448-17	LIFHP-136_21-25_012620	Total/NA	Water	8260B	
MB 240-420869/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420869/4	Lab Control Sample	Total/NA	Water	8260B	
240-125366-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-125366-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

GC/MS VOA

Analysis Batch: 420938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-1	DUP-01_012620	Total/NA	Solid	8260B MI	420730
240-125448-2	LIFHP-137_1-2_012620	Total/NA	Solid	8260B MI	420730
240-125448-3	LIFHP-137_5-6_012620	Total/NA	Solid	8260B MI	420730
240-125448-4	LIFHP-137_6-7_012620	Total/NA	Solid	8260B MI	420730
240-125448-5	LIFHP-137_22-23_012620	Total/NA	Solid	8260B MI	420730
240-125448-6	LIFHP-137_24-25_012620	Total/NA	Solid	8260B MI	420730
240-125448-10	LIFHP-136_1-2_012620	Total/NA	Solid	8260B MI	420730
240-125448-11	LIFHP-136_3-4_012620	Total/NA	Solid	8260B MI	420730
240-125448-12	LIFHP-136_9-10_012620	Total/NA	Solid	8260B MI	420730
240-125448-13	LIFHP-136_20-21_012620	Total/NA	Solid	8260B MI	420730
240-125448-14	LIFHP-136_21-22_012620	Total/NA	Solid	8260B MI	420730
MB 240-420730/1-A	Method Blank	Total/NA	Solid	8260B MI	420730
LCS 240-420730/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420730
LCSD 240-420730/3-A	Lab Control Sample Dup	Total/NA	Solid	8260B MI	420730
240-125448-6 MS	LIFHP-137_24-25_012620	Total/NA	Solid	8260B MI	420730
240-125448-6 MSD	LIFHP-137_24-25_012620	Total/NA	Solid	8260B MI	420730

General Chemistry

Analysis Batch: 420559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-1	DUP-01_012620	Total/NA	Solid	Moisture	
240-125448-2	LIFHP-137_1-2_012620	Total/NA	Solid	Moisture	
240-125448-3	LIFHP-137_5-6_012620	Total/NA	Solid	Moisture	
240-125448-4	LIFHP-137_6-7_012620	Total/NA	Solid	Moisture	
240-125448-5	LIFHP-137_22-23_012620	Total/NA	Solid	Moisture	
240-125448-6	LIFHP-137_24-25_012620	Total/NA	Solid	Moisture	
240-125448-10	LIFHP-136_1-2_012620	Total/NA	Solid	Moisture	
240-125448-11	LIFHP-136_3-4_012620	Total/NA	Solid	Moisture	
240-125448-12	LIFHP-136_9-10_012620	Total/NA	Solid	Moisture	
240-125448-13	LIFHP-136_20-21_012620	Total/NA	Solid	Moisture	
240-125448-14	LIFHP-136_21-22_012620	Total/NA	Solid	Moisture	
240-125448-6 DU	LIFHP-137_24-25_012620	Total/NA	Solid	Moisture	
240-125448-11 DU	LIFHP-136_3-4_012620	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: DUP-01_012620

Lab Sample ID: 240-125448-1

Date Collected: 01/26/20 00:00

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:26	BLW	TAL CAN

Client Sample ID: DUP-01_012620

Lab Sample ID: 240-125448-1

Date Collected: 01/26/20 00:00

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 21:40	TJL1	TAL CAN

Client Sample ID: LIFHP-137_1-2_012620

Lab Sample ID: 240-125448-2

Date Collected: 01/26/20 16:40

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:26	BLW	TAL CAN

Client Sample ID: LIFHP-137_1-2_012620

Lab Sample ID: 240-125448-2

Date Collected: 01/26/20 16:40

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 22:02	TJL1	TAL CAN

Client Sample ID: LIFHP-137_5-6_012620

Lab Sample ID: 240-125448-3

Date Collected: 01/26/20 16:50

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:26	BLW	TAL CAN

Client Sample ID: LIFHP-137_5-6_012620

Lab Sample ID: 240-125448-3

Date Collected: 01/26/20 16:50

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 22:25	TJL1	TAL CAN

Client Sample ID: LIFHP-137_6-7_012620

Lab Sample ID: 240-125448-4

Date Collected: 01/26/20 16:52

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_6-7_012620

Lab Sample ID: 240-125448-4

Date Collected: 01/26/20 16:52

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 93.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 22:47	TJL1	TAL CAN

Client Sample ID: LIFHP-137_22-23_012620

Lab Sample ID: 240-125448-5

Date Collected: 01/26/20 17:30

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-137_22-23_012620

Lab Sample ID: 240-125448-5

Date Collected: 01/26/20 17:30

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 83.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 23:10	TJL1	TAL CAN

Client Sample ID: LIFHP-137_24-25_012620

Lab Sample ID: 240-125448-6

Date Collected: 01/26/20 17:35

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-137_24-25_012620

Lab Sample ID: 240-125448-6

Date Collected: 01/26/20 17:35

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 23:32	TJL1	TAL CAN

Client Sample ID: LIFHP-137_21-25_012620

Lab Sample ID: 240-125448-7

Date Collected: 01/26/20 18:05

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 18:02	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 16:06	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_13-17_012620

Lab Sample ID: 240-125448-8

Date Collected: 01/26/20 18:15

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 18:26	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 16:31	SAM	TAL CAN

Client Sample ID: LIFHP-137_8-12_012620

Lab Sample ID: 240-125448-9

Date Collected: 01/26/20 18:35

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 18:51	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 16:57	SAM	TAL CAN

Client Sample ID: LIFHP-136_1-2_012620

Lab Sample ID: 240-125448-10

Date Collected: 01/26/20 13:53

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_1-2_012620

Lab Sample ID: 240-125448-10

Date Collected: 01/26/20 13:53

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 95.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 00:39	TJL1	TAL CAN

Client Sample ID: LIFHP-136_3-4_012620

Lab Sample ID: 240-125448-11

Date Collected: 01/26/20 13:56

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_3-4_012620

Lab Sample ID: 240-125448-11

Date Collected: 01/26/20 13:56

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 01:02	TJL1	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_9-10_012620

Lab Sample ID: 240-125448-12

Date Collected: 01/26/20 14:03

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_9-10_012620

Lab Sample ID: 240-125448-12

Date Collected: 01/26/20 14:03

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 01:24	TJL1	TAL CAN

Client Sample ID: LIFHP-136_20-21_012620

Lab Sample ID: 240-125448-13

Date Collected: 01/26/20 14:39

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_20-21_012620

Lab Sample ID: 240-125448-13

Date Collected: 01/26/20 14:39

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 01:47	TJL1	TAL CAN

Client Sample ID: LIFHP-136_21-22_012620

Lab Sample ID: 240-125448-14

Date Collected: 01/26/20 14:41

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_21-22_012620

Lab Sample ID: 240-125448-14

Date Collected: 01/26/20 14:41

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 02:09	TJL1	TAL CAN

Client Sample ID: LIFHP-136_11-15_012620

Lab Sample ID: 240-125448-15

Date Collected: 01/26/20 16:10

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 19:16	LRW	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_11-15_012620

Lab Sample ID: 240-125448-15

Date Collected: 01/26/20 16:10

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 17:22	SAM	TAL CAN

Client Sample ID: LIFHP-136_16-20_012620

Lab Sample ID: 240-125448-16

Date Collected: 01/26/20 15:36

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 19:41	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 17:47	SAM	TAL CAN

Client Sample ID: LIFHP-136_21-25_012620

Lab Sample ID: 240-125448-17

Date Collected: 01/26/20 15:25

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 20:06	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 18:13	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125448-18

Date Collected: 01/26/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420726	01/29/20 19:16	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica Michigan
 10440 Clinton Drive
 Suite 200
 Brighton, MI 48116
 Phone: 248.229.2763 Fax: 482.963.2470

MICHIGAN Chain of Custody Record 221494
 190 1/8/25 0.5/1.2

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-6210 (07/10)

Regulatory Program: RCRA HAPES DW Other

Project Manager: **Kris Hinesky**
 Tel/Fax: 269-579-5402
 Analysis Turnaround Time: **5 DAYS**
 Calendar Days: Working Days
 Rush **TAT**
 TAT is defined as below:
 2 weeks
 1 week
 2 days
 1 day

Client Contact: **Accadis**
 Company Name: **Accadis**
 Address: **28550 Cabot Dr Ste #50**
 City/State/Zip: **Ann Arbor MI 48107**
 Phone: **734-994-2740**
 Fax: **-**
 Project Name: **Ford LTP**
 Site: **Ford LTP**
 PO #

Sample Identification	Sample Date	Sample Time	Sample Type (e.g. G, GW)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	1-OCF method (2608)	CS-17-OCF method (2608)	Trans-12-OCF (2608)	PCE (2608)	TCE (2608)	Unsat. Chlorid (2608)	19-Dioxane (2608)
DUP-01-012620	1/26/20		G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-12-012620	1/26/20	1640	G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-5-6-012620	1/26/20	1650	G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-6-7-012620	1/26/20	1652	G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-22-23-012620	1/26/20	1730	G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-24-25-012620	1/26/20	1735	G	S	6	N	Y	X	X	X	X	X	X	X
LIFHP-137-21-25-012620	1/26/20	1805	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-137-13-17-012620	1/26/20	1815	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-137-8-12-012620	1/26/20	1835	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-136-1-2-012620	1/26/20	1353	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-136-3-4-012620	1/26/20	1356	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-136-9-10-012620	1/26/20	1403	G	GW	6	N	N	X	X	X	X	X	X	X

Preservation Used: Ice HCl H2SO4 HNO3 NaOH Other: **MSD 201**
 Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Hazardous Site Inhibit Processed

Special Instructions/QC Requirements & Comments: **Submit all results through Cadena @ simtomaling@cadena.com Cadena # E263728**

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
<i>[Signature]</i>	Accadis	1/26/20 1300	Novi Card Stange	Accadis	1/26/20 1300
<i>[Signature]</i>	Accadis	1/27/20 13:30	Molly Maxwell	Accadis	1/27/20 11:58
<i>[Signature]</i>	Accadis	1/27/20 15:00	Adam Garcia	Accadis	1/27/20 08:00



240-125446 Chain of Custody

0.4 weight included
 " "
 " "
 " "
 " "
 MSMSO performed
 0.4 weight included
 " "
 " "
 " "

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Return to Client Disposed by Lab Archive for _____ Months

Cooler Temp: (°C) Obs'd: _____ Cor'd: _____ Item ID No. _____

Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 125448

Canton Facility

Client Arcadis

Site Name

Cooler unpacked by:

Cooler Received on 1-25-20

Opened on 1-25-20

Adam Ganert

FedEx: ~~Grd~~ UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ea Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # GL1710E Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM: _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

AG

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 03, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30016346.0001B - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 125448-1
Sample date: 2020-01-26
Report received by CADENA: 2020-02-03
Initial Data Verification completed by CADENA: 2020-02-03
Number of Samples:18
Sample Matrices:Soil
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC samples -007, -009, -015 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

SPV - GCMS VOC SIM samples -007, -016, -017 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

GCMS VOC sample -006 MS or MSD recoveries but not both or RPD only were outliers for 1,4-DIOXANE so client sample results were not qualified based on this QC outlier alone.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 125448-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401254481	DUP-01_012620	1/26/2020	12:00:00	X		
24012544810	LIFHP-136_1-2_012620	1/26/2020	1:53:00	X		
24012544811	LIFHP-136_3-4_012620	1/26/2020	1:56:00	X		
24012544812	LIFHP-136_9-10_012620	1/26/2020	2:03:00	X		
24012544813	LIFHP-136_20-21_012620	1/26/2020	2:39:00	X		
24012544814	LIFHP-136_21-22_012620	1/26/2020	2:41:00	X		
24012544815	LIFHP-136_11-15_012620	1/26/2020	4:10:00	X	X	
24012544816	LIFHP-136_16-20_012620	1/26/2020	3:36:00	X	X	
24012544817	LIFHP-136_21-25_012620	1/26/2020	3:25:00	X	X	
24012544818	TRIP BLANK	1/26/2020	12:00:00	X		
2401254482	LIFHP-137_1-2_012620	1/26/2020	4:40:00	X		
2401254483	LIFHP-137_5-6_012620	1/26/2020	4:50:00	X		
2401254484	LIFHP-137_6-7_012620	1/26/2020	4:52:00	X		
2401254485	LIFHP-137_22-23_012620	1/26/2020	5:30:00	X		
2401254486	LIFHP-137_24-25_012620	1/26/2020	5:35:00	X		
2401254487	LIFHP-137_21-25_012620	1/26/2020	6:05:00	X	X	
2401254488	LIFHP-137_13-17_012620	1/26/2020	6:15:00	X	X	
2401254489	LIFHP-137_8-12_012620	1/26/2020	6:35:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 125448-1

Sample Name: LIFHP-136_11-15_012620	LIFHP-136_16-20_012620	LIFHP-136_21-25_012620	LIFHP-137_21-25_012620	LIFHP-137_8-12_012620
Lab Sample ID: 24012544815	24012544816	24012544817	2401254487	2401254489
Sample Date: 1/26/2020	1/26/2020	1/26/2020	1/26/2020	1/26/2020

Analyte	Cas No.	LIFHP-136_11-15_012620				LIFHP-136_16-20_012620				LIFHP-136_21-25_012620				LIFHP-137_21-25_012620				LIFHP-137_8-12_012620			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																					
<u>OSW-8260B</u>																					
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ									ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ
cis-1,2-Dichloroethene	156-59-2	0.66	1.0	ug/l	J									ND	1.0	ug/l	UJ	13	1.0	ug/l	J
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ									ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ									ND	1.0	ug/l	UJ	1.1	1.0	ug/l	J
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ									ND	1.0	ug/l	UJ	0.28	1.0	ug/l	J
Vinyl chloride	75-01-4	0.30	1.0	ug/l	J									ND	1.0	ug/l	UJ	6.6	1.0	ug/l	J
<u>OSW-8260BBSim</u>																					
1,4-Dioxane	123-91-1					1.1	2.0	ug/l	J	1.3	2.0	ug/l	J	ND	2.0	ug/l	UJ				



April 17, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110362-1
Sample date: 2019-04-01
Report received by CADENA: 2019-04-17
Initial Data Verification completed by CADENA: 2019-04-17

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC sample -001 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

SPV - SIM GCMS VOC samples -001 and -003 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

TBK - GCMS VOC TRIP blank had a detection below the RL for the following analyte: TRICHLOROETHENE. The following client sample results should be considered to be non-detect at the RL and qualified with UB flags: -005.

SIM GCMS VOC sample -002 SURROGATE recoveries were outliers biased high for 1 surrogate. Associated client sample results were non-detect so qualification was not required based on this high bias QC outlier.

GCMS VOC sample -003 MS recovery only was outlying for TRICHLOROETHENE so client sample results were not qualified based on this QC outlier alone.

SIM GCMS VOC QC batch MS/MSD issues were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

4 Water sample(s) were analyzed for GCMS VOC parameter(s).
5 Soil sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110362-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401103621	HPT-210-13-17_040119	4/1/2019	6:25:00	X	X	
2401103622	HPT-210-8-12_040119	4/1/2019	6:40:00	X	X	
2401103623	HPT-210-3-7_040119	4/1/2019	6:55:00	X	X	
2401103624	HPT-211-1-2_040119	4/1/2019	5:00:00	X		
2401103625	HPT-211-2-3_040119	4/1/2019	5:00:00	X		
2401103626	HPT-211-3-4_040119	4/1/2019	5:00:00	X		
2401103627	HPT-211-4-5_040119	4/1/2019	5:00:00	X		
2401103628	HPT-211-5-6_040119	4/1/2019	5:00:00	X		
2401103629	TRIP BLANK	4/1/2019	12:00:00	X		

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110362-1

Sample Name:	HPT-210-13-17_040119	HPT-210-3-7_040119	HPT-211-2-3_040119
Lab Sample ID:	2401103621	2401103623	2401103625
Sample Date:	4/1/2019	4/1/2019	4/1/2019

Analyte	Cas No.	Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier				

GC/MS VOC

OSW-8260B

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ									
cis-1,2-Dichloroethene	156-59-2	7.1	1.0	ug/l	J									
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ									
trans-1,2-Dichloroethene	156-60-5	1.8	1.0	ug/l	J									
Trichloroethene	79-01-6	6.3	1.0	ug/l	J					17	64	ug/kg	UB	
Vinyl chloride	75-01-4	ND	1.0	ug/l	UJ									

OSW-8260BBSim

1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	ND	20	ug/l	UJ					
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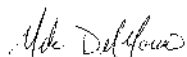
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110478-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/18/2019 3:11:31 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Job ID: 240-110478-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110478-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/4/2019 9:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.6° C, 0.8° C, 2.2° C and 3.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-211_13-17_080219 (240-110478-1), HPT-211_2-6_080219 (240-110478-2), HPT-211_7-11_080219 (240-110478-3), HPT-212_18-22_080219 (240-110478-4), HPT-212_10-14_080219 (240-110478-5), HPT-212_5-9_080219 (240-110478-6) and TRIP BLANK (240-110478-15) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/15/2019.

Samples HPT-211_2-6_080219 (240-110478-2)[1.67X], HPT-211_7-11_080219 (240-110478-3)[14.29X], HPT-212_18-22_080219 (240-110478-4)[5X] and HPT-212_10-14_080219 (240-110478-5)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples HPT-211_18-19_080219 (240-110478-7), HPT-210_0-1_080219 (240-110478-8), HPT-210_1-2_080219 (240-110478-9), HPT-210_2-3_080219 (240-110478-10), HPT-212_1-2_080219 (240-110478-11), HPT-212_2-3_080219 (240-110478-12), HPT-212_3-4_080219 (240-110478-13) and HPT-212_4-5_080219 (240-110478-14) were analyzed for volatile organic compounds in

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Job ID: 240-110478-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/09/2019.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-375537 and analytical batch 240-375622.

The continuing calibration verification (CCV) associated with batch 240-375622 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HPT-211_18-19_080219 (240-110478-7), HPT-210_0-1_080219 (240-110478-8), HPT-210_1-2_080219 (240-110478-9), HPT-210_2-3_080219 (240-110478-10), HPT-212_1-2_080219 (240-110478-11), HPT-212_2-3_080219 (240-110478-12), HPT-212_3-4_080219 (240-110478-13), HPT-212_4-5_080219 (240-110478-14) and (CCVIS 240-375622/4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-211_13-17_080219 (240-110478-1), HPT-211_2-6_080219 (240-110478-2), HPT-211_7-11_080219 (240-110478-3), HPT-212_18-22_080219 (240-110478-4), HPT-212_10-14_080219 (240-110478-5) and HPT-212_5-9_080219 (240-110478-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/10/2019.

Internal standard responses were outside of acceptance limits for the following samples: HPT-211_7-11_080219 (240-110478-3). The samples shows evidence of matrix interference.

The pH is greater than 2 for the following samples HPT-212_18-22_080219 (240-110478-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-211_18-19_080219 (240-110478-7), HPT-210_0-1_080219 (240-110478-8), HPT-210_1-2_080219 (240-110478-9), HPT-210_2-3_080219 (240-110478-10), HPT-212_1-2_080219 (240-110478-11), HPT-212_2-3_080219 (240-110478-12), HPT-212_3-4_080219 (240-110478-13) and HPT-212_4-5_080219 (240-110478-14) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/05/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110478-1	HPT-211_13-17_080219	Water	04/02/19 10:18	04/04/19 09:55
240-110478-2	HPT-211_2-6_080219	Water	04/02/19 10:50	04/04/19 09:55
240-110478-3	HPT-211_7-11_080219	Water	04/02/19 10:35	04/04/19 09:55
240-110478-4	HPT-212_18-22_080219	Water	04/02/19 14:05	04/04/19 09:55
240-110478-5	HPT-212_10-14_080219	Water	04/02/19 14:18	04/04/19 09:55
240-110478-6	HPT-212_5-9_080219	Water	04/02/19 14:33	04/04/19 09:55
240-110478-7	HPT-211_18-19_080219	Solid	04/02/19 09:45	04/04/19 09:55
240-110478-8	HPT-210_0-1_080219	Solid	04/02/19 09:00	04/04/19 09:55
240-110478-9	HPT-210_1-2_080219	Solid	04/02/19 09:00	04/04/19 09:55
240-110478-10	HPT-210_2-3_080219	Solid	04/02/19 09:00	04/04/19 09:55
240-110478-11	HPT-212_1-2_080219	Solid	04/02/19 15:40	04/04/19 09:55
240-110478-12	HPT-212_2-3_080219	Solid	04/02/19 15:40	04/04/19 09:55
240-110478-13	HPT-212_3-4_080219	Solid	04/02/19 15:40	04/04/19 09:55
240-110478-14	HPT-212_4-5_080219	Solid	04/02/19 15:40	04/04/19 09:55
240-110478-15	TRIP BLANK	Water	04/02/19 00:00	04/04/19 09:55

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_13-17_080219

Lab Sample ID: 240-110478-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	14		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.8		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	1.4		1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-211_2-6_080219

Lab Sample ID: 240-110478-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9.4		1.7	0.27	ug/L	1.67		8260B	Total/NA
trans-1,2-Dichloroethene	0.77	J	1.7	0.32	ug/L	1.67		8260B	Total/NA
Trichloroethene	45		1.7	0.17	ug/L	1.67		8260B	Total/NA

Client Sample ID: HPT-211_7-11_080219

Lab Sample ID: 240-110478-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	63		14	2.3	ug/L	14.29		8260B	Total/NA
trans-1,2-Dichloroethene	4.6	J	14	2.7	ug/L	14.29		8260B	Total/NA
Trichloroethene	320		14	1.4	ug/L	14.29		8260B	Total/NA

Client Sample ID: HPT-212_18-22_080219

Lab Sample ID: 240-110478-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	110		5.0	0.80	ug/L	5		8260B	Total/NA
trans-1,2-Dichloroethene	0.96	J	5.0	0.95	ug/L	5		8260B	Total/NA
Vinyl chloride	46		5.0	1.0	ug/L	5		8260B	Total/NA

Client Sample ID: HPT-212_10-14_080219

Lab Sample ID: 240-110478-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	35		10	1.6	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	3.2	J	10	1.9	ug/L	10		8260B	Total/NA
Trichloroethene	220		10	1.0	ug/L	10		8260B	Total/NA
Vinyl chloride	9.1	J	10	2.0	ug/L	10		8260B	Total/NA

Client Sample ID: HPT-212_5-9_080219

Lab Sample ID: 240-110478-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9.9		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.98	J	1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	7.5		1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	3.6		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-211_18-19_080219

Lab Sample ID: 240-110478-7

No Detections.

Client Sample ID: HPT-210_0-1_080219

Lab Sample ID: 240-110478-8

No Detections.

Client Sample ID: HPT-210_1-2_080219

Lab Sample ID: 240-110478-9

No Detections.

Client Sample ID: HPT-210_2-3_080219

Lab Sample ID: 240-110478-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_1-2_080219

Lab Sample ID: 240-110478-11

No Detections.

Client Sample ID: HPT-212_2-3_080219

Lab Sample ID: 240-110478-12

No Detections.

Client Sample ID: HPT-212_3-4_080219

Lab Sample ID: 240-110478-13

No Detections.

Client Sample ID: HPT-212_4-5_080219

Lab Sample ID: 240-110478-14

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110478-15

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_13-17_080219

Lab Sample ID: 240-110478-1

Date Collected: 04/02/19 10:18

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 16:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		63 - 125		04/10/19 16:39	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/15/19 16:12	1
cis-1,2-Dichloroethene	14		1.0	0.16	ug/L			04/15/19 16:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/15/19 16:12	1
trans-1,2-Dichloroethene	1.8		1.0	0.19	ug/L			04/15/19 16:12	1
Trichloroethene	1.4		1.0	0.10	ug/L			04/15/19 16:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/15/19 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 121		04/15/19 16:12	1
4-Bromofluorobenzene (Surr)	72		59 - 120		04/15/19 16:12	1
Toluene-d8 (Surr)	94		70 - 123		04/15/19 16:12	1
Dibromofluoromethane (Surr)	88		75 - 128		04/15/19 16:12	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_2-6_080219

Lab Sample ID: 240-110478-2

Date Collected: 04/02/19 10:50

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 17:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		63 - 125		04/10/19 17:05	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.7	U	1.7	0.32	ug/L	-		04/15/19 16:35	1.67
cis-1,2-Dichloroethene	9.4		1.7	0.27	ug/L			04/15/19 16:35	1.67
Tetrachloroethene	1.7	U	1.7	0.25	ug/L	-		04/15/19 16:35	1.67
trans-1,2-Dichloroethene	0.77	J	1.7	0.32	ug/L			04/15/19 16:35	1.67
Trichloroethene	45		1.7	0.17	ug/L			04/15/19 16:35	1.67
Vinyl chloride	1.7	U	1.7	0.33	ug/L	-		04/15/19 16:35	1.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		70 - 121		04/15/19 16:35	1.67
4-Bromofluorobenzene (Surr)	72		59 - 120		04/15/19 16:35	1.67
Toluene-d8 (Surr)	90		70 - 123		04/15/19 16:35	1.67
Dibromofluoromethane (Surr)	82		75 - 128		04/15/19 16:35	1.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_7-11_080219

Lab Sample ID: 240-110478-3

Date Collected: 04/02/19 10:35

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U *	2.0	0.86	ug/L	-		04/10/19 17:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		63 - 125		04/10/19 17:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	14	U	14	2.7	ug/L	-		04/15/19 16:57	14.29
cis-1,2-Dichloroethene	63		14	2.3	ug/L			04/15/19 16:57	14.29
Tetrachloroethene	14	U	14	2.1	ug/L			04/15/19 16:57	14.29
trans-1,2-Dichloroethene	4.6	J	14	2.7	ug/L			04/15/19 16:57	14.29
Trichloroethene	320		14	1.4	ug/L			04/15/19 16:57	14.29
Vinyl chloride	14	U	14	2.9	ug/L			04/15/19 16:57	14.29

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/15/19 16:57	14.29
4-Bromofluorobenzene (Surr)	81		59 - 120		04/15/19 16:57	14.29
Toluene-d8 (Surr)	100		70 - 123		04/15/19 16:57	14.29
Dibromofluoromethane (Surr)	97		75 - 128		04/15/19 16:57	14.29

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_18-22_080219

Lab Sample ID: 240-110478-4

Date Collected: 04/02/19 14:05

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		63 - 125		04/10/19 17:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L	-		04/15/19 17:19	5
cis-1,2-Dichloroethene	110		5.0	0.80	ug/L			04/15/19 17:19	5
Tetrachloroethene	5.0	U	5.0	0.75	ug/L			04/15/19 17:19	5
trans-1,2-Dichloroethene	0.96	J	5.0	0.95	ug/L			04/15/19 17:19	5
Trichloroethene	5.0	U	5.0	0.50	ug/L			04/15/19 17:19	5
Vinyl chloride	46		5.0	1.0	ug/L			04/15/19 17:19	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 121		04/15/19 17:19	5
4-Bromofluorobenzene (Surr)	85		59 - 120		04/15/19 17:19	5
Toluene-d8 (Surr)	105		70 - 123		04/15/19 17:19	5
Dibromofluoromethane (Surr)	100		75 - 128		04/15/19 17:19	5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_10-14_080219

Lab Sample ID: 240-110478-5

Date Collected: 04/02/19 14:18

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		63 - 125		04/10/19 18:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	1.9	ug/L	-		04/15/19 17:41	10
cis-1,2-Dichloroethene	35		10	1.6	ug/L			04/15/19 17:41	10
Tetrachloroethene	10	U	10	1.5	ug/L			04/15/19 17:41	10
trans-1,2-Dichloroethene	3.2	J	10	1.9	ug/L			04/15/19 17:41	10
Trichloroethene	220		10	1.0	ug/L			04/15/19 17:41	10
Vinyl chloride	9.1	J	10	2.0	ug/L			04/15/19 17:41	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 121		04/15/19 17:41	10
4-Bromofluorobenzene (Surr)	74		59 - 120		04/15/19 17:41	10
Toluene-d8 (Surr)	93		70 - 123		04/15/19 17:41	10
Dibromofluoromethane (Surr)	91		75 - 128		04/15/19 17:41	10

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_5-9_080219

Lab Sample ID: 240-110478-6

Date Collected: 04/02/19 14:33

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		63 - 125		04/10/19 18:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 18:03	1
cis-1,2-Dichloroethene	9.9		1.0	0.16	ug/L			04/15/19 18:03	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/15/19 18:03	1
trans-1,2-Dichloroethene	0.98	J	1.0	0.19	ug/L			04/15/19 18:03	1
Trichloroethene	7.5		1.0	0.10	ug/L			04/15/19 18:03	1
Vinyl chloride	3.6		1.0	0.20	ug/L			04/15/19 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 121		04/15/19 18:03	1
4-Bromofluorobenzene (Surr)	78		59 - 120		04/15/19 18:03	1
Toluene-d8 (Surr)	98		70 - 123		04/15/19 18:03	1
Dibromofluoromethane (Surr)	95		75 - 128		04/15/19 18:03	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_18-19_080219

Lab Sample ID: 240-110478-7

Date Collected: 04/02/19 09:45

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 80.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	67	U	67	27	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
1,4-Dioxane	21000	U	21000	1800	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
cis-1,2-Dichloroethene	67	U	67	15	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
Tetrachloroethene	67	U	67	30	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
trans-1,2-Dichloroethene	67	U	67	17	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
Trichloroethene	67	U	67	18	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
Vinyl chloride	53	U	53	20	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		53 - 155	04/09/19 11:56	04/09/19 19:36	1
4-Bromofluorobenzene (Surr)	111		48 - 151	04/09/19 11:56	04/09/19 19:36	1
Dibromofluoromethane (Surr)	95		49 - 138	04/09/19 11:56	04/09/19 19:36	1
Toluene-d8 (Surr)	112		49 - 147	04/09/19 11:56	04/09/19 19:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80.4		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	19.6		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-210_0-1_080219

Lab Sample ID: 240-110478-8

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 83.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	66	U	66	27	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
1,4-Dioxane	21000	U	21000	1800	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
cis-1,2-Dichloroethene	66	U	66	15	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
Tetrachloroethene	66	U	66	30	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
trans-1,2-Dichloroethene	66	U	66	17	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
Trichloroethene	66	U	66	18	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
Vinyl chloride	53	U	53	20	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		53 - 155	04/09/19 11:56	04/09/19 19:57	1
4-Bromofluorobenzene (Surr)	122		48 - 151	04/09/19 11:56	04/09/19 19:57	1
Dibromofluoromethane (Surr)	104		49 - 138	04/09/19 11:56	04/09/19 19:57	1
Toluene-d8 (Surr)	127		49 - 147	04/09/19 11:56	04/09/19 19:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.3		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	16.7		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-210_1-2_080219

Lab Sample ID: 240-110478-9

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 84.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
Tetrachloroethene	59	U	59	26	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		53 - 155	04/09/19 11:56	04/09/19 20:19	1
4-Bromofluorobenzene (Surr)	106		48 - 151	04/09/19 11:56	04/09/19 20:19	1
Dibromofluoromethane (Surr)	94		49 - 138	04/09/19 11:56	04/09/19 20:19	1
Toluene-d8 (Surr)	110		49 - 147	04/09/19 11:56	04/09/19 20:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.8		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	15.2		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-210_2-3_080219

Lab Sample ID: 240-110478-10

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 84.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	56	U	56	22	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
cis-1,2-Dichloroethene	56	U	56	13	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
Tetrachloroethene	56	U	56	25	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
trans-1,2-Dichloroethene	56	U	56	14	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
Trichloroethene	56	U	56	15	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
Vinyl chloride	45	U	45	17	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/09/19 11:56	04/09/19 20:40	1
4-Bromofluorobenzene (Surr)	99		48 - 151	04/09/19 11:56	04/09/19 20:40	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 11:56	04/09/19 20:40	1
Toluene-d8 (Surr)	107		49 - 147	04/09/19 11:56	04/09/19 20:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.6		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	15.4		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_1-2_080219

Lab Sample ID: 240-110478-11

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 89.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
1,4-Dioxane	17000	U	17000	1400	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
Trichloroethene	53	U	53	15	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		53 - 155	04/09/19 11:56	04/09/19 21:02	1
4-Bromofluorobenzene (Surr)	96		48 - 151	04/09/19 11:56	04/09/19 21:02	1
Dibromofluoromethane (Surr)	79		49 - 138	04/09/19 11:56	04/09/19 21:02	1
Toluene-d8 (Surr)	98		49 - 147	04/09/19 11:56	04/09/19 21:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.4		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	10.6		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_2-3_080219

Lab Sample ID: 240-110478-12

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 86.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	22	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
trans-1,2-Dichloroethene	54	U	54	13	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		53 - 155	04/09/19 11:56	04/09/19 21:24	1
4-Bromofluorobenzene (Surr)	109		48 - 151	04/09/19 11:56	04/09/19 21:24	1
Dibromofluoromethane (Surr)	90		49 - 138	04/09/19 11:56	04/09/19 21:24	1
Toluene-d8 (Surr)	111		49 - 147	04/09/19 11:56	04/09/19 21:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.4		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	13.6		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_3-4_080219

Lab Sample ID: 240-110478-13

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 88.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		53 - 155	04/09/19 11:56	04/09/19 21:45	1
4-Bromofluorobenzene (Surr)	102		48 - 151	04/09/19 11:56	04/09/19 21:45	1
Dibromofluoromethane (Surr)	87		49 - 138	04/09/19 11:56	04/09/19 21:45	1
Toluene-d8 (Surr)	109		49 - 147	04/09/19 11:56	04/09/19 21:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.4		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	11.6		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_4-5_080219

Lab Sample ID: 240-110478-14

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 89.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	22	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
trans-1,2-Dichloroethene	54	U	54	14	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		53 - 155	04/09/19 11:56	04/09/19 22:07	1
4-Bromofluorobenzene (Surr)	104		48 - 151	04/09/19 11:56	04/09/19 22:07	1
Dibromofluoromethane (Surr)	91		49 - 138	04/09/19 11:56	04/09/19 22:07	1
Toluene-d8 (Surr)	110		49 - 147	04/09/19 11:56	04/09/19 22:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.2		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	10.8		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110478-15

Date Collected: 04/02/19 00:00

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 18:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/15/19 18:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/15/19 18:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 18:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/15/19 18:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/15/19 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/15/19 18:26	1
4-Bromofluorobenzene (Surr)	78		59 - 120		04/15/19 18:26	1
Toluene-d8 (Surr)	100		70 - 123		04/15/19 18:26	1
Dibromofluoromethane (Surr)	96		75 - 128		04/15/19 18:26	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110459-E-1 MSD	Matrix Spike Duplicate	81	91	102	91
240-110459-H-1 MS	Matrix Spike	82	91	106	91
240-110478-1	HPT-211_13-17_080219	80	72	94	88
240-110478-2	HPT-211_2-6_080219	76	72	90	82
240-110478-3	HPT-211_7-11_080219	89	81	100	97
240-110478-4	HPT-212_18-22_080219	90	85	105	100
240-110478-5	HPT-212_10-14_080219	80	74	93	91
240-110478-6	HPT-212_5-9_080219	84	78	98	95
240-110478-15	TRIP BLANK	85	78	100	96
LCS 240-376459/4	Lab Control Sample	84	98	107	91
MB 240-376459/6	Method Blank	84	84	94	93

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	DBFM (49-138)	TOL (49-147)
240-110478-7	HPT-211_18-19_080219	97	111	95	112
240-110478-8	HPT-210_0-1_080219	106	122	104	127
240-110478-9	HPT-210_1-2_080219	97	106	94	110
240-110478-10	HPT-210_2-3_080219	86	99	85	107
240-110478-11	HPT-212_1-2_080219	82	96	79	98
240-110478-12	HPT-212_2-3_080219	94	109	90	111
240-110478-13	HPT-212_3-4_080219	92	102	87	109
240-110478-14	HPT-212_4-5_080219	92	104	91	110
LCS 240-375537/2-A	Lab Control Sample	76	89	76	91
MB 240-375537/1-A	Method Blank	76	90	74	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 DBFM = Dibromofluoromethane (Surr)
 TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-110458-C-3 MS	Matrix Spike	122
240-110458-C-3 MSD	Matrix Spike Duplicate	117
240-110478-1	HPT-211_13-17_080219	120
240-110478-2	HPT-211_2-6_080219	124

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110478-3	HPT-211_7-11_080219	125
240-110478-4	HPT-212_18-22_080219	120
240-110478-5	HPT-212_10-14_080219	124
240-110478-6	HPT-212_5-9_080219	121
LCS 240-375762/4	Lab Control Sample	116
MB 240-375762/5	Method Blank	116

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376459/6
Matrix: Water
Analysis Batch: 376459

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 11:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/15/19 11:47	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/15/19 11:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 11:47	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/15/19 11:47	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/15/19 11:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 121		04/15/19 11:47	1
4-Bromofluorobenzene (Surr)	84		59 - 120		04/15/19 11:47	1
Toluene-d8 (Surr)	94		70 - 123		04/15/19 11:47	1
Dibromofluoromethane (Surr)	93		75 - 128		04/15/19 11:47	1

Lab Sample ID: LCS 240-376459/4
Matrix: Water
Analysis Batch: 376459

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139
cis-1,2-Dichloroethene	10.0	9.47		ug/L		95	76 - 128
Tetrachloroethene	10.0	9.10		ug/L		91	74 - 130
trans-1,2-Dichloroethene	10.0	9.76		ug/L		98	78 - 133
Trichloroethene	10.0	9.01		ug/L		90	76 - 125
Vinyl chloride	10.0	9.11		ug/L		91	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		70 - 121
4-Bromofluorobenzene (Surr)	98		59 - 120
Toluene-d8 (Surr)	107		70 - 123
Dibromofluoromethane (Surr)	91		75 - 128

Lab Sample ID: 240-110459-E-1 MSD
Matrix: Water
Analysis Batch: 376459

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	53 - 140	17	35
cis-1,2-Dichloroethene	2.1		10.0	12.0		ug/L		99	64 - 130	3	21
Tetrachloroethene	12		10.0	21.0		ug/L		86	51 - 136	0	23
Trichloroethene	1.6		10.0	10.6		ug/L		90	55 - 131	7	23
Vinyl chloride	1.0	U	10.0	9.10		ug/L		91	43 - 154	5	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		70 - 121
4-Bromofluorobenzene (Surr)	91		59 - 120
Toluene-d8 (Surr)	102		70 - 123
Dibromofluoromethane (Surr)	91		75 - 128

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110459-H-1 MS
Matrix: Water
Analysis Batch: 376459

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	8.72		ug/L		87	53 - 140
cis-1,2-Dichloroethene	2.1		10.0	11.6		ug/L		95	64 - 130
Tetrachloroethene	12		10.0	21.0		ug/L		86	51 - 136
Trichloroethene	1.6		10.0	9.86		ug/L		83	55 - 131
Vinyl chloride	1.0	U	10.0	8.65		ug/L		86	43 - 154

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	82		70 - 121
4-Bromofluorobenzene (Surr)	91		59 - 120
Toluene-d8 (Surr)	106		70 - 123
Dibromofluoromethane (Surr)	91		75 - 128

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375537/1-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Trichloroethene	40	U	40	11	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Vinyl chloride	32	U	32	12	ug/Kg		04/09/19 11:56	04/09/19 18:52	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		53 - 155	04/09/19 11:56	04/09/19 18:52	1
4-Bromofluorobenzene (Surr)	90		48 - 151	04/09/19 11:56	04/09/19 18:52	1
Dibromofluoromethane (Surr)	74		49 - 138	04/09/19 11:56	04/09/19 18:52	1
Toluene-d8 (Surr)	90		49 - 147	04/09/19 11:56	04/09/19 18:52	1

Lab Sample ID: LCS 240-375537/2-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1000	1030		ug/Kg		103	57 - 139
1,4-Dioxane	20000	19200		ug/Kg		96	51 - 140
cis-1,2-Dichloroethene	1000	911		ug/Kg		91	74 - 123
Tetrachloroethene	1000	939		ug/Kg		94	76 - 120
trans-1,2-Dichloroethene	1000	1050		ug/Kg		105	71 - 133
Trichloroethene	1000	862		ug/Kg		86	73 - 126
Vinyl chloride	1000	1130		ug/Kg		113	52 - 130

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	76		53 - 155

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-375537/2-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375537

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	89		48 - 151
Dibromofluoromethane (Surr)	76		49 - 138
Toluene-d8 (Surr)	91		49 - 147

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375762/5
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 12:22	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 12:22	1

Lab Sample ID: LCS 240-375762/4
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,4-Dioxane	10.0	11.9		ug/L		119	59 - 131

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	116		63 - 125

Lab Sample ID: 240-110458-C-3 MS
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,4-Dioxane	68		10.0	82.4	4	ug/L		142	52 - 129

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	122		63 - 125

Lab Sample ID: 240-110458-C-3 MSD
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
				Result	Qualifier						
1,4-Dioxane	68		10.0	79.6	4	ug/L		113	52 - 129	4	13

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	117		63 - 125

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110478-14 DU

Matrix: Solid

Analysis Batch: 374979

Client Sample ID: HPT-212_4-5_080219

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	89.2		88.0		%		1	20
Percent Moisture	10.8		12.0		%		11	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

GC/MS VOA

Prep Batch: 375537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-7	HPT-211_18-19_080219	Total/NA	Solid	5030B	
240-110478-8	HPT-210_0-1_080219	Total/NA	Solid	5030B	
240-110478-9	HPT-210_1-2_080219	Total/NA	Solid	5030B	
240-110478-10	HPT-210_2-3_080219	Total/NA	Solid	5030B	
240-110478-11	HPT-212_1-2_080219	Total/NA	Solid	5030B	
240-110478-12	HPT-212_2-3_080219	Total/NA	Solid	5030B	
240-110478-13	HPT-212_3-4_080219	Total/NA	Solid	5030B	
240-110478-14	HPT-212_4-5_080219	Total/NA	Solid	5030B	
MB 240-375537/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-375537/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 375622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-7	HPT-211_18-19_080219	Total/NA	Solid	8260B MI	375537
240-110478-8	HPT-210_0-1_080219	Total/NA	Solid	8260B MI	375537
240-110478-9	HPT-210_1-2_080219	Total/NA	Solid	8260B MI	375537
240-110478-10	HPT-210_2-3_080219	Total/NA	Solid	8260B MI	375537
240-110478-11	HPT-212_1-2_080219	Total/NA	Solid	8260B MI	375537
240-110478-12	HPT-212_2-3_080219	Total/NA	Solid	8260B MI	375537
240-110478-13	HPT-212_3-4_080219	Total/NA	Solid	8260B MI	375537
240-110478-14	HPT-212_4-5_080219	Total/NA	Solid	8260B MI	375537
MB 240-375537/1-A	Method Blank	Total/NA	Solid	8260B MI	375537
LCS 240-375537/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	375537

Analysis Batch: 375762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-1	HPT-211_13-17_080219	Total/NA	Water	8260B SIM	
240-110478-2	HPT-211_2-6_080219	Total/NA	Water	8260B SIM	
240-110478-3	HPT-211_7-11_080219	Total/NA	Water	8260B SIM	
240-110478-4	HPT-212_18-22_080219	Total/NA	Water	8260B SIM	
240-110478-5	HPT-212_10-14_080219	Total/NA	Water	8260B SIM	
240-110478-6	HPT-212_5-9_080219	Total/NA	Water	8260B SIM	
MB 240-375762/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-375762/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110458-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110458-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-1	HPT-211_13-17_080219	Total/NA	Water	8260B	
240-110478-2	HPT-211_2-6_080219	Total/NA	Water	8260B	
240-110478-3	HPT-211_7-11_080219	Total/NA	Water	8260B	
240-110478-4	HPT-212_18-22_080219	Total/NA	Water	8260B	
240-110478-5	HPT-212_10-14_080219	Total/NA	Water	8260B	
240-110478-6	HPT-212_5-9_080219	Total/NA	Water	8260B	
240-110478-15	TRIP BLANK	Total/NA	Water	8260B	
MB 240-376459/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376459/4	Lab Control Sample	Total/NA	Water	8260B	
240-110459-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-110459-H-1 MS	Matrix Spike	Total/NA	Water	8260B	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

General Chemistry

Analysis Batch: 374979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-7	HPT-211_18-19_080219	Total/NA	Solid	Moisture	
240-110478-8	HPT-210_0-1_080219	Total/NA	Solid	Moisture	
240-110478-9	HPT-210_1-2_080219	Total/NA	Solid	Moisture	
240-110478-10	HPT-210_2-3_080219	Total/NA	Solid	Moisture	
240-110478-11	HPT-212_1-2_080219	Total/NA	Solid	Moisture	
240-110478-12	HPT-212_2-3_080219	Total/NA	Solid	Moisture	
240-110478-13	HPT-212_3-4_080219	Total/NA	Solid	Moisture	
240-110478-14	HPT-212_4-5_080219	Total/NA	Solid	Moisture	
240-110478-14 DU	HPT-212_4-5_080219	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_13-17_080219

Lab Sample ID: 240-110478-1

Date Collected: 04/02/19 10:18

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376459	04/15/19 16:12	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 16:39	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 16:39	SAM	TAL CAN

Client Sample ID: HPT-211_2-6_080219

Lab Sample ID: 240-110478-2

Date Collected: 04/02/19 10:50

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1.67	376459	04/15/19 16:35	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 17:05	SAM	TAL CAN

Client Sample ID: HPT-211_7-11_080219

Lab Sample ID: 240-110478-3

Date Collected: 04/02/19 10:35

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		14.29	376459	04/15/19 16:57	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 17:30	SAM	TAL CAN

Client Sample ID: HPT-212_18-22_080219

Lab Sample ID: 240-110478-4

Date Collected: 04/02/19 14:05

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	376459	04/15/19 17:19	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 17:56	SAM	TAL CAN

Client Sample ID: HPT-212_10-14_080219

Lab Sample ID: 240-110478-5

Date Collected: 04/02/19 14:18

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	376459	04/15/19 17:41	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 18:22	SAM	TAL CAN

Client Sample ID: HPT-212_5-9_080219

Lab Sample ID: 240-110478-6

Date Collected: 04/02/19 14:33

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376459	04/15/19 18:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 18:47	SAM	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_18-19_080219

Lab Sample ID: 240-110478-7

Date Collected: 04/02/19 09:45

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-211_18-19_080219

Lab Sample ID: 240-110478-7

Date Collected: 04/02/19 09:45

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 80.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 19:36	TJL1	TAL CAN

Client Sample ID: HPT-210_0-1_080219

Lab Sample ID: 240-110478-8

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-210_0-1_080219

Lab Sample ID: 240-110478-8

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 83.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 19:57	TJL1	TAL CAN

Client Sample ID: HPT-210_1-2_080219

Lab Sample ID: 240-110478-9

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-210_1-2_080219

Lab Sample ID: 240-110478-9

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 20:19	TJL1	TAL CAN

Client Sample ID: HPT-210_2-3_080219

Lab Sample ID: 240-110478-10

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-210_2-3_080219

Lab Sample ID: 240-110478-10

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 20:40	TJL1	TAL CAN

Client Sample ID: HPT-212_1-2_080219

Lab Sample ID: 240-110478-11

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-212_1-2_080219

Lab Sample ID: 240-110478-11

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 21:02	TJL1	TAL CAN

Client Sample ID: HPT-212_2-3_080219

Lab Sample ID: 240-110478-12

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-212_2-3_080219

Lab Sample ID: 240-110478-12

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 21:24	TJL1	TAL CAN

Client Sample ID: HPT-212_3-4_080219

Lab Sample ID: 240-110478-13

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_3-4_080219

Lab Sample ID: 240-110478-13

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 21:45	TJL1	TAL CAN

Client Sample ID: HPT-212_4-5_080219

Lab Sample ID: 240-110478-14

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-212_4-5_080219

Lab Sample ID: 240-110478-14

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 22:07	TJL1	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110478-15

Date Collected: 04/02/19 00:00

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376459	04/15/19 18:26	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton
 4101 Shuffel Street NW
 North Canton, OH 44720
 Phone (330) 497-9396 Fax (330) 497-0772

MICHIGAN
190

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Caitlin O'Neill Company: ARCADIS U.S. Inc. Address: 28550 Cabot Drive Suite 500 City: Novi State, Zip: MI, 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: LIVONIA		Lab P/N: DelMonico, Michael E-Mail: michael.delmonico@testamericainc.com Carrier Tracking No(s): Analysis Requested		COC No: 240-59411-25360.1 Page: 2 of 2 Job #:							
Date Requested: TAT Requested (days): 10 DAY (STD.) PO #: MI001318.0002.00002 WO #: Cadena #: E203631 Project #: 24015353 SSOW#:		Field Filled Sample (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No							
Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=oil, D=diesel, A=acid)	Preservation Code	Field Filled Sample (Yes or No)	Perform MS/MSD (Yes or No)	8208 MI - VOCs (Short List)	8208 - VOCs (Short List)	Total Number of Containers	Special Instructions/Note:
HPT-212-2-3-CH0219	4/12/19	1540	6	Water	010	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	010	010	2	Dry sample
HPT-212-3-4-CH0219	4/12/19	1540	6	Water	010	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	010	010	2	Dry sample
HPT-212-4-5-CH0219	4/12/19	1540	6	Water	010	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	010	010	2	Dry sample
Trip blank				Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			1	Blank out of lab
				Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Provided dry weight
				Water		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				Sample cups, utilized
				Solid		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				oil shake test cup.
				Solid		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
				Solid		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
				Solid		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
				Solid		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>				
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)											
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements: Submit all results through cadena at submit@arcadis.com											
Empty Kit Relinquished by: Date: _____ Time: _____ Method of Shipment: _____											
Relinquished by: Christina Weaver Date/Time: 4/12/19 1740 Company: Arcadis Relinquished by: Caitlin O'Neill Date/Time: 04/03/19 1410 Company: Arcadis Relinquished by: Christina Weaver Date/Time: 4/13/19 1507 Company: Arcadis											
Custody Seal No.: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> No Cooler Temperature(s) °C and Other Remarks:											

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TestAmerica Canton Sample Receipt Form/Narrative

Login #: 110478

Canton Facility

Client Arceadis Site Name _____ Cooler unpacked by: [Signature]
 Cooler Received on 4/4/19 Opened on 4/4/19
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off: TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 765 Foam Box Client Cooler Box Other
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

- Cooler temperature upon receipt: See Multiple Cooler Form
 IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #36 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
- Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
- Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC861535
- Were VOAs on the COC? Yes No
- Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this: [Circle]
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 1/10 Yes No
- Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: JR
Could not decipher between Samples HPT-210, All 3
Bottle labels washed off of vials. Ink is unreadable.
Further looking could make out ID: from glare of light and
indentation of pen mark

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____



April 18, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110478-1
Sample date: 2019-04-02
Report received by CADENA: 2019-04-18
Initial Data Verification completed by CADENA: 2019-04-18

The following minor QC exceptions or missing information were noted:

SPV - SIM GCMS VOC sample -004 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

GCMS VOC QC Soils batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

SIM GCMS VOC QC batch MS/MSD issues were not using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

SIM GCMS VOC QC batch INTERNAL STANDARD response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

7 Water sample(s) were analyzed for GCMS VOC parameter(s).

8 Soil sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110478-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401104781	HPT-211_13-17_080219	4/2/2019	10:18:00	X	X	
24011047810	HPT-210_2-3_080219	4/2/2019	9:00:00	X		
24011047811	HPT-212_1-2_080219	4/2/2019	3:40:00	X		
24011047812	HPT-212_2-3_080219	4/2/2019	3:40:00	X		
24011047813	HPT-212_3-4_080219	4/2/2019	3:40:00	X		
24011047814	HPT-212_4-5_080219	4/2/2019	3:40:00	X		
24011047815	TRIP BLANK	4/2/2019	12:00:00	X		
2401104782	HPT-211_2-6_080219	4/2/2019	10:50:00	X	X	
2401104783	HPT-211_7-11_080219	4/2/2019	10:35:00	X	X	
2401104784	HPT-212_18-22_080219	4/2/2019	2:05:00	X	X	
2401104785	HPT-212_10-14_080219	4/2/2019	2:18:00	X	X	
2401104786	HPT-212_5-9_080219	4/2/2019	2:33:00	X	X	
2401104787	HPT-211_18-19_080219	4/2/2019	9:45:00	X		
2401104788	HPT-210_0-1_080219	4/2/2019	9:00:00	X		
2401104789	HPT-210_1-2_080219	4/2/2019	9:00:00	X		

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110478-1

Sample Name: HPT-212_18-22_080219

Lab Sample ID: 2401104784

Sample Date: 4/2/2019

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units	Qualifier	
GC/MS VOC						
<u>OSW-8260BBSim</u>						
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	

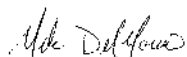
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110529-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/18/2019 4:00:36 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Job ID: 240-110529-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110529-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/5/2019 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-110529-10), HPT-214_5-9_040319 (240-110529-11), HPT-214_10-14_040319 (240-110529-12), HPT-214_16-20_040319 (240-110529-13), HPT-213_15-19_040319 (240-110529-14), HPT-213_10-14_040319 (240-110529-15), HPT-213_20-24_040319 (240-110529-16) and HPT-213_5-9_040319 (240-110529-17) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/16/2019.

Trichloroethene failed the recovery criteria low for the MS of sample HPT-214_10-14_040319MS (240-110529-12) in batch 240-376652.

Tetrachloroethene and Vinyl chloride exceeded the RPD limit for the MSD of sample HPT-214_10-14_040319MSD (240-110529-12) in batch 240-376652. Refer to the QC report for details.

Samples HPT-214_10-14_040319 (240-110529-12)[5X] and HPT-214_16-20_040319 (240-110529-13)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The pH of the sample was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Job ID: 240-110529-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

susceptible to biological degradation if sample is not preserved to a pH of 2: HPT-214_16-20_040319 (240-110529-13).

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-375537 and analytical batch 240-375622.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples HPT-214_26-27_040319 (240-110529-1), HPT-214_2-3_040319 (240-110529-2), HPT-214_1-2_040319 (240-110529-3), DUP-01 (240-110529-4), HPT-214_3-4_040319 (240-110529-5), HPT-214_4-5_040319 (240-110529-6), HPT-213_26-27_040319 (240-110529-7), HPT-213_3-4_040319 (240-110529-8) and HPT-213_4-5_040319 (240-110529-9) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/09/2019 and 04/10/2019.

The continuing calibration verification (CCV) associated with batch 240-375622 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HPT-214_26-27_040319 (240-110529-1), HPT-214_2-3_040319 (240-110529-2), HPT-214_1-2_040319 (240-110529-3), DUP-01 (240-110529-4), HPT-214_3-4_040319 (240-110529-5), HPT-214_4-5_040319 (240-110529-6), HPT-213_26-27_040319 (240-110529-7), HPT-213_3-4_040319 (240-110529-8), HPT-213_4-5_040319 (240-110529-9) and (CCVIS 240-375622/4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-214_5-9_040319 (240-110529-11), HPT-214_10-14_040319 (240-110529-12), HPT-214_16-20_040319 (240-110529-13), HPT-213_15-19_040319 (240-110529-14), HPT-213_10-14_040319 (240-110529-15), HPT-213_20-24_040319 (240-110529-16) and HPT-213_5-9_040319 (240-110529-17) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/11/2019.

The pH is greater than 2 for the following samples HPT-214_16-20_040319 (240-110529-13) and HPT-213_15-19_040319 (240-110529-14).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-214_26-27_040319 (240-110529-1), HPT-214_2-3_040319 (240-110529-2), HPT-214_1-2_040319 (240-110529-3), DUP-01 (240-110529-4), HPT-214_3-4_040319 (240-110529-5), HPT-214_4-5_040319 (240-110529-6), HPT-213_26-27_040319 (240-110529-7), HPT-213_3-4_040319 (240-110529-8) and HPT-213_4-5_040319 (240-110529-9) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/08/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110529-1	HPT-214_26-27_040319	Solid	04/03/19 14:05	04/05/19 08:20
240-110529-2	HPT-214_2-3_040319	Solid	04/03/19 11:40	04/05/19 08:20
240-110529-3	HPT-214_1-2_040319	Solid	04/03/19 11:40	04/05/19 08:20
240-110529-4	DUP-01	Solid	04/03/19 00:00	04/05/19 08:20
240-110529-5	HPT-214_3-4_040319	Solid	04/03/19 11:40	04/05/19 08:20
240-110529-6	HPT-214_4-5_040319	Solid	04/03/19 11:40	04/05/19 08:20
240-110529-7	HPT-213_26-27_040319	Solid	04/03/19 10:00	04/05/19 08:20
240-110529-8	HPT-213_3-4_040319	Solid	04/03/19 08:50	04/05/19 08:20
240-110529-9	HPT-213_4-5_040319	Solid	04/03/19 08:50	04/05/19 08:20
240-110529-10	TRIP BLANK	Water	04/03/19 00:00	04/05/19 08:20
240-110529-11	HPT-214_5-9_040319	Water	04/03/19 14:42	04/05/19 08:20
240-110529-12	HPT-214_10-14_040319	Water	04/03/19 14:24	04/05/19 08:20
240-110529-13	HPT-214_16-20_040319	Water	04/03/19 14:10	04/05/19 08:20
240-110529-14	HPT-213_15-19_040319	Water	04/03/19 10:55	04/05/19 08:20
240-110529-15	HPT-213_10-14_040319	Water	04/03/19 11:10	04/05/19 08:20
240-110529-16	HPT-213_20-24_040319	Water	04/03/19 10:30	04/05/19 08:20
240-110529-17	HPT-213_5-9_040319	Water	04/03/19 11:30	04/05/19 08:20

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_26-27_040319

Lab Sample ID: 240-110529-1

No Detections.

Client Sample ID: HPT-214_2-3_040319

Lab Sample ID: 240-110529-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	170		51	11	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	74		51	14	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: HPT-214_1-2_040319

Lab Sample ID: 240-110529-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	84		56	13	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	35	J	56	15	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: DUP-01

Lab Sample ID: 240-110529-4

No Detections.

Client Sample ID: HPT-214_3-4_040319

Lab Sample ID: 240-110529-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	20	J	61	14	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: HPT-214_4-5_040319

Lab Sample ID: 240-110529-6

No Detections.

Client Sample ID: HPT-213_26-27_040319

Lab Sample ID: 240-110529-7

No Detections.

Client Sample ID: HPT-213_3-4_040319

Lab Sample ID: 240-110529-8

No Detections.

Client Sample ID: HPT-213_4-5_040319

Lab Sample ID: 240-110529-9

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110529-10

No Detections.

Client Sample ID: HPT-214_5-9_040319

Lab Sample ID: 240-110529-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	17		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.2		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	37		1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	10		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-214_10-14_040319

Lab Sample ID: 240-110529-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	32		5.0	0.80	ug/L	5		8260B	Total/NA
trans-1,2-Dichloroethene	4.1	J	5.0	0.95	ug/L	5		8260B	Total/NA
Trichloroethene	120	F1	5.0	0.50	ug/L	5		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_16-20_040319

Lab Sample ID: 240-110529-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	200		10	1.6	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	17		10	1.9	ug/L	10		8260B	Total/NA

Client Sample ID: HPT-213_15-19_040319

Lab Sample ID: 240-110529-14

No Detections.

Client Sample ID: HPT-213_10-14_040319

Lab Sample ID: 240-110529-15

No Detections.

Client Sample ID: HPT-213_20-24_040319

Lab Sample ID: 240-110529-16

No Detections.

Client Sample ID: HPT-213_5-9_040319

Lab Sample ID: 240-110529-17

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_26-27_040319

Lab Sample ID: 240-110529-1

Date Collected: 04/03/19 14:05

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 84.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	62	U	62	25	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
cis-1,2-Dichloroethene	62	U	62	14	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
Tetrachloroethene	62	U	62	28	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
trans-1,2-Dichloroethene	62	U	62	16	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
Trichloroethene	62	U	62	17	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
Vinyl chloride	50	U	50	19	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		53 - 155	04/09/19 11:56	04/09/19 22:29	1
4-Bromofluorobenzene (Surr)	124		48 - 151	04/09/19 11:56	04/09/19 22:29	1
Dibromofluoromethane (Surr)	98		49 - 138	04/09/19 11:56	04/09/19 22:29	1
Toluene-d8 (Surr)	118		49 - 147	04/09/19 11:56	04/09/19 22:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.2		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	15.8		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_2-3_040319

Lab Sample ID: 240-110529-2

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 88.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	51	U	51	20	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
cis-1,2-Dichloroethene	170		51	11	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
Tetrachloroethene	51	U	51	23	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
trans-1,2-Dichloroethene	51	U	51	13	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
Trichloroethene	74		51	14	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		53 - 155	04/09/19 11:56	04/09/19 22:50	1
4-Bromofluorobenzene (Surr)	133		48 - 151	04/09/19 11:56	04/09/19 22:50	1
Dibromofluoromethane (Surr)	96		49 - 138	04/09/19 11:56	04/09/19 22:50	1
Toluene-d8 (Surr)	122		49 - 147	04/09/19 11:56	04/09/19 22:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.3		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	11.7		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_1-2_040319

Lab Sample ID: 240-110529-3

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 90.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	56	U	56	22	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
cis-1,2-Dichloroethene	84		56	13	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
Tetrachloroethene	56	U	56	25	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
trans-1,2-Dichloroethene	56	U	56	14	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
Trichloroethene	35 J		56	15	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
Vinyl chloride	45	U	45	17	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		53 - 155	04/09/19 11:56	04/09/19 23:12	1
4-Bromofluorobenzene (Surr)	127		48 - 151	04/09/19 11:56	04/09/19 23:12	1
Dibromofluoromethane (Surr)	92		49 - 138	04/09/19 11:56	04/09/19 23:12	1
Toluene-d8 (Surr)	113		49 - 147	04/09/19 11:56	04/09/19 23:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.0		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	10		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: DUP-01

Lab Sample ID: 240-110529-4

Date Collected: 04/03/19 00:00

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 84.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		53 - 155	04/09/19 11:56	04/09/19 23:34	1
4-Bromofluorobenzene (Surr)	135		48 - 151	04/09/19 11:56	04/09/19 23:34	1
Dibromofluoromethane (Surr)	101		49 - 138	04/09/19 11:56	04/09/19 23:34	1
Toluene-d8 (Surr)	123		49 - 147	04/09/19 11:56	04/09/19 23:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.6		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	15.4		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_3-4_040319

Lab Sample ID: 240-110529-5

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 81.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	61	U	61	24	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
cis-1,2-Dichloroethene	20	J	61	14	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
Tetrachloroethene	61	U	61	27	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
trans-1,2-Dichloroethene	61	U	61	15	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
Trichloroethene	61	U	61	17	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
Vinyl chloride	49	U	49	18	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		53 - 155	04/09/19 11:56	04/09/19 23:55	1
4-Bromofluorobenzene (Surr)	125		48 - 151	04/09/19 11:56	04/09/19 23:55	1
Dibromofluoromethane (Surr)	100		49 - 138	04/09/19 11:56	04/09/19 23:55	1
Toluene-d8 (Surr)	119		49 - 147	04/09/19 11:56	04/09/19 23:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.6		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	18.4		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_4-5_040319

Lab Sample ID: 240-110529-6

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 89.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	51	U	51	20	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
cis-1,2-Dichloroethene	51	U	51	11	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
Tetrachloroethene	51	U	51	23	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
trans-1,2-Dichloroethene	51	U	51	13	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
Trichloroethene	51	U	51	14	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		53 - 155	04/09/19 11:56	04/10/19 00:17	1
4-Bromofluorobenzene (Surr)	104		48 - 151	04/09/19 11:56	04/10/19 00:17	1
Dibromofluoromethane (Surr)	92		49 - 138	04/09/19 11:56	04/10/19 00:17	1
Toluene-d8 (Surr)	113		49 - 147	04/09/19 11:56	04/10/19 00:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.6		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	10.4		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_26-27_040319

Lab Sample ID: 240-110529-7

Date Collected: 04/03/19 10:00

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 83.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	23	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
Tetrachloroethene	59	U	59	26	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/09/19 11:56	04/10/19 00:38	1
4-Bromofluorobenzene (Surr)	107		48 - 151	04/09/19 11:56	04/10/19 00:38	1
Dibromofluoromethane (Surr)	93		49 - 138	04/09/19 11:56	04/10/19 00:38	1
Toluene-d8 (Surr)	114		49 - 147	04/09/19 11:56	04/10/19 00:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.4		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	16.6		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_3-4_040319

Lab Sample ID: 240-110529-8

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 85.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	21	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
trans-1,2-Dichloroethene	54	U	54	13	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/09/19 11:56	04/10/19 01:00	1
4-Bromofluorobenzene (Surr)	110		48 - 151	04/09/19 11:56	04/10/19 01:00	1
Dibromofluoromethane (Surr)	96		49 - 138	04/09/19 11:56	04/10/19 01:00	1
Toluene-d8 (Surr)	118		49 - 147	04/09/19 11:56	04/10/19 01:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.6		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	14.4		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_4-5_040319

Lab Sample ID: 240-110529-9

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 91.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
Trichloroethene	55	U	55	15	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
Vinyl chloride	44	U	44	16	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/09/19 11:56	04/10/19 01:22	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/09/19 11:56	04/10/19 01:22	1
Dibromofluoromethane (Surr)	82		49 - 138	04/09/19 11:56	04/10/19 01:22	1
Toluene-d8 (Surr)	102		49 - 147	04/09/19 11:56	04/10/19 01:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.4		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	8.6		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110529-10

Date Collected: 04/03/19 00:00

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 11:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 11:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 11:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 11:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 11:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 11:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 121		04/16/19 11:34	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/16/19 11:34	1
Toluene-d8 (Surr)	93		70 - 123		04/16/19 11:34	1
Dibromofluoromethane (Surr)	92		75 - 128		04/16/19 11:34	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_5-9_040319

Lab Sample ID: 240-110529-11

Date Collected: 04/03/19 14:42

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/11/19 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/11/19 18:38	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/16/19 11:56	1
cis-1,2-Dichloroethene	17		1.0	0.16	ug/L			04/16/19 11:56	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 11:56	1
trans-1,2-Dichloroethene	3.2		1.0	0.19	ug/L			04/16/19 11:56	1
Trichloroethene	37		1.0	0.10	ug/L			04/16/19 11:56	1
Vinyl chloride	10		1.0	0.20	ug/L			04/16/19 11:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/16/19 11:56	1
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 11:56	1
Toluene-d8 (Surr)	98		70 - 123		04/16/19 11:56	1
Dibromofluoromethane (Surr)	94		75 - 128		04/16/19 11:56	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_10-14_040319

Lab Sample ID: 240-110529-12

Date Collected: 04/03/19 14:24

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 125		04/11/19 19:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L			04/16/19 12:18	5
cis-1,2-Dichloroethene	32		5.0	0.80	ug/L			04/16/19 12:18	5
Tetrachloroethene	5.0	U F2	5.0	0.75	ug/L			04/16/19 12:18	5
trans-1,2-Dichloroethene	4.1	J	5.0	0.95	ug/L			04/16/19 12:18	5
Trichloroethene	120	F1	5.0	0.50	ug/L			04/16/19 12:18	5
Vinyl chloride	5.0	U F2	5.0	1.0	ug/L			04/16/19 12:18	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/16/19 12:18	5
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 12:18	5
Toluene-d8 (Surr)	99		70 - 123		04/16/19 12:18	5
Dibromofluoromethane (Surr)	97		75 - 128		04/16/19 12:18	5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_16-20_040319

Lab Sample ID: 240-110529-13

Date Collected: 04/03/19 14:10

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/11/19 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		63 - 125		04/11/19 19:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	1.9	ug/L	-		04/16/19 19:43	10
cis-1,2-Dichloroethene	200		10	1.6	ug/L			04/16/19 19:43	10
Tetrachloroethene	10	U	10	1.5	ug/L			04/16/19 19:43	10
trans-1,2-Dichloroethene	17		10	1.9	ug/L			04/16/19 19:43	10
Trichloroethene	10	U	10	1.0	ug/L			04/16/19 19:43	10
Vinyl chloride	10	U	10	2.0	ug/L			04/16/19 19:43	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/16/19 19:43	10
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 19:43	10
Toluene-d8 (Surr)	98		70 - 123		04/16/19 19:43	10
Dibromofluoromethane (Surr)	94		75 - 128		04/16/19 19:43	10

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_15-19_040319

Lab Sample ID: 240-110529-14

Date Collected: 04/03/19 10:55

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 19:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/11/19 19:55	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 13:03	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 13:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:03	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 13:03	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/16/19 13:03	1
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 13:03	1
Toluene-d8 (Surr)	100		70 - 123		04/16/19 13:03	1
Dibromofluoromethane (Surr)	98		75 - 128		04/16/19 13:03	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_10-14_040319

Lab Sample ID: 240-110529-15

Date Collected: 04/03/19 11:10

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 20:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		04/11/19 20:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 13:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 13:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 13:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 13:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/16/19 13:26	1
4-Bromofluorobenzene (Surr)	79		59 - 120		04/16/19 13:26	1
Toluene-d8 (Surr)	98		70 - 123		04/16/19 13:26	1
Dibromofluoromethane (Surr)	97		75 - 128		04/16/19 13:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_20-24_040319

Lab Sample ID: 240-110529-16

Date Collected: 04/03/19 10:30

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/11/19 20:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/11/19 20:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/16/19 13:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		04/16/19 13:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		04/16/19 13:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/16/19 13:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		04/16/19 13:48	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		04/16/19 13:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/16/19 13:48	1
4-Bromofluorobenzene (Surr)	76		59 - 120		04/16/19 13:48	1
Toluene-d8 (Surr)	102		70 - 123		04/16/19 13:48	1
Dibromofluoromethane (Surr)	99		75 - 128		04/16/19 13:48	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_5-9_040319

Lab Sample ID: 240-110529-17

Date Collected: 04/03/19 11:30

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/11/19 21:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 14:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 14:10	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 14:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 14:10	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 14:10	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 14:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/16/19 14:10	1
4-Bromofluorobenzene (Surr)	71		59 - 120		04/16/19 14:10	1
Toluene-d8 (Surr)	94		70 - 123		04/16/19 14:10	1
Dibromofluoromethane (Surr)	93		75 - 128		04/16/19 14:10	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110529-10	TRIP BLANK	84	75	93	92
240-110529-11	HPT-214_5-9_040319	85	80	98	94
240-110529-12	HPT-214_10-14_040319	85	80	99	97
240-110529-12 MS	HPT-214_10-14_040319	88	94	111	94
240-110529-12 MSD	HPT-214_10-14_040319	82	88	101	94
240-110529-13	HPT-214_16-20_040319	85	80	98	94
240-110529-14	HPT-213_15-19_040319	88	80	100	98
240-110529-15	HPT-213_10-14_040319	89	79	98	97
240-110529-16	HPT-213_20-24_040319	87	76	102	99
240-110529-17	HPT-213_5-9_040319	85	71	94	93
LCS 240-376652/4	Lab Control Sample	83	95	105	94
MB 240-376652/6	Method Blank	89	84	107	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	DBFM (49-138)	TOL (49-147)
240-110529-1	HPT-214_26-27_040319	101	124	98	118
240-110529-2	HPT-214_2-3_040319	99	133	96	122
240-110529-3	HPT-214_1-2_040319	95	127	92	113
240-110529-4	DUP-01	106	135	101	123
240-110529-5	HPT-214_3-4_040319	107	125	100	119
240-110529-6	HPT-214_4-5_040319	96	104	92	113
240-110529-7	HPT-213_26-27_040319	98	107	93	114
240-110529-8	HPT-213_3-4_040319	98	110	96	118
240-110529-9	HPT-213_4-5_040319	88	94	82	102
LCS 240-375537/2-A	Lab Control Sample	76	89	76	91
MB 240-375537/1-A	Method Blank	76	90	74	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 DBFM = Dibromofluoromethane (Surr)
 TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-110529-11	HPT-214_5-9_040319	104
240-110529-12	HPT-214_10-14_040319	109

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Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110529-13	HPT-214_16-20_040319	98
240-110529-14	HPT-213_15-19_040319	102
240-110529-15	HPT-213_10-14_040319	100
240-110529-16	HPT-213_20-24_040319	106
240-110529-17	HPT-213_5-9_040319	101
240-110662-A-3 MS	Matrix Spike	102
240-110662-A-3 MSD	Matrix Spike Duplicate	101
LCS 240-376059/4	Lab Control Sample	99
MB 240-376059/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376652/6
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 10:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 10:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 10:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/16/19 10:41	1
4-Bromofluorobenzene (Surr)	84		59 - 120		04/16/19 10:41	1
Toluene-d8 (Surr)	107		70 - 123		04/16/19 10:41	1
Dibromofluoromethane (Surr)	102		75 - 128		04/16/19 10:41	1

Lab Sample ID: LCS 240-376652/4
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.67		ug/L		97	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	8.87		ug/L		89	74 - 130
trans-1,2-Dichloroethene	10.0	9.88		ug/L		99	78 - 133
Trichloroethene	10.0	8.99		ug/L		90	76 - 125
Vinyl chloride	10.0	10.2		ug/L		102	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	105		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: HPT-214_10-14_040319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	5.0	U	50.0	34.9		ug/L		70	53 - 140
cis-1,2-Dichloroethene	32		50.0	67.3		ug/L		71	64 - 130
Tetrachloroethene	5.0	U F2	50.0	32.8		ug/L		66	51 - 136
trans-1,2-Dichloroethene	4.1	J	50.0	41.2		ug/L		74	68 - 133
Trichloroethene	120	F1	50.0	134	F1	ug/L		36	55 - 131
Vinyl chloride	5.0	U F2	50.0	34.7		ug/L		69	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	111		70 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110529-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: HPT-214_10-14_040319
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-12 MSD
Matrix: Water
Analysis Batch: 376652

Client Sample ID: HPT-214_10-14_040319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	5.0	U	50.0	49.1		ug/L		98	53 - 140	34	35
cis-1,2-Dichloroethene	32		50.0	77.8		ug/L		92	64 - 130	14	21
Tetrachloroethene	5.0	U F2	50.0	44.2	F2	ug/L		88	51 - 136	30	23
trans-1,2-Dichloroethene	4.1	J	50.0	52.6		ug/L		97	68 - 133	24	24
Trichloroethene	120	F1	50.0	144		ug/L		57	55 - 131	7	23
Vinyl chloride	5.0	U F2	50.0	47.9	F2	ug/L		96	43 - 154	32	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		70 - 121
4-Bromofluorobenzene (Surr)	88		59 - 120
Toluene-d8 (Surr)	101		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375537/1-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Trichloroethene	40	U	40	11	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Vinyl chloride	32	U	32	12	ug/Kg		04/09/19 11:56	04/09/19 18:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		53 - 155	04/09/19 11:56	04/09/19 18:52	1
4-Bromofluorobenzene (Surr)	90		48 - 151	04/09/19 11:56	04/09/19 18:52	1
Dibromofluoromethane (Surr)	74		49 - 138	04/09/19 11:56	04/09/19 18:52	1
Toluene-d8 (Surr)	90		49 - 147	04/09/19 11:56	04/09/19 18:52	1

Lab Sample ID: LCS 240-375537/2-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1000	1030		ug/Kg		103	57 - 139
1,4-Dioxane	20000	19200		ug/Kg		96	51 - 140

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-375537/2-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	1000	911		ug/Kg		91	74 - 123
Tetrachloroethene	1000	939		ug/Kg		94	76 - 120
trans-1,2-Dichloroethene	1000	1050		ug/Kg		105	71 - 133
Trichloroethene	1000	862		ug/Kg		86	73 - 126
Vinyl chloride	1000	1130		ug/Kg		113	52 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	76		53 - 155
4-Bromofluorobenzene (Surr)	89		48 - 151
Dibromofluoromethane (Surr)	76		49 - 138
Toluene-d8 (Surr)	91		49 - 147

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376059/5
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 14:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/11/19 14:21	1

Lab Sample ID: LCS 240-376059/4
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.5		ug/L		115	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		63 - 125

Lab Sample ID: 240-110662-A-3 MS
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.9		ug/L		119	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		63 - 125

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110662-A-3 MSD
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.8		ug/L		118	52 - 129	1	13
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	101		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110529-9 DU
Matrix: Solid
Analysis Batch: 375291

Client Sample ID: HPT-213_4-5_040319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	91.4		91.3		%		0.1	20
Percent Moisture	8.6		8.7		%		1	20



QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

GC/MS VOA

Prep Batch: 375537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-1	HPT-214_26-27_040319	Total/NA	Solid	5030B	
240-110529-2	HPT-214_2-3_040319	Total/NA	Solid	5030B	
240-110529-3	HPT-214_1-2_040319	Total/NA	Solid	5030B	
240-110529-4	DUP-01	Total/NA	Solid	5030B	
240-110529-5	HPT-214_3-4_040319	Total/NA	Solid	5030B	
240-110529-6	HPT-214_4-5_040319	Total/NA	Solid	5030B	
240-110529-7	HPT-213_26-27_040319	Total/NA	Solid	5030B	
240-110529-8	HPT-213_3-4_040319	Total/NA	Solid	5030B	
240-110529-9	HPT-213_4-5_040319	Total/NA	Solid	5030B	
MB 240-375537/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-375537/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 375622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-1	HPT-214_26-27_040319	Total/NA	Solid	8260B MI	375537
240-110529-2	HPT-214_2-3_040319	Total/NA	Solid	8260B MI	375537
240-110529-3	HPT-214_1-2_040319	Total/NA	Solid	8260B MI	375537
240-110529-4	DUP-01	Total/NA	Solid	8260B MI	375537
240-110529-5	HPT-214_3-4_040319	Total/NA	Solid	8260B MI	375537
240-110529-6	HPT-214_4-5_040319	Total/NA	Solid	8260B MI	375537
240-110529-7	HPT-213_26-27_040319	Total/NA	Solid	8260B MI	375537
240-110529-8	HPT-213_3-4_040319	Total/NA	Solid	8260B MI	375537
240-110529-9	HPT-213_4-5_040319	Total/NA	Solid	8260B MI	375537
MB 240-375537/1-A	Method Blank	Total/NA	Solid	8260B MI	375537
LCS 240-375537/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	375537

Analysis Batch: 376059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-11	HPT-214_5-9_040319	Total/NA	Water	8260B SIM	
240-110529-12	HPT-214_10-14_040319	Total/NA	Water	8260B SIM	
240-110529-13	HPT-214_16-20_040319	Total/NA	Water	8260B SIM	
240-110529-14	HPT-213_15-19_040319	Total/NA	Water	8260B SIM	
240-110529-15	HPT-213_10-14_040319	Total/NA	Water	8260B SIM	
240-110529-16	HPT-213_20-24_040319	Total/NA	Water	8260B SIM	
240-110529-17	HPT-213_5-9_040319	Total/NA	Water	8260B SIM	
MB 240-376059/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376059/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110662-A-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110662-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-10	TRIP BLANK	Total/NA	Water	8260B	
240-110529-11	HPT-214_5-9_040319	Total/NA	Water	8260B	
240-110529-12	HPT-214_10-14_040319	Total/NA	Water	8260B	
240-110529-13	HPT-214_16-20_040319	Total/NA	Water	8260B	
240-110529-14	HPT-213_15-19_040319	Total/NA	Water	8260B	
240-110529-15	HPT-213_10-14_040319	Total/NA	Water	8260B	
240-110529-16	HPT-213_20-24_040319	Total/NA	Water	8260B	
240-110529-17	HPT-213_5-9_040319	Total/NA	Water	8260B	
MB 240-376652/6	Method Blank	Total/NA	Water	8260B	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

GC/MS VOA (Continued)

Analysis Batch: 376652 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-376652/4	Lab Control Sample	Total/NA	Water	8260B	
240-110529-12 MS	HPT-214_10-14_040319	Total/NA	Water	8260B	
240-110529-12 MSD	HPT-214_10-14_040319	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 375291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-1	HPT-214_26-27_040319	Total/NA	Solid	Moisture	
240-110529-2	HPT-214_2-3_040319	Total/NA	Solid	Moisture	
240-110529-3	HPT-214_1-2_040319	Total/NA	Solid	Moisture	
240-110529-4	DUP-01	Total/NA	Solid	Moisture	
240-110529-5	HPT-214_3-4_040319	Total/NA	Solid	Moisture	
240-110529-6	HPT-214_4-5_040319	Total/NA	Solid	Moisture	
240-110529-7	HPT-213_26-27_040319	Total/NA	Solid	Moisture	
240-110529-8	HPT-213_3-4_040319	Total/NA	Solid	Moisture	
240-110529-9	HPT-213_4-5_040319	Total/NA	Solid	Moisture	
240-110529-9 DU	HPT-213_4-5_040319	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_26-27_040319

Lab Sample ID: 240-110529-1

Date Collected: 04/03/19 14:05

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_26-27_040319

Lab Sample ID: 240-110529-1

Date Collected: 04/03/19 14:05

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 84.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 22:29	TJL1	TAL CAN

Client Sample ID: HPT-214_2-3_040319

Lab Sample ID: 240-110529-2

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_2-3_040319

Lab Sample ID: 240-110529-2

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 22:50	TJL1	TAL CAN

Client Sample ID: HPT-214_1-2_040319

Lab Sample ID: 240-110529-3

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_1-2_040319

Lab Sample ID: 240-110529-3

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 23:12	TJL1	TAL CAN

Client Sample ID: DUP-01

Lab Sample ID: 240-110529-4

Date Collected: 04/03/19 00:00

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: DUP-01

Lab Sample ID: 240-110529-4

Date Collected: 04/03/19 00:00

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 23:34	TJL1	TAL CAN

Client Sample ID: HPT-214_3-4_040319

Lab Sample ID: 240-110529-5

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_3-4_040319

Lab Sample ID: 240-110529-5

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 81.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 23:55	TJL1	TAL CAN

Client Sample ID: HPT-214_4-5_040319

Lab Sample ID: 240-110529-6

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_4-5_040319

Lab Sample ID: 240-110529-6

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/10/19 00:17	TJL1	TAL CAN

Client Sample ID: HPT-213_26-27_040319

Lab Sample ID: 240-110529-7

Date Collected: 04/03/19 10:00

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_26-27_040319

Lab Sample ID: 240-110529-7

Date Collected: 04/03/19 10:00

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 83.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/10/19 00:38	TJL1	TAL CAN

Client Sample ID: HPT-213_3-4_040319

Lab Sample ID: 240-110529-8

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-213_3-4_040319

Lab Sample ID: 240-110529-8

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/10/19 01:00	TJL1	TAL CAN

Client Sample ID: HPT-213_4-5_040319

Lab Sample ID: 240-110529-9

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-213_4-5_040319

Lab Sample ID: 240-110529-9

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/10/19 01:22	TJL1	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110529-10

Date Collected: 04/03/19 00:00

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 11:34	LEE	TAL CAN

Client Sample ID: HPT-214_5-9_040319

Lab Sample ID: 240-110529-11

Date Collected: 04/03/19 14:42

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 11:56	LEE	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_5-9_040319

Lab Sample ID: 240-110529-11

Date Collected: 04/03/19 14:42

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 18:38	SAM	TAL CAN

Client Sample ID: HPT-214_10-14_040319

Lab Sample ID: 240-110529-12

Date Collected: 04/03/19 14:24

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	376652	04/16/19 12:18	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 19:04	SAM	TAL CAN

Client Sample ID: HPT-214_16-20_040319

Lab Sample ID: 240-110529-13

Date Collected: 04/03/19 14:10

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	376652	04/16/19 19:43	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 19:30	SAM	TAL CAN

Client Sample ID: HPT-213_15-19_040319

Lab Sample ID: 240-110529-14

Date Collected: 04/03/19 10:55

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 13:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 19:55	SAM	TAL CAN

Client Sample ID: HPT-213_10-14_040319

Lab Sample ID: 240-110529-15

Date Collected: 04/03/19 11:10

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 13:26	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 20:21	SAM	TAL CAN

Client Sample ID: HPT-213_20-24_040319

Lab Sample ID: 240-110529-16

Date Collected: 04/03/19 10:30

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 13:48	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 20:47	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_5-9_040319

Lab Sample ID: 240-110529-17

Date Collected: 04/03/19 11:30

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 14:10	LEE	TAL CAN
Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 21:13	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 21:13	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



2.0/1.8

Client Information Company: AARCADIS U.S. Inc Address: 28550 Cabot Drive Suite 500 City: Novi State, Zip: MI, 48377 Phone: 248-722-2411 Email: Caitlin.ONeill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site:		Supplier: Christina Weaver Phone: (989) 619-5009 Lab PM: DelMonico, Michael E-Mail: michael.delmonico@testamericainc.com		Carrier Tracking No(s): COC No: 240-58352-25341.2 Page: 2 of 3 Job #:							
Due Date Requested: TAT Requested (days): 10-DAY (STD.) PO #: MI001318 0002.00002 WO #: E203631 Project #: 24015353 SSO/W#:		Analysis Requested									
Sample Identification HPT-214-5-9-040319 HPT-214-10-14-040319 HPT-214-16-20-040319 HPT-213-15-19-040319 HPT-213-10-14-040319 HPT-213-20-24-040319 HPT-213-5-9-040319		Sample Date 4/3/19 4/3/19 4/3/19 4/3/19 4/3/19 4/3/19 4/3/19	Sample Time 1442 1424 1410 1055 1110 1030 1130	Sample Type (C=Comp, G=Grab) G G G G G G G	Matrix (W=Water, S=Soil, O=Other) Water Water Water Water Water Water Water	Field Filtered Sample (Yes or No) X X X X X X X	Perform MS/MSD (Yes or No) X X X X X X X	8260B, 8260B-SIM 8260B, MI - VOCs (Short List) 8260B - VOCs (Short List)	Total Number of Containers 6 6 6 6 6 6 6	Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - Nitrous Acid F - MeOH G - Anionizer H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other: M - Hexane N - None O - AgNO3 P - Na2OAS Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4.5 Z - other (specify)	Special Instructions/Note: X
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: <input type="checkbox"/> I, II, III <input checked="" type="checkbox"/> Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/OC Requirements: Submit all results through cadena@arcadis.com Method of Shipment:							
Empty Kit Relinquished by:		Date:		Time:							
Relinquished by: <i>[Signature]</i> Relinquished by: <i>[Signature]</i> Relinquished by: <i>[Signature]</i>		Date/Time: 4/3/19 17:50 Date/Time: 04/04/19 14:25 Date/Time: 4/4/19 8:20		Company: Arcadis Company: Arcadis Company: TH							
Custody Seals Intact Δ Yes Δ No		Custody Seal No:		Cooler Temperature(s) °C and Other Remarks:							

TestAmerica Canton Sample Receipt Form/Narrative

Login #: 110529

Canton Facility

Client: Aradis

Site Name

Cooler unpacked by:

Cooler Received on: 4-5-19

Opened on: 4-5-19 8:20

Ryan Cribler

FedEx: Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler #: TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. 2.0 °C Corrected Cooler Temp. 1.8 °C
IR GUN# #36 (CF +0.7 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 7 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? initial Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC861525

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials? larger than this Yes No NA

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B834001VB Yes No

16. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM Date by via Verbal Voice Mail Other

Concerning

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

RC

18. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:



Mobile Lab Project Case Narrative

Report Date	November 16, 2018
Client	Arcadis
Site/ Project Name	Ford Livonia 2018 Site Investigation
Location	Livonia, MI
Dates of Service	September 11, 2018, to November 04, 2018
Test Method Reference	CTS-10.15.16_8260C
Pace Project Number	2815

1. Introduction

Pace Analytical – Mobile Lab Services (Pace) mobilized to the referenced site to provide analytical chemistry support during site investigation activities. The target analytes for the project were a client-specified target chlorinated VOC list: tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloroethene, vinyl chloride, and 1,4-dioxane. The laboratory analyzed 226 water samples and 567 soil samples while on site. All samples were prepared / analyzed upon receipt by the laboratory and all method holding times were met. The Pace Lead Chemist was Jeff Foster and the Pace Project Manager was Nick Nigro.

2. Pace Method Summary

- Samples were analyzed for the client specified list of VOCs in accordance with the Pace standard operating procedures (SOP) listed above. As described prior to mobilization, Pace implemented the SOP formerly developed and certified by Cascade.
- Water samples were received in either preserved or unpreserved 40 mL VOA vials, depending on the timing of the sampling effort and whether Pace was on site or not at the time. Soil samples were received in 10-gram Lock n Load syringes, with additional volume provided for dry weight analysis.
- Samples were immediately logged in on Pace chain of custody (COC) upon receipt.
- Analysis was performed on HP7890A GC, HP5975C Mass Selective Detector equipped with Agilent Chemstation for data processing.

3. Quality Control Summary –

Initial Calibration	An initial calibration curve was prepared at eight concentrations and verified with a second source standard. All initial calibration criteria were achieved.
Instrument Tuning	Instrument tuning was verified every twelve hours using 4-bromofluorobenzene. All acceptance criteria were met.
Continuing Calibration	The instrument calibration was verified at the start of the run and every 12hr. All continuing calibration checks were acceptable, except where qualified.
Internal Standards	10 samples had low internal standard recoveries due to matrix interference. These samples are qualified with a CN.
Method Blanks	Method blanks that were analyzed each day were free of contamination, except where qualified.
Laboratory Control Samples	Recoveries for the constituents of concern were acceptable, except where qualified.
MS/MSD	Recoveries for the constituents of concern were acceptable, except where qualified.

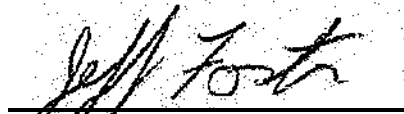
4. Analytical Reports


All field-generated results were confirmed through the standard Pace review process.

Appendix A contains analytical reports for each sample along with quality control sample results. Appendix B contains chain of custody documentation.

5. Signature Approval

This document has been prepared by the under-signed:


 _____ **11/16/2018**
 Jeff Foster Date
 Lead Chemist


 _____ **11/16/2018**
 Nick Nigro Date
 Project Manager

Certification List		Number	Expires
DODELAP	DOD ELAP Accreditation (A2LA)	3269.01	03/31/2019
ILEPA	Illinois Secondary NELAP Accreditation	004366	04/30/2019
KDHE	Kansas Secondary NELAP Accreditation	E-10384	04/30/2019
LELAP	Louisiana Primary NELAP Accreditation	04165	06/30/2019
NCDEQ	North Carolina Dept. of Env. Quality Accreditation	688	12/31/2018
NJDEP	New Jersey Secondary NELAP Accreditation	WI004	06/30/2019
ODEQ	Oklahoma Dept. of Env. Quality Accreditation	2018-087	08/31/2019
TCEQ	Texas Secondary NELAP Accreditation	T104704504-16-7	11/30/2018
WDNR	Wisconsin Certification under NR 149	113289110	08/31/2019

Appendix A

Detailed Sample and Quality Control Results



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ARCADIS
 28550 Cabot Drive, Suite 500
 Novi MI, 48377

Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LIFHP-79_10-13'_091118	V183701-01	Water	09/11/2018	09/12/2018
LIFHP-79_17-20'_091118	V183701-02	Water	09/11/2018	09/12/2018
LIFHP-79_22-25'_091118	V183701-03	Water	09/11/2018	09/12/2018
LIFHP-80B_18-22'_091218	V183701-04	Water	09/12/2018	09/12/2018
LIFHP-80B_8-12'_091218	V183701-05	Water	09/12/2018	09/12/2018
LIFHP-82_9-13'_091218	V183701-06	Water	09/12/2018	09/12/2018
LIFHP-82_18-22'_091218	V183701-07	Water	09/12/2018	09/12/2018
LIFHP-79_1-2'_091118	V183702-01	Soil	09/11/2018	09/12/2018
LIFHP-79_3-4'_091118	V183702-02	Soil	09/11/2018	09/12/2018
LIFHP-79_5-6'_091118	V183702-03	Soil	09/11/2018	09/12/2018
LIFHP-79_7-8'_091118	V183702-04	Soil	09/11/2018	09/12/2018
LIFHP-79_9-10'_091118	V183702-05	Soil	09/11/2018	09/12/2018
LIFHP-79_18.5-19.5'_091118	V183702-06	Soil	09/11/2018	09/12/2018
LIFHP-79_19.5-20.5'_091118	V183702-07	Soil	09/11/2018	09/12/2018
LIFHP-80B_1-2'_091218	V183702-12	Soil	09/12/2018	09/12/2018
LIFHP-80B_3-4'_091218	V183702-13	Soil	09/12/2018	09/12/2018
LIFHP-80B_5-6'_091218	V183702-14	Soil	09/12/2018	09/12/2018
LIFHP-80B_6-7'_091218	V183702-15	Soil	09/12/2018	09/12/2018
LIFHP-80B_19-20'_091218	V183702-16	Soil	09/12/2018	09/12/2018
LIFHP-80B_23-24'_091218	V183702-17	Soil	09/12/2018	09/12/2018
LIFHP-82_1-2'_091218	V183702-18	Soil	09/12/2018	09/12/2018
LIFHP-82_2-3'_091218	V183702-19	Soil	09/12/2018	09/12/2018
LIFHP-82_4-5'_091218	V183702-20	Soil	09/12/2018	09/12/2018
LIFHP-82_6-7'_091218	V183702-21	Soil	09/12/2018	09/12/2018
LIFHP-82_13-14'_091218	V183702-22	Soil	09/12/2018	09/12/2018
LIFHP-82_20-21'_091218	V183702-23	Soil	09/12/2018	09/12/2018
LIFHP-83_18.5-22.5'_091318	V183703-01	Water	09/13/2018	09/13/2018
LIFHP-83_9-13'_091318	V183703-02	Water	09/13/2018	09/13/2018
LIFHP-84_18-22'_091318	V183703-03	Water	09/13/2018	09/13/2018
LIFHP-84_11-15'_091318	V183703-04	Water	09/13/2018	09/13/2018
LIFHP-85_18-22'_091318	V183703-05	Water	09/13/2018	09/13/2018



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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LIFHP-85_13-17'_091318	V183703-06	Water	09/13/2018	09/13/2018
LIFHP-85_8-12'_091318	V183703-07	Water	09/13/2018	09/13/2018
DUP-02	V183703-08	Water	09/13/2018	09/13/2018
LIFHP-83_1-2'_091318	V183704-01	Soil	09/13/2018	09/13/2018
LIFHP-83_2-3'_091318	V183704-02	Soil	09/13/2018	09/13/2018
LIFHP-83_4-5'_091318	V183704-03	Soil	09/13/2018	09/13/2018
LIFHP-83_6-7'_091318	V183704-04	Soil	09/13/2018	09/13/2018
LIFHP-83_16-17'_091318	V183704-05	Soil	09/13/2018	09/13/2018
LIFHP-83_19-20'_091318	V183704-06	Soil	09/13/2018	09/13/2018
LIFHP-84_1-2'_091318	V183704-07	Soil	09/13/2018	09/13/2018
LIFHP-84_2-3'_091318	V183704-08	Soil	09/13/2018	09/13/2018
LIFHP-84_5-6'_091318	V183704-09	Soil	09/13/2018	09/13/2018
LIFHP-84_7-8'_091318	V183704-10	Soil	09/13/2018	09/13/2018
LIFHP-84_9-10'_091318	V183704-11	Soil	09/13/2018	09/13/2018
LIFHP-84_19-20'_091318	V183704-12	Soil	09/13/2018	09/13/2018
LIFHP-85_1-2'_091318	V183704-13	Soil	09/13/2018	09/13/2018
LIFHP-85_3-4'_091318	V183704-14	Soil	09/13/2018	09/13/2018
LIFHP-85_6-7'_091318	V183704-15	Soil	09/13/2018	09/13/2018
LIFHP-85_9-10'_091318	V183704-16	Soil	09/13/2018	09/13/2018
LIFHP-85_19-20'_091318	V183704-17	Soil	09/13/2018	09/13/2018
DUP-01	V183704-18	Soil	09/13/2018	09/13/2018
LIFHP-86_1-2'_091418	V183705-01	Soil	09/14/2018	09/14/2018
LIFHP-86_3-4'_091418	V183705-02	Soil	09/14/2018	09/14/2018
LIFHP-86_5-6'_091418	V183705-03	Soil	09/14/2018	09/14/2018
LIFHP-86_7-8'_091418	V183705-04	Soil	09/14/2018	09/14/2018
LIFHP-86_18.5-19.5'_091418	V183705-05	Soil	09/14/2018	09/14/2018
LIFHP-86_22-23'_091418	V183705-06	Soil	09/14/2018	09/14/2018
LIFHP-89B_1-2'_091418	V183705-07	Soil	09/14/2018	09/14/2018
LIFHP-89B_2-3'_091418	V183705-08	Soil	09/14/2018	09/14/2018
LIFHP-89B_4-5'_091418	V183705-09	Soil	09/14/2018	09/14/2018
DUP-03	V183705-10	Soil	09/14/2018	09/14/2018



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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LIFHP-89B_6-7'_091418	V183705-11	Soil	09/14/2018	09/14/2018
LIFHP-89B_8-9'_091418	V183705-12	Soil	09/14/2018	09/14/2018
LIFHP-89B_13-14'_091418	V183705-13	Soil	09/14/2018	09/14/2018
LIFHP-89B_19-20'_091418	V183705-14	Soil	09/14/2018	09/14/2018
LIFHP-91_1-2'_091418	V183705-15	Soil	09/14/2018	09/14/2018
LIFHP-91_3-4'_091418	V183705-16	Soil	09/14/2018	09/14/2018
LIFHP-91_5-6'_091418	V183705-17	Soil	09/14/2018	09/14/2018
LIFHP-91_7-8'_091418	V183705-18	Soil	09/14/2018	09/14/2018
LIFHP-91_9-10'_091418	V183705-19	Soil	09/14/2018	09/14/2018
LIFHP-91_11-12'_091418	V183705-20	Soil	09/14/2018	09/14/2018
LIFHP-91_19-20'_091418	V183705-21	Soil	09/14/2018	09/14/2018
LIFHP-86_18-22'_091418	V183706-01	Water	09/14/2018	09/14/2018
LIFHP-86_13-17'_091418	V183706-02	Water	09/14/2018	09/14/2018
LIFHP-86_8-12'_091418	V183706-03	Water	09/14/2018	09/14/2018
LIFHP-89B_18-22'_091418	V183706-04	Water	09/14/2018	09/14/2018
LIFHP-89B_12-16'_091418	V183706-05	Water	09/14/2018	09/14/2018
LIFHP-91_24-28'_091418	V183706-06	Water	09/14/2018	09/14/2018
LIFHP-91_19-23'_091418	V183706-07	Water	09/14/2018	09/14/2018
LIFHP-91_14-18'_091418	V183706-08	Water	09/14/2018	09/14/2018
LIFHP-87_1-2_091718	V183801-01	Soil	09/17/2018	09/17/2018
LIFHP-87_2-3_091718	V183801-02	Soil	09/17/2018	09/17/2018
LIFHP-87_3-4_091718	V183801-03	Soil	09/17/2018	09/17/2018
LIFHP-87_5-6_091718	V183801-04	Soil	09/17/2018	09/17/2018
LIFHP-87_6-7_091718	V183801-05	Soil	09/17/2018	09/17/2018
LIFHP-87_25-26_091718	V183801-06	Soil	09/17/2018	09/17/2018
LIFHP-87_26.5-27.5_091718	V183801-07	Soil	09/17/2018	09/17/2018
LIFHP-87_28.5-29.5_091718	V183801-08	Soil	09/17/2018	09/17/2018
LIFHP-93_1-2_091718	V183801-09	Soil	09/17/2018	09/17/2018
LIFHP-93_3-4_091718	V183801-10	Soil	09/17/2018	09/17/2018
LIFHP-93_5-6_091718	V183801-11	Soil	09/17/2018	09/17/2018
LIFHP-93_7-8_091718	V183801-12	Soil	09/17/2018	09/17/2018



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LIFHP-93_9-10_091718	V183801-13	Soil	09/17/2018	09/17/2018
LIFHP-93_20-21_091718	V183801-14	Soil	09/17/2018	09/17/2018
LIFHP-93_24-25_091718	V183801-15	Soil	09/17/2018	09/17/2018
LIFHP-87_18-23_091718	V183802-01	Water	09/17/2018	09/17/2018
LIFHP-87_14-18_091718	V183802-02	Water	09/17/2018	09/17/2018
LIFHP-87_9-13_091718	V183802-03	Water	09/17/2018	09/17/2018
LIFHP-93_16-20_091718	V183802-04	Water	09/17/2018	09/17/2018
LIFHP-93_11-15_091718	V183802-05	Water	09/17/2018	09/17/2018
LIFHP-88_9-13_091818	V183803-01	Water	09/18/2018	09/18/2018
LIFHP-88_14-18_091818	V183803-02	Water	09/18/2018	09/18/2018
LIFHP-88_19-23_091818	V183803-03	Water	09/18/2018	09/18/2018
LIFHP-94_20-24_091818	V183803-04	Water	09/18/2018	09/18/2018
LIFHP-94_15-19_091818	V183803-05	Water	09/18/2018	09/18/2018
LIFHP-94_9-13_091818	V183803-06	Water	09/18/2018	09/18/2018
DUP-05	V183803-07	Water	09/18/2018	09/18/2018
LIFHP-95_8-12'_091818	V183803-08	Water	09/18/2018	09/18/2018
LIFHP-95_13-17_091818	V183803-09	Water	09/18/2018	09/18/2018
LIFHP-88_1-2'_091818	V183804-01	Soil	09/18/2018	09/18/2018
LIFHP-88_2-3'_091818	V183804-02	Soil	09/18/2018	09/18/2018
LIFHP-88_3-4'_091818	V183804-03	Soil	09/18/2018	09/18/2018
LIFHP-88_5-6'_091818	V183804-04	Soil	09/18/2018	09/18/2018
LIFHP-88_6-7'_091818	V183804-05	Soil	09/18/2018	09/18/2018
LIFHP-88_14-15'_091818	V183804-06	Soil	09/18/2018	09/18/2018
LIFHP-88_19.5-20.5'_091818	V183804-07	Soil	09/18/2018	09/18/2018
LIFHP-94_1-2_091818	V183804-08	Soil	09/18/2018	09/18/2018
LIFHP-94_3-4_091818	V183804-09	Soil	09/18/2018	09/18/2018
LIFHP-94_5-6_091818	V183804-10	Soil	09/18/2018	09/18/2018
LIFHP-94_7-8_091818	V183804-11	Soil	09/18/2018	09/18/2018
LIFHP-94_23-24_091818	V183804-12	Soil	09/18/2018	09/18/2018
LIFHP-94_19-20_091818	V183804-13	Soil	09/18/2018	09/18/2018
DUP-04	V183804-14	Soil	09/18/2018	09/18/2018



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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LIFHP-95_1-2'_091818	V183804-15	Soil	09/18/2018	09/18/2018
LIFHP-95_2-3'_091818	V183804-16	Soil	09/18/2018	09/18/2018
LIFHP-95_3-4'_091818	V183804-17	Soil	09/18/2018	09/18/2018
LIFHP-95_5-6'_091818	V183804-18	Soil	09/18/2018	09/18/2018
LIFHP-95_6-7'_091818	V183804-19	Soil	09/18/2018	09/18/2018
LIFHP-95_21-22'_091818	V183804-20	Soil	09/18/2018	09/18/2018
LIFHP-96_17-21_091918	V183805-01	Water	09/19/2018	09/19/2018
LIFHP-96_12-16_091918	V183805-02	Water	09/19/2018	09/19/2018
LIFHP-92_14-18_091918	V183805-03	Water	09/19/2018	09/19/2018
LIFHP-92_8.5-12.5_091918	V183805-04	Water	09/19/2018	09/19/2018
LIFHP-96_1-2_091918	V183806-01	Soil	09/19/2018	09/19/2018
LIFHP-96_3-4_091918	V183806-02	Soil	09/19/2018	09/19/2018
LIFHP-96_5-6_091918	V183806-03	Soil	09/19/2018	09/19/2018
LIFHP-96_6-7_091918	V183806-04	Soil	09/19/2018	09/19/2018
LIFHP-96_9-10_091918	V183806-05	Soil	09/19/2018	09/19/2018
DUP-06_091918	V183806-06	Soil	09/19/2018	09/19/2018
LIFHP-96_21-22_091918	V183806-07	Soil	09/19/2018	09/19/2018
LIFHP-96_23-24_091918	V183806-08	Soil	09/19/2018	09/19/2018
LIFHP-92_1-2_091918	V183806-09	Soil	09/19/2018	09/19/2018
LIFHP-92_3-4_091918	V183806-10	Soil	09/19/2018	09/19/2018
LIFHP-92_4-5_091918	V183806-11	Soil	09/19/2018	09/19/2018
LIFHP-92_6-7_091918	V183806-12	Soil	09/19/2018	09/19/2018
LIFHP-92_20-21_091918	V183806-13	Soil	09/19/2018	09/19/2018
LIFHP-92_22-23_091918	V183806-14	Soil	09/19/2018	09/19/2018
SB-100_18-22_092018	V183807-01	Water	09/20/2018	09/20/2018
SB-100_13-17_092018	V183807-02	Water	09/20/2018	09/20/2018
SB-100_8-12_092018	V183807-03	Water	09/20/2018	09/20/2018
DUP-07-092018	V183807-04	Water	09/20/2018	09/20/2018
SB-100_1-2_092018	V183808-01	Soil	09/20/2018	09/20/2018
SB-100_3-4_092018	V183808-02	Soil	09/20/2018	09/20/2018
SB-100_6-7_092018	V183808-03	Soil	09/20/2018	09/20/2018



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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-100_9-10_092018	V183808-04	Soil	09/20/2018	09/20/2018
SB-100_18-19_092018	V183808-05	Soil	09/20/2018	09/20/2018
SB-100_19-20_092018	V183808-06	Soil	09/20/2018	09/20/2018
SB-100_21-22_092018	V183808-07	Soil	09/20/2018	09/20/2018
LIFHP-90_13-17_092118	V183809-01	Water	09/21/2018	09/21/2018
LIFHP-90_8-12_092118	V183809-02	Water	09/21/2018	09/21/2018
LIFHP-90_1-2_092118	V183810-01	Soil	09/21/2018	09/21/2018
LIFHP-90_3-4_092118	V183810-02	Soil	09/21/2018	09/21/2018
LIFHP-90_5-6_092118	V183810-03	Soil	09/21/2018	09/21/2018
LIFHP-90_7-8_092118	V183810-04	Soil	09/21/2018	09/21/2018
LIFHP-90_22-23_092118	V183810-05	Soil	09/21/2018	09/21/2018
SB-101_1-2_092418	V183901-01	Soil	09/24/2018	09/24/2018
SB-101_2-3_092418	V183901-02	Soil	09/24/2018	09/24/2018
SB-101_4-5_092418	V183901-03	Soil	09/24/2018	09/24/2018
SB-101_6-7_092418	V183901-04	Soil	09/24/2018	09/24/2018
SB-101_19-20_092418	V183901-05	Soil	09/24/2018	09/24/2018
SB-101_21-22_092418	V183901-06	Soil	09/24/2018	09/24/2018
SB-101_24-25_092418	V183901-07	Soil	09/24/2018	09/24/2018
SB-101_26-27_092418	V183901-08	Soil	09/24/2018	09/24/2018
SB-101_19-23_092518	V183902-01	Water	09/25/2018	09/25/2018
SB-101_14-18_092518	V183902-02	Water	09/25/2018	09/25/2018
SB-101_9-13_092518	V183902-03	Water	09/25/2018	09/25/2018
SB-102_9-13_092518	V183902-04	Water	09/25/2018	09/25/2018
SB-102_14-18_092518	V183902-05	Water	09/25/2018	09/25/2018
SB-102_18-22_092518	V183902-06	Water	09/25/2018	09/25/2018
SB-102_1-2_092518	V183903-01	Soil	09/25/2018	09/25/2018
SB-102_2-3_092518	V183903-02	Soil	09/25/2018	09/25/2018
SB-102_4-5_092518	V183903-03	Soil	09/25/2018	09/25/2018
SB-102_6-7_092518	V183903-04	Soil	09/25/2018	09/25/2018
SB-102_14-15_092518	V183903-05	Soil	09/25/2018	09/25/2018
SB-102_20-21_092518	V183903-06	Soil	09/25/2018	09/25/2018



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SB-102_25-26_092518	V183903-07	Soil	09/25/2018	09/25/2018
DUP-08_092518	V183903-08	Soil	09/25/2018	09/25/2018
SB-103_17-21_092618	V183904-01	Water	09/26/2018	09/26/2018
SB-103_10-14_092618	V183904-02	Water	09/26/2018	09/26/2018
DUP-09_092618	V183904-03	Water	09/26/2018	09/26/2018
SB-104_17-21_092618	V183904-04	Water	09/26/2018	09/26/2018
SB-104_10-14_092618	V183904-05	Water	09/26/2018	09/26/2018
SB-103_1-2_092618	V183905-01	Soil	09/26/2018	09/26/2018
SB-103_3-4_092618	V183905-02	Soil	09/26/2018	09/26/2018
SB-103_5-6_092618	V183905-03	Soil	09/26/2018	09/26/2018
SB-103_7-8_092618	V183905-04	Soil	09/26/2018	09/26/2018
SB-103_9-10_092618	V183905-05	Soil	09/26/2018	09/26/2018
SB-103_18-19_092618	V183905-06	Soil	09/26/2018	09/26/2018
SB-103_21-22_092618	V183905-07	Soil	09/26/2018	09/26/2018
SB-103_25-26_092618	V183905-08	Soil	09/26/2018	09/26/2018
SB-103_27-28_092618	V183905-09	Soil	09/26/2018	09/26/2018
SB-104_1-2_092618	V183905-10	Soil	09/26/2018	09/26/2018
SB-104_3-4_092618	V183905-11	Soil	09/26/2018	09/26/2018
SB-104_5-6_092618	V183905-12	Soil	09/26/2018	09/26/2018
SB-104_7-8_092618	V183905-13	Soil	09/26/2018	09/26/2018
SB-104_9-10_092618	V183905-14	Soil	09/26/2018	09/26/2018
SB-104_16-17_092618	V183905-15	Soil	09/26/2018	09/26/2018
SB-104_19-20_092618	V183905-16	Soil	09/26/2018	09/26/2018
SB-104_23-24_092618	V183905-17	Soil	09/26/2018	09/26/2018
SB-105_18-22_092718	V183906-01	Water	09/27/2018	09/27/2018
SB-105_13-17_092718	V183906-02	Water	09/27/2018	09/27/2018
SB-105_8-12_092718	V183906-03	Water	09/27/2018	09/27/2018
LIFHP-105_20-24_092718	V183906-04	Water	09/27/2018	09/27/2018
LIFHP-105_15-19_092718	V183906-05	Water	09/27/2018	09/27/2018
LIFHP-105_10-14_092718	V183906-06	Water	09/27/2018	09/27/2018
LIFHP-97_18-22_092718	V183906-07	Water	09/27/2018	09/27/2018



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LIFHP-97_13-17_092718	V183906-08	Water	09/27/2018	09/27/2018
SB-105_1-2_092718	V183907-01	Soil	09/27/2018	09/27/2018
SB-105_3-4_092718	V183907-02	Soil	09/27/2018	09/27/2018
SB-105_5-6_092718	V183907-03	Soil	09/27/2018	09/27/2018
SB-105_6-7_092718	V183907-04	Soil	09/27/2018	09/27/2018
SB-105_20-21_092718	V183907-05	Soil	09/27/2018	09/27/2018
SB-105_22-23_092718	V183907-06	Soil	09/27/2018	09/27/2018
LIFHP-105_1-2_092718	V183907-07	Soil	09/27/2018	09/27/2018
LIFHP-105_3-4_092718	V183907-08	Soil	09/27/2018	09/27/2018
LIFHP-105_5-6_092718	V183907-09	Soil	09/27/2018	09/27/2018
LIFHP-105_7-8_092718	V183907-10	Soil	09/27/2018	09/27/2018
LIFHP-105_9-10_092718	V183907-11	Soil	09/27/2018	09/27/2018
LIFHP-105_20-21_092718	V183907-12	Soil	09/27/2018	09/27/2018
DUP-10_092718	V183907-13	Soil	09/27/2018	09/27/2018
LIFHP-97_1-2_092718	V183907-14	Soil	09/27/2018	09/27/2018
LIFHP-97_2-3_092718	V183907-15	Soil	09/27/2018	09/27/2018
LIFHP-97_5-6_092718	V183907-16	Soil	09/27/2018	09/27/2018
LIFHP-97_8-9_092718	V183907-17	Soil	09/27/2018	09/27/2018
LIFHP-97_10-11_092718	V183907-18	Soil	09/27/2018	09/27/2018
LIFHP-97_20-21_092718	V183907-19	Soil	09/27/2018	09/27/2018
LIFHP-106_15-19_092718	V183908-01	Water	09/27/2018	09/28/2018
LIFHP-106_10-14_092718	V183908-02	Water	09/27/2018	09/28/2018
LIFHP-106_1-2_092718	V183909-01	Soil	09/27/2018	09/28/2018
LIFHP-106_2-3_092718	V183909-02	Soil	09/27/2018	09/28/2018
LIFHP-106_5-6_092718	V183909-03	Soil	09/27/2018	09/28/2018
LIFHP-106_6-7_092718	V183909-04	Soil	09/27/2018	09/28/2018
LIFHP-106_7-8_092718	V183909-05	Soil	09/27/2018	09/28/2018
LIFHP-106_25-26_092718	V183909-06	Soil	09/27/2018	09/28/2018
LIFHP-100_1-2_092818	V183910-01	Soil	09/28/2018	09/28/2018
LIFHP-100_4-5_092818	V183910-02	Soil	09/28/2018	09/28/2018
LIFHP-100_7-8_092818	V183910-03	Soil	09/28/2018	09/28/2018



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LIFHP-100_10-11_092818	V183910-04	Soil	09/28/2018	09/28/2018
LIFHP-100_12-13_092818	V183910-05	Soil	09/28/2018	09/28/2018
LIFHP-100_23-24_092818	V183910-06	Soil	09/28/2018	09/28/2018
LIFHP-100_25-26_092818	V183910-07	Soil	09/28/2018	09/28/2018
LIFHP-100_26-30_092818	V183911-01	Water	09/28/2018	09/28/2018
LIFHP-100_21-25_092818	V183911-02	Water	09/28/2018	09/28/2018
LIFHP-100_14-18_092818	V183911-03	Water	09/28/2018	09/28/2018
DUP-11_092818	V183911-04	Water	09/28/2018	09/28/2018
LIFHP-99_1-2_100118	V184001-01	Soil	10/01/2018	10/01/2018
LIFHP-99_3-4_100118	V184001-02	Soil	10/01/2018	10/01/2018
LIFHP-99_6-7_100118	V184001-03	Soil	10/01/2018	10/01/2018
LIFHP-99_10-11_100118	V184001-04	Soil	10/01/2018	10/01/2018
LIFHP-99_11-12_100118	V184001-05	Soil	10/01/2018	10/01/2018
LIFHP-99_19-20_100118	V184001-06	Soil	10/01/2018	10/01/2018
LIFHP-99_28-29_100118	V184001-07	Soil	10/01/2018	10/01/2018
LIFHP-103_1-2_100118	V184001-08	Soil	10/01/2018	10/01/2018
LIFHP-103_3-4_100118	V184001-09	Soil	10/01/2018	10/01/2018
LIFHP-103_6-7_100118	V184001-10	Soil	10/01/2018	10/01/2018
LIFHP-103_7-8_100118	V184001-11	Soil	10/01/2018	10/01/2018
LIFHP-103_9-10_100118	V184001-12	Soil	10/01/2018	10/01/2018
LIFHP-103_25-26_100118	V184001-13	Soil	10/01/2018	10/01/2018
DUP-12_100118	V184001-14	Soil	10/01/2018	10/01/2018
LIFHP-98_1-2_100118	V184001-15	Soil	10/01/2018	10/01/2018
LIFHP-98_5-6_100118	V184001-16	Soil	10/01/2018	10/01/2018
LIFHP-98_7-8_100118	V184001-17	Soil	10/01/2018	10/01/2018
LIFHP-98_9-10_100118	V184001-18	Soil	10/01/2018	10/01/2018
LIFHP-98_11-12_100118	V184001-19	Soil	10/01/2018	10/01/2018
LIFHP-98_19-20_100118	V184001-20	Soil	10/01/2018	10/01/2018
LIFHP-98_23.5-24.5_100118	V184001-21	Soil	10/01/2018	10/01/2018
LIFHP-98_26-27_100118	V184001-22	Soil	10/01/2018	10/01/2018
LIFHP-102_1-2_100118	V184001-23	Soil	10/01/2018	10/01/2018



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LIFHP-102_3-4_100118	V184001-24	Soil	10/01/2018	10/01/2018
LIFHP-102_4-5_100118	V184001-25	Soil	10/01/2018	10/01/2018
LIFHP-102_6-7_100118	V184001-26	Soil	10/01/2018	10/01/2018
LIFHP-102_7-8_100118	V184001-27	Soil	10/01/2018	10/01/2018
LIFHP-102_15-16_100118	V184001-28	Soil	10/01/2018	10/01/2018
LIFHP-102_22-23_100118	V184001-29	Soil	10/01/2018	10/01/2018
LIFHP-99_25-29_100118	V184002-01	Water	10/01/2018	10/01/2018
LIFHP-99_20-24_100118	V184002-02	Water	10/01/2018	10/01/2018
LIFHP-99_15-19_100118	V184002-03	Water	10/01/2018	10/01/2018
LIFHP-103_11-15_100118	V184002-04	Water	10/01/2018	10/01/2018
LIFHP-103_16-20_100118	V184002-05	Water	10/01/2018	10/01/2018
LIFHP-103_21-26_100118	V184002-06	Water	10/01/2018	10/01/2018
LIFHP-98_25-29_100118	V184002-07	Water	10/01/2018	10/01/2018
LIFHP-98_20-24_100118	V184002-08	Water	10/01/2018	10/01/2018
LIFHP-98_15-19_100118	V184002-09	Water	10/01/2018	10/01/2018
LIFHP-102_10-14_100118	V184003-01	Water	10/01/2018	10/01/2018
LIFHP-102_15-19_100118	V184003-02	Water	10/01/2018	10/01/2018
LIFHP-102_20-24_100118	V184003-03	Water	10/01/2018	10/01/2018
LIFHP-101_11-15_100218	V184004-01	Water	10/02/2018	10/02/2018
DUP-13_100218	V184004-02	Water	10/02/2018	10/02/2018
SB-106_25-29_100218	V184004-03	Water	10/02/2018	10/02/2018
SB-106_20-24_100218	V184004-04	Water	10/02/2018	10/02/2018
SB-106_15-19_100218	V184004-05	Water	10/02/2018	10/02/2018
LIFHP-101_1-2_100218	V184005-01	Soil	10/02/2018	10/02/2018
LIFHP-101_2-3_100218	V184005-02	Soil	10/02/2018	10/02/2018
LIFHP-101_3-4_100218	V184005-03	Soil	10/02/2018	10/02/2018
LIFHP-101_4-5_100218	V184005-04	Soil	10/02/2018	10/02/2018
LIFHP-101_5-6_100218	V184005-05	Soil	10/02/2018	10/02/2018
SB-106_1-2_100218	V184005-06	Soil	10/02/2018	10/02/2018
SB-106_3-4_100218	V184005-07	Soil	10/02/2018	10/02/2018
SB-106_6-7_100218	V184005-08	Soil	10/02/2018	10/02/2018



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SB-106_10-11_100218	V184005-09	Soil	10/02/2018	10/02/2018
SB-106_11-12_100218	V184005-10	Soil	10/02/2018	10/02/2018
SB-106_19-20_100218	V184005-11	Soil	10/02/2018	10/02/2018
SB-106_26-27_100218	V184005-12	Soil	10/02/2018	10/02/2018
SB-107_1-2_100318	V184006-01	Soil	10/03/2018	10/03/2018
SB-107_5-6_100318	V184006-02	Soil	10/03/2018	10/03/2018
SB-107_7-8_100318	V184006-03	Soil	10/03/2018	10/03/2018
SB-107_9-10_100318	V184006-04	Soil	10/03/2018	10/03/2018
SB-107_11-12_100318	V184006-05	Soil	10/03/2018	10/03/2018
SB-107_19-20_100318	V184006-06	Soil	10/03/2018	10/03/2018
SB-107_25-29_100318	V184007-01	Water	10/03/2018	10/03/2018
SB-107_20-24_100318	V184007-02	Water	10/03/2018	10/03/2018
SB-107_15-19_100318	V184007-03	Water	10/03/2018	10/03/2018
SB-108_1-2_100418	V184008-01	Soil	10/04/2018	10/04/2018
SB-108_5-6_100418	V184008-02	Soil	10/04/2018	10/04/2018
SB-108_7-8_100418	V184008-03	Soil	10/04/2018	10/04/2018
SB-108_9-10_100418	V184008-04	Soil	10/04/2018	10/04/2018
SB-108_11-12_100418	V184008-05	Soil	10/04/2018	10/04/2018
SB-108_19-20_100418	V184008-06	Soil	10/04/2018	10/04/2018
SB-108_23.5-24.5_100418	V184008-07	Soil	10/04/2018	10/04/2018
SB-108_25-26_100418	V184008-08	Soil	10/04/2018	10/04/2018
SB-108_28-29_100418	V184008-09	Soil	10/04/2018	10/04/2018
DUP-14_1001418	V184008-10	Soil	10/04/2018	10/04/2018
SB-108_25-29_100418	V184009-01	Water	10/04/2018	10/04/2018
SB-108_20-24_100418	V184009-02	Water	10/04/2018	10/04/2018
SB-108_15-19_100418	V184009-03	Water	10/04/2018	10/04/2018
SB-109_1-2_100518	V184010-01	Soil	10/05/2018	10/05/2018
SB-109_5-6_100518	V184010-02	Soil	10/05/2018	10/05/2018
SB-109_7-8_100518	V184010-03	Soil	10/05/2018	10/05/2018
SB-109_9-10_100518	V184010-04	Soil	10/05/2018	10/05/2018
SB-109_11-12_100518	V184010-05	Soil	10/05/2018	10/05/2018



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SB-109_19-20_100518	V184010-06	Soil	10/05/2018	10/05/2018
SB-109_23.5-24.5_100518	V184010-07	Soil	10/05/2018	10/05/2018
SB-109_26-27_100518	V184010-08	Soil	10/05/2018	10/05/2018
SB-109_29-30_100518	V184010-09	Soil	10/05/2018	10/05/2018
SB-109_25-29_100518	V184011-01	Water	10/05/2018	10/05/2018
SB-109_20-24_100518	V184011-02	Water	10/05/2018	10/05/2018
SB-109_15-19_100518	V184011-03	Water	10/05/2018	10/05/2018
DUP-15_100518	V184011-04	Water	10/05/2018	10/05/2018
LIFHP-108_1-2_100818	V184101-01	Soil	10/08/2018	10/08/2018
LIFHP-108_3-4_100818	V184101-02	Soil	10/08/2018	10/08/2018
LIFHP-108_5-6_100818	V184101-03	Soil	10/08/2018	10/08/2018
LIFHP-108_7-8_100818	V184101-04	Soil	10/08/2018	10/08/2018
LIFHP-108_9-10_100818	V184101-05	Soil	10/08/2018	10/08/2018
LIFHP-108_26-27_100818	V184101-06	Soil	10/08/2018	10/08/2018
LIFHP-108_29-30_100818	V184101-07	Soil	10/08/2018	10/08/2018
LIFHP-108_21-25_100818	V184102-01	Water	10/08/2018	10/08/2018
LIFHP-108_16-20_100818	V184102-02	Water	10/08/2018	10/08/2018
LIFHP-108_10-14_100818	V184102-03	Water	10/08/2018	10/08/2018
LIFHP-109_23-27_100918	V184103-01	Water	10/09/2018	10/09/2018
LIFHP-109_18-22_100918	V184103-02	Water	10/09/2018	10/09/2018
LIFHP-109_13-17_100918	V184103-03	Water	10/09/2018	10/09/2018
LIFHP-111A_20-24_100918	V184103-04	Water	10/09/2018	10/09/2018
LIFHP-111A_15-19_100918	V184103-05	Water	10/09/2018	10/09/2018
LIFHP-111A_8-12_100918	V184103-06	Water	10/09/2018	10/09/2018
LIFHP-109_1-2_100918	V184104-01	Soil	10/09/2018	10/09/2018
LIFHP-109_2-3_100918	V184104-02	Soil	10/09/2018	10/09/2018
LIFHP-109_3-4_100918	V184104-03	Soil	10/09/2018	10/09/2018
LIFHP-109_7-8_100918	V184104-04	Soil	10/09/2018	10/09/2018
LIFHP-109_9-10_100918	V184104-05	Soil	10/09/2018	10/09/2018
LIFHP-109_21-22_100918	V184104-06	Soil	10/09/2018	10/09/2018
Dup-16_100918	V184104-07	Soil	10/09/2018	10/09/2018



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LIFHP-111A_1-2_100918	V184104-08	Soil	10/09/2018	10/09/2018
LIFHP-111A_3-4_100918	V184104-09	Soil	10/09/2018	10/09/2018
LIFHP-111A_4-5_100918	V184104-10	Soil	10/09/2018	10/09/2018
LIFHP-111A_5-6_100918	V184104-11	Soil	10/09/2018	10/09/2018
LIFHP-111A_7-8_100918	V184104-12	Soil	10/09/2018	10/09/2018
LIFHP-111A_26-27_100918	V184104-13	Soil	10/09/2018	10/09/2018
LIFHP-107_1-2_100218	V184105-01	Soil	10/02/2018	10/02/2018
LIFHP-107_3-4_100218	V184105-02	Soil	10/02/2018	10/02/2018
LIFHP-107_5-6_100218	V184105-03	Soil	10/02/2018	10/02/2018
LIFHP-107_7-8_100218	V184105-04	Soil	10/02/2018	10/02/2018
LIFHP-107_9-10_100218	V184105-05	Soil	10/02/2018	10/02/2018
LIFHP-107_21-22_100218	V184105-06	Soil	10/02/2018	10/02/2018
LIFHP-110_22-26_101018	V184106-01	Water	10/10/2018	10/10/2018
LIFHP-110_15-19_101018	V184106-02	Water	10/10/2018	10/10/2018
LIFHP-110_8-12_101018	V184106-03	Water	10/10/2018	10/10/2018
LIFHP-114_18-22_101018	V184106-04	Water	10/10/2018	10/10/2018
LIFHP-114_13-17_101018	V184106-05	Water	10/10/2018	10/10/2018
LIFHP-114_8-12_101018	V184106-06	Water	10/10/2018	10/10/2018
LIFHP-110_1-2_101018	V184107-01	Soil	10/10/2018	10/10/2018
LIFHP-110_3-4_101018	V184107-02	Soil	10/10/2018	10/10/2018
LIFHP-110_4-5_101018	V184107-03	Soil	10/10/2018	10/10/2018
LIFHP-110_5-6_101018	V184107-04	Soil	10/10/2018	10/10/2018
LIFHP-110_6-7_101018	V184107-05	Soil	10/10/2018	10/10/2018
LIFHP-110_26-27_101018	V184107-06	Soil	10/10/2018	10/10/2018
LIFHP-114_1-2_101018	V184107-07	Soil	10/10/2018	10/10/2018
LIFHP-114_2-3_101018	V184107-08	Soil	10/10/2018	10/10/2018
LIFHP-114_3-4_101018	V184107-09	Soil	10/10/2018	10/10/2018
LIFHP-114_4-5_101018	V184107-10	Soil	10/10/2018	10/10/2018
LIFHP-114_5-6_101018	V184107-11	Soil	10/10/2018	10/10/2018
LIFHP-114_26-27_101018	V184107-12	Soil	10/10/2018	10/10/2018
LIFHP-116_23-27_101118	V184108-01	Water	10/11/2018	10/11/2018



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LIFHP-116_16-20_10118	V184108-02	Water	10/11/2018	10/11/2018
LIFHP-116_11-15_10118	V184108-03	Water	10/11/2018	10/11/2018
LIFHP-113_18-22_10118	V184108-04	Water	10/11/2018	10/11/2018
LIFHP-113_13-17_10118	V184108-05	Water	10/11/2018	10/11/2018
LIFHP-113_8-12_10118	V184108-06	Water	10/11/2018	10/11/2018
LIFHP-116_1-2_10118	V184109-01	Soil	10/11/2018	10/11/2018
LIFHP-116_3-4_10118	V184109-02	Soil	10/11/2018	10/11/2018
LIFHP-116_5-6_10118	V184109-03	Soil	10/11/2018	10/11/2018
LIFHP-116_7-8_10118	V184109-04	Soil	10/11/2018	10/11/2018
LIFHP-116_9-10_10118	V184109-05	Soil	10/11/2018	10/11/2018
LIFHP-116_23-24_10118	V184109-06	Soil	10/11/2018	10/11/2018
LIFHP-113_1-2_10118	V184109-07	Soil	10/11/2018	10/11/2018
LIFHP-113_2-3_10118	V184109-08	Soil	10/11/2018	10/11/2018
LIFHP-113_3-4_10118	V184109-09	Soil	10/11/2018	10/11/2018
LIFHP-113_4-5_10118	V184109-10	Soil	10/11/2018	10/11/2018
LIFHP-113_5-6_10118	V184109-11	Soil	10/11/2018	10/11/2018
LIFHP-113_21-22_10118	V184109-12	Soil	10/11/2018	10/11/2018
LIFHP-113_22-23_10118	V184109-13	Soil	10/11/2018	10/11/2018
LIFHP-115_24-28_101218	V184110-01	Water	10/12/2018	10/12/2018
LIFHP-115_19-20_101218	V184110-02	Water	10/12/2018	10/12/2018
LIFHP-115_14-18_101218	V184110-03	Water	10/12/2018	10/12/2018
DUP-18	V184110-04	Water	10/12/2018	10/12/2018
LIFHP-118_21-25_101218	V184110-05	Water	10/12/2018	10/12/2018
LIFHP-118_16-20_101218	V184110-06	Water	10/12/2018	10/12/2018
LIFHP-118_11-15_101218	V184110-07	Water	10/12/2018	10/12/2018
DUP-19	V184110-08	Water	10/12/2018	10/12/2018
LIFHP-115_1-2_101218	V184111-01	Soil	10/12/2018	10/12/2018
LIFHP-115_4-5_101218	V184111-02	Soil	10/12/2018	10/12/2018
LIFHP-115_6-7_101218	V184111-03	Soil	10/12/2018	10/12/2018
LIFHP-115_8-9_101218	V184111-04	Soil	10/12/2018	10/12/2018
LIFHP-115_10-11_101218	V184111-05	Soil	10/12/2018	10/12/2018



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LIFHP-115_19-20_101218	V184111-06	Soil	10/12/2018	10/12/2018
LIFHP-115_22-23_101218	V184111-07	Soil	10/12/2018	10/12/2018
DUP-17	V184111-08	Soil	10/12/2018	10/12/2018
LIFHP-118_1-2_101218	V184111-09	Soil	10/12/2018	10/12/2018
LIFHP-118_3-4_101218	V184111-10	Soil	10/12/2018	10/12/2018
LIFHP-118_5-6_101218	V184111-11	Soil	10/12/2018	10/12/2018
LIFHP-118_8-9_101218	V184111-12	Soil	10/12/2018	10/12/2018
LIFHP-118_10-11_101218	V184111-13	Soil	10/12/2018	10/12/2018
LIFHP-118_25-26_101218	V184111-14	Soil	10/12/2018	10/12/2018
DUP-20	V184111-15	Soil	10/12/2018	10/12/2018
LIFHP-122_21-25_101318	V184201-01	Water	10/13/2018	10/14/2018
LIFHP-122_16-20_101318	V184201-02	Water	10/13/2018	10/14/2018
LIFHP-122_11-15_101318	V184201-03	Water	10/13/2018	10/14/2018
LIFHP-121_22-26_101318	V184201-04	Water	10/13/2018	10/14/2018
LIFHP-121_16-20_101318	V184201-05	Water	10/13/2018	10/14/2018
LIFHP-121_11-15_101318	V184201-06	Water	10/13/2018	10/14/2018
LIFHP-117B_22-26_101318	V184201-07	Water	10/13/2018	10/14/2018
LIFHP-117B_17-21_101318	V184201-08	Water	10/13/2018	10/14/2018
LIFHP-117B_12-16_101318	V184201-09	Water	10/13/2018	10/14/2018
LIFHP-117B_1-2_101318	V184202-01	Soil	10/13/2018	10/14/2018
LIFHP-117B_3-4_101318	V184202-02	Soil	10/13/2018	10/14/2018
LIFHP-117B_6-7_101318	V184202-03	Soil	10/13/2018	10/14/2018
LIFHP-117B_9-10_101318	V184202-04	Soil	10/13/2018	10/14/2018
LIFHP-117B_10-11_101318	V184202-05	Soil	10/13/2018	10/14/2018
LIFHP-117B_29-30_101318	V184202-06	Soil	10/13/2018	10/14/2018
LIFHP-122_1-2_101318	V184202-07	Soil	10/13/2018	10/14/2018
LIFHP-122_3-4_101318	V184202-08	Soil	10/13/2018	10/14/2018
LIFHP-122_6-7_101318	V184202-09	Soil	10/13/2018	10/14/2018
LIFHP-122_9-10_101318	V184202-10	Soil	10/13/2018	10/14/2018
LIFHP-122_8-9_101318	V184202-11	Soil	10/13/2018	10/14/2018
LIFHP-122_25-26_101318	V184202-12	Soil	10/13/2018	10/14/2018



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LIFHP-121_1-2_101318	V184202-13	Soil	10/13/2018	10/14/2018
LIFHP-121_2-3_101318	V184202-14	Soil	10/13/2018	10/14/2018
LIFHP-121_4-5_101318	V184202-15	Soil	10/13/2018	10/14/2018
LIFHP-121_8-9_101318	V184202-16	Soil	10/13/2018	10/14/2018
LIFHP-121_9-10_101318	V184202-17	Soil	10/13/2018	10/14/2018
LIFHP-121_23-24_101318	V184202-18	Soil	10/13/2018	10/14/2018
LIFHP-123_22-26_101418	V184203-01	Water	10/14/2018	10/14/2018
LIFHP-123_16-20_101418	V184203-02	Water	10/14/2018	10/14/2018
LIFHP-123_10-14_101418	V184203-03	Water	10/14/2018	10/14/2018
DUP-21_101418	V184203-04	Water	10/14/2018	10/14/2018
LIFHP-124_21-25_101418	V184203-05	Water	10/14/2018	10/14/2018
LIFHP-124_16-20_101418	V184203-06	Water	10/14/2018	10/14/2018
LIFHP-124_11-15_101418	V184203-07	Water	10/14/2018	10/14/2018
LIFHP-123_1-2_101418	V184204-01	Soil	10/14/2018	10/14/2018
LIFHP-123_3-4_101418	V184204-02	Soil	10/14/2018	10/14/2018
LIFHP-123_4-5_101418	V184204-03	Soil	10/14/2018	10/14/2018
LIFHP-123_5-6_101418	V184204-04	Soil	10/14/2018	10/14/2018
LIFHP-123_7-8_101418	V184204-05	Soil	10/14/2018	10/14/2018
LIFHP-123_22-23_101418	V184204-06	Soil	10/14/2018	10/14/2018
LIFHP-123_25-26_101418	V184204-07	Soil	10/14/2018	10/14/2018
LIFHP-124_1-2_101418	V184204-08	Soil	10/14/2018	10/14/2018
LIFHP-124_3-4_101418	V184204-09	Soil	10/14/2018	10/14/2018
LIFHP-124_6-7_101418	V184204-10	Soil	10/14/2018	10/14/2018
LIFHP-124_8-9_101418	V184204-11	Soil	10/14/2018	10/14/2018
LIFHP-124_9-10_101418	V184204-12	Soil	10/14/2018	10/14/2018
LIFHP-124_24-25_101418	V184204-13	Soil	10/14/2018	10/14/2018
SB-110_8-12_101618	V184205-01	Water	10/16/2018	10/16/2018
LIFHP-119_10-14_101618	V184205-02	Water	10/16/2018	10/16/2018
LIFHP-119_15-19_101618	V184205-03	Water	10/16/2018	10/16/2018
SB-111_8-12_101618	V184205-04	Water	10/16/2018	10/16/2018
SB-113_8-12_101618	V184205-05	Water	10/16/2018	10/16/2018



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DUP-22_101618	V184205-06	Water	10/16/2018	10/16/2018
SB-110_1-2_101618	V184206-01	Soil	10/16/2018	10/16/2018
SB-110_3-4_101618	V184206-02	Soil	10/16/2018	10/16/2018
SB-110_4-5_101618	V184206-03	Soil	10/16/2018	10/16/2018
SB-110_5-6_101618	V184206-04	Soil	10/16/2018	10/16/2018
SB-110_7-8_101618	V184206-05	Soil	10/16/2018	10/16/2018
LIFHP-119_1-2_101618	V184206-06	Soil	10/16/2018	10/16/2018
LIFHP-119_4-5_101618	V184206-07	Soil	10/16/2018	10/16/2018
LIFHP-119_6-7_101618	V184206-08	Soil	10/16/2018	10/16/2018
LIFHP-119_7-8_101618	V184206-09	Soil	10/16/2018	10/16/2018
LIFHP-119_9-10_101618	V184206-10	Soil	10/16/2018	10/16/2018
LIFHP-119_22-23_101618	V184206-11	Soil	10/16/2018	10/16/2018
SB-111_1-2_101618	V184206-12	Soil	10/16/2018	10/16/2018
SB-111_3-4_101618	V184206-13	Soil	10/16/2018	10/16/2018
SB-111_4-5_101618	V184206-14	Soil	10/16/2018	10/16/2018
SB-111_5-6_101618	V184206-15	Soil	10/16/2018	10/16/2018
SB-111_7-8_101618	V184206-16	Soil	10/16/2018	10/16/2018
SB-113_2-3_101618	V184206-17	Soil	10/16/2018	10/16/2018
SB-113_3-4_101618	V184206-18	Soil	10/16/2018	10/16/2018
SB-113_4-5_101618	V184206-19	Soil	10/16/2018	10/16/2018
SB-113_5-6_101618	V184206-20	Soil	10/16/2018	10/16/2018
SB-113_6-7_101618	V184206-21	Soil	10/16/2018	10/16/2018
SB-114_6-10_101718	V184207-01	Water	10/17/2018	10/17/2018
SB-112_10-14_101718	V184207-02	Water	10/17/2018	10/17/2018
SB-112_15-19_101718	V184207-03	Water	10/17/2018	10/17/2018
SB-112_20-24_101718	V184207-04	Water	10/17/2018	10/17/2018
SB-115_6-10_101718	V184207-05	Water	10/17/2018	10/17/2018
SB-116_20-24_101718	V184207-06	Water	10/17/2018	10/17/2018
SB-116_15-19_101718	V184207-07	Water	10/17/2018	10/17/2018
SB-116_10-14_101718	V184207-08	Water	10/17/2018	10/17/2018
SB-117_8-12_101718	V184207-09	Water	10/17/2018	10/17/2018



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SB-114_1-2_101718	V184208-01	Soil	10/17/2018	10/17/2018
SB-114_2-3_101718	V184208-02	Soil	10/17/2018	10/17/2018
SB-114_3-4_101718	V184208-03	Soil	10/17/2018	10/17/2018
SB-114_4-5_101718	V184208-04	Soil	10/17/2018	10/17/2018
SB-114_5-6_101718	V184208-05	Soil	10/17/2018	10/17/2018
SB-112_1-2_101718	V184208-06	Soil	10/17/2018	10/17/2018
SB-112_3-4_101718	V184208-07	Soil	10/17/2018	10/17/2018
SB-112_5-6_101718	V184208-08	Soil	10/17/2018	10/17/2018
SB-112_6-7_101718	V184208-09	Soil	10/17/2018	10/17/2018
SB-112_7-8_101718	V184208-10	Soil	10/17/2018	10/17/2018
SB-112_24-25_101718	V184208-11	Soil	10/17/2018	10/17/2018
SB-115_0-1_101718	V184208-12	Soil	10/17/2018	10/17/2018
SB-115_1-2_101718	V184208-13	Soil	10/17/2018	10/17/2018
SB-115_2-3_101718	V184208-14	Soil	10/17/2018	10/17/2018
SB-115_3-4_101718	V184208-15	Soil	10/17/2018	10/17/2018
SB-115_4-5_101718	V184208-16	Soil	10/17/2018	10/17/2018
SB-116_1-2_101718	V184208-17	Soil	10/17/2018	10/17/2018
SB-116_3-4_101718	V184208-18	Soil	10/17/2018	10/17/2018
SB-116_5-6_101718	V184208-19	Soil	10/17/2018	10/17/2018
SB-116_6-7_101718	V184208-20	Soil	10/17/2018	10/17/2018
SB-116_7-8_101718	V184208-21	Soil	10/17/2018	10/17/2018
SB-116_21-22_101718	V184208-22	Soil	10/17/2018	10/17/2018
SB-117_1-2_101718	V184208-23	Soil	10/17/2018	10/17/2018
SB-117_2-3_101718	V184208-24	Soil	10/17/2018	10/17/2018
SB-117_3-4_101718	V184208-25	Soil	10/17/2018	10/17/2018
SB-117_4-5_101718	V184208-26	Soil	10/17/2018	10/17/2018
DUP-23_101718	V184208-27	Soil	10/17/2018	10/17/2018
SB-118_6-10_101818	V184209-01	Water	10/18/2018	10/18/2018
SB-120_8-12_101818	V184209-02	Water	10/18/2018	10/18/2018
SB-119_25-29_101818	V184209-03	Water	10/18/2018	10/18/2018
SB-119_20-24_101818	V184209-04	Water	10/18/2018	10/18/2018



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SB-119_15-19_101818	V184209-05	Water	10/18/2018	10/18/2018
SB-121_8-12_101818	V184209-06	Water	10/18/2018	10/18/2018
DUP-24_101818	V184209-07	Water	10/18/2018	10/18/2018
SB-123_8-12_101818	V184209-08	Water	10/18/2018	10/18/2018
SB-122_25-29_101818	V184209-09	Water	10/18/2018	10/18/2018
SB-122_20-24_101818	V184209-10	Water	10/18/2018	10/18/2018
SB-122_15-19_101818	V184209-11	Water	10/18/2018	10/18/2018
DUP-25_101818	V184209-12	Water	10/18/2018	10/18/2018
SB-118_1-2_101818	V184210-01	Soil	10/18/2018	10/18/2018
SB-118_2-3_101818	V184210-02	Soil	10/18/2018	10/18/2018
SB-118_3-4_101818	V184210-03	Soil	10/18/2018	10/18/2018
SB-118_4-5_101818	V184210-04	Soil	10/18/2018	10/18/2018
SB-118_5-6_101818	V184210-05	Soil	10/18/2018	10/18/2018
SB-120_1-2_101818	V184210-06	Soil	10/18/2018	10/18/2018
SB-120_3-4_101818	V184210-07	Soil	10/18/2018	10/18/2018
SB-120_5-6_101818	V184210-08	Soil	10/18/2018	10/18/2018
SB-120_7-8_101818	V184210-09	Soil	10/18/2018	10/18/2018
SB-119_1-2_101818	V184210-10	Soil	10/18/2018	10/18/2018
SB-119_5-6_101818	V184210-11	Soil	10/18/2018	10/18/2018
SB-119_7-8_101818	V184210-12	Soil	10/18/2018	10/18/2018
SB-119_9-10_101818	V184210-13	Soil	10/18/2018	10/18/2018
SB-119_11-12_101818	V184210-14	Soil	10/18/2018	10/18/2018
SB-119_19-20_101818	V184210-15	Soil	10/18/2018	10/18/2018
SB-119_23.5-24.5_101818	V184210-16	Soil	10/18/2018	10/18/2018
SB-119_26-27_101818	V184210-17	Soil	10/18/2018	10/18/2018
SB-121_2-3_101818	V184210-18	Soil	10/18/2018	10/18/2018
SB-121_3-4_101818	V184210-19	Soil	10/18/2018	10/18/2018
SB-121_4-5_101818	V184210-20	Soil	10/18/2018	10/18/2018
SB-121_5-6_101818	V184210-21	Soil	10/18/2018	10/18/2018
SB-121_6-7_101818	V184210-22	Soil	10/18/2018	10/18/2018
SB-122_1-2_101818	V184210-23	Soil	10/18/2018	10/18/2018



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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-122_5-6_101818	V184210-24	Soil	10/18/2018	10/18/2018
SB-122_7-8_101818	V184210-25	Soil	10/18/2018	10/18/2018
SB-122_9-10_101818	V184210-26	Soil	10/18/2018	10/18/2018
SB-122_11-12_101818	V184210-27	Soil	10/18/2018	10/18/2018
SB-122_19-20_101818	V184210-28	Soil	10/18/2018	10/18/2018
SB-122_23.5-24.5_101818	V184210-29	Soil	10/18/2018	10/18/2018
SB-122_26-27_101818	V184210-30	Soil	10/18/2018	10/18/2018
SB-123_1-2_101818	V184210-31	Soil	10/18/2018	10/18/2018
SB-123_3-4_101818	V184210-32	Soil	10/18/2018	10/18/2018
SB-123_4-5_101818	V184210-33	Soil	10/18/2018	10/18/2018
SB-123_5-6_101818	V184210-34	Soil	10/18/2018	10/18/2018
SB-123_7-8_101818	V184210-35	Soil	10/18/2018	10/18/2018
SB-124_6-10_101818	V184301-01	Water	10/18/2018	10/22/2018
SB-125_6-10_101918	V184301-02	Water	10/19/2018	10/22/2018
SB-126_6-10_101918	V184301-03	Water	10/19/2018	10/22/2018
SB-127_25-29_102218	V184301-04	Water	10/22/2018	10/22/2018
SB-127_20-24_102218	V184301-05	Water	10/22/2018	10/22/2018
SB-127_15-19_102218	V184301-06	Water	10/22/2018	10/22/2018
SB-124_1-2_101818	V184302-01	Soil	10/18/2018	10/22/2018
SB-124_2-3_101818	V184302-02	Soil	10/18/2018	10/22/2018
SB-124_3-4_101818	V184302-03	Soil	10/18/2018	10/22/2018
SB-124_4-5_101818	V184302-04	Soil	10/18/2018	10/22/2018
SB-124_5-6_101818	V184302-05	Soil	10/18/2018	10/22/2018
SB-125_1-2_101918	V184302-06	Soil	10/19/2018	10/22/2018
SB-125_2-3_101918	V184302-07	Soil	10/19/2018	10/22/2018
SB-125_3-4_101918	V184302-08	Soil	10/19/2018	10/22/2018
SB-125_4-5_101918	V184302-09	Soil	10/19/2018	10/22/2018
SB-125_0-1_101918	V184302-10	Soil	10/19/2018	10/22/2018
SB-126_0-1_101918	V184302-11	Soil	10/19/2018	10/22/2018
SB-126_1-2_101918	V184302-12	Soil	10/19/2018	10/22/2018
SB-126_2-3_101918	V184302-13	Soil	10/19/2018	10/22/2018



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-126_3-4_101918	V184302-14	Soil	10/19/2018	10/22/2018
SB-126_4-5_101918	V184302-15	Soil	10/19/2018	10/22/2018
SB-127_1-2_102218	V184302-16	Soil	10/22/2018	10/22/2018
SB-127_5-6_102218	V184302-17	Soil	10/22/2018	10/22/2018
SB-127_7-8_102218	V184302-18	Soil	10/22/2018	10/22/2018
SB-127_9-10_102218	V184302-19	Soil	10/22/2018	10/22/2018
SB-127_11-12_102218	V184302-20	Soil	10/22/2018	10/22/2018
SB-127_19-20_102218	V184302-21	Soil	10/22/2018	10/22/2018
SB-127_23.5-24.5_102218	V184302-22	Soil	10/22/2018	10/22/2018
SB-127_26-27_102218	V184302-23	Soil	10/22/2018	10/22/2018
LIFHP-128_21-25_102318	V184303-01	Water	10/23/2018	10/23/2018
LIFHP-128_16-20_102318	V184303-02	Water	10/23/2018	10/23/2018
LIFHP-128_11-15_102318	V184303-03	Water	10/23/2018	10/23/2018
SB-128_20-24_102318	V184303-04	Water	10/23/2018	10/23/2018
SB-128_15-19_102318	V184303-05	Water	10/23/2018	10/23/2018
LIFHP-128_1-2_102318	V184304-01	Soil	10/23/2018	10/23/2018
LIFHP-128_3-4_102318	V184304-02	Soil	10/23/2018	10/23/2018
LIFHP-128_5-6_102318	V184304-03	Soil	10/23/2018	10/23/2018
LIFHP-128_7-8_102318	V184304-04	Soil	10/23/2018	10/23/2018
LIFHP-128_9-10_102318	V184304-05	Soil	10/23/2018	10/23/2018
LIFHP-128_19-20_102318	V184304-06	Soil	10/23/2018	10/23/2018
DUP-26_102318	V184304-07	Soil	10/23/2018	10/23/2018
SB-128_1-2_102318	V184304-08	Soil	10/23/2018	10/23/2018
SB-128_5-6_102318	V184304-09	Soil	10/23/2018	10/23/2018
SB-128_7-8_102318	V184304-10	Soil	10/23/2018	10/23/2018
SB-128_9-10_102318	V184304-11	Soil	10/23/2018	10/23/2018
SB-128_11-12_102318	V184304-12	Soil	10/23/2018	10/23/2018
SB-128_19-20_102318	V184304-13	Soil	10/23/2018	10/23/2018
SB-128_23.5-24.5_102318	V184304-14	Soil	10/23/2018	10/23/2018
SB-128_26-27_102318	V184304-15	Soil	10/23/2018	10/23/2018
SB-129_22-26_102418	V184305-01	Water	10/24/2018	10/24/2018



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-129_16-20_102418	V184305-02	Water	10/24/2018	10/24/2018
SB-129_11-15_102418	V184305-03	Water	10/24/2018	10/24/2018
SB-130_21-25_102418	V184305-04	Soil	10/24/2018	10/24/2018
SB-130_16-20_102418	V184305-05	Soil	10/24/2018	10/24/2018
SB-130_11-15_102418	V184305-06	Soil	10/24/2018	10/24/2018
SB-129_1-2_102418	V184306-01	Soil	10/24/2018	10/24/2018
SB-129_3-4_102418	V184306-02	Soil	10/24/2018	10/24/2018
SB-129_6-7_102418	V184306-03	Soil	10/24/2018	10/24/2018
SB-129_7-8_102418	V184306-04	Soil	10/24/2018	10/24/2018
SB-129_9-10_102418	V184306-05	Soil	10/24/2018	10/24/2018
SB-129_24-25_102418	V184306-06	Soil	10/24/2018	10/24/2018
SB-130_1-2_102418	V184306-07	Soil	10/24/2018	10/24/2018
SB-130_2-3_102418	V184306-08	Soil	10/24/2018	10/24/2018
SB-130_3-4_102418	V184306-09	Soil	10/24/2018	10/24/2018
SB-130_7-8_102418	V184306-10	Soil	10/24/2018	10/24/2018
SB-130_9-10_102418	V184306-11	Soil	10/24/2018	10/24/2018
SB-130_21-22_102418	V184306-12	Soil	10/24/2018	10/24/2018
SB-130_24-25_102418	V184306-13	Soil	10/24/2018	10/24/2018
LIFHP-112_21-25_102418	V184307-01	Water	10/24/2018	10/25/2018
LIFHP-112_15-19_102418	V184307-02	Water	10/24/2018	10/25/2018
LIFHP-112_10-14_102418	V184307-03	Water	10/24/2018	10/25/2018
HPT-180_20-24_102518	V184307-04	Water	10/25/2018	10/25/2018
HPT-180_14-18_102518	V184307-05	Water	10/25/2018	10/25/2018
HPT-180_6-10_102518	V184307-06	Water	10/25/2018	10/25/2018
DUP-27_102518	V184307-07	Water	10/25/2018	10/25/2018
LIFHP-112_1-2_102418	V184308-01	Soil	10/24/2018	10/25/2018
LIFHP-112_3-4_102418	V184308-02	Soil	10/24/2018	10/25/2018
LIFHP-112_4-5_102418	V184308-03	Soil	10/24/2018	10/25/2018
LIFHP-112_6-7_102418	V184308-04	Soil	10/24/2018	10/25/2018
LIFHP-112_8-9_102418	V184308-05	Soil	10/24/2018	10/25/2018
LIFHP-112_26-27_102418	V184308-06	Soil	10/24/2018	10/25/2018



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LIFHP-112_29-30_102418	V184308-07	Soil	10/24/2018	10/25/2018
HPT-180_1-2_102518	V184308-08	Soil	10/25/2018	10/25/2018
HPT-180_2-3_102518	V184308-09	Soil	10/25/2018	10/25/2018
HPT-180_3-4_102518	V184308-10	Soil	10/25/2018	10/25/2018
HPT-180_4-5_102518	V184308-11	Soil	10/25/2018	10/25/2018
HPT-180_23-24_102518	V184308-12	Soil	10/25/2018	10/25/2018
HPT-180_25-26_102518	V184308-13	Soil	10/25/2018	10/25/2018
HPT-181_1-2_102518	V184308-14	Soil	10/25/2018	10/25/2018
HPT-181_2-3_102518	V184308-15	Soil	10/25/2018	10/25/2018
HPT-181_3-4_102518	V184308-16	Soil	10/25/2018	10/25/2018
HPT-181_4-5_102518	V184308-17	Soil	10/25/2018	10/25/2018
HPT-181_5-6_102518	V184308-18	Soil	10/25/2018	10/25/2018
HPT-181_22-23_102518	V184308-19	Soil	10/25/2018	10/25/2018
HPT-181_24-28_102618	V184309-01	Water	10/26/2018	10/26/2018
HPT-181_11-15_102618	V184309-02	Water	10/26/2018	10/26/2018
HPT-181_6-10_102618	V184309-03	Water	10/26/2018	10/26/2018
HPT-184_16-20_102618	V184309-04	Water	10/26/2018	10/26/2018
HPT-184_11-15_102618	V184309-05	Water	10/26/2018	10/26/2018
HPT-184_6-10_102618	V184309-06	Water	10/26/2018	10/26/2018
HPT-184_1-2_102618	V184310-01	Soil	10/26/2018	10/26/2018
HPT-184_2-3_102618	V184310-02	Soil	10/26/2018	10/26/2018
HPT-184_3-4_102618	V184310-03	Soil	10/26/2018	10/26/2018
HPT-184_4-5_102618	V184310-04	Soil	10/26/2018	10/26/2018
HPT-184_5-6_102618	V184310-05	Soil	10/26/2018	10/26/2018
HPT-184_21-22_102618	V184310-06	Soil	10/26/2018	10/26/2018
HPT-182_22-26_102918	V184401-01	Water	10/29/2018	10/29/2018
HPT-182_13-17_102918	V184401-02	Water	10/29/2018	10/29/2018
HPT-182_5-9_102918	V184401-03	Water	10/29/2018	10/29/2018
HPT-182_1-2_102918	V184402-01	Soil	10/29/2018	10/29/2018
HPT-182_2-3_102918	V184402-02	Soil	10/29/2018	10/29/2018
HPT-182_3-4_102918	V184402-03	Soil	10/29/2018	10/29/2018



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HPT-182_4-5_102918	V184402-04	Soil	10/29/2018	10/29/2018
HPT-182_5-6_102918	V184402-05	Soil	10/29/2018	10/29/2018
HPT-182_27-28_102918	V184402-06	Soil	10/29/2018	10/29/2018
HPT-185_19-23_103018	V184403-01	Water	10/30/2018	10/30/2018
HPT-185_14-18_103018	V184403-02	Water	10/30/2018	10/30/2018
HPT-185_4-8_103018	V184403-03	Water	10/30/2018	10/30/2018
SB-131_14-18_103018	V184403-04	Water	10/30/2018	10/30/2018
SB-131_5-9_103018	V184403-05	Water	10/30/2018	10/30/2018
HPT-185_1-2_103018	V184404-01	Soil	10/30/2018	10/30/2018
HPT-185_2-3_103018	V184404-02	Soil	10/30/2018	10/30/2018
HPT-185_3-4_103018	V184404-03	Soil	10/30/2018	10/30/2018
HPT-185_4-5_103018	V184404-04	Soil	10/30/2018	10/30/2018
HPT-185_5-6_103018	V184404-05	Soil	10/30/2018	10/30/2018
HPT-185_21-22_103018	V184404-06	Soil	10/30/2018	10/30/2018
SB-131_1-2_103018	V184404-07	Soil	10/30/2018	10/30/2018
SB-131_2-3_103018	V184404-08	Soil	10/30/2018	10/30/2018
SB-131_3-4_103018	V184404-09	Soil	10/30/2018	10/30/2018
SB-131_4-5_103018	V184404-10	Soil	10/30/2018	10/30/2018
SB-131_5-6_103018	V184404-11	Soil	10/30/2018	10/30/2018
SB-131_19-20_103018	V184404-12	Soil	10/30/2018	10/30/2018
SB-132_22-26_103118	V184405-01	Water	10/31/2018	10/31/2018
SB-132_13-17_103118	V184405-02	Water	10/31/2018	10/31/2018
SB-132_5-9_103118	V184405-03	Water	10/31/2018	10/31/2018
SB-133_16-20_103118	V184405-04	Water	10/31/2018	10/31/2018
SB-133_11-15_103118	V184405-05	Water	10/31/2018	10/31/2018
SB-133_6-10_103118	V184405-06	Water	10/31/2018	10/31/2018
SB-132_1-2_103118	V184406-01	Soil	10/31/2018	10/31/2018
SB-132_2-3_103118	V184406-02	Soil	10/31/2018	10/31/2018
SB-132_3-4_103118	V184406-03	Soil	10/31/2018	10/31/2018
SB-132_4-5_103118	V184406-04	Soil	10/31/2018	10/31/2018
SB-132_5-6_103118	V184406-05	Soil	10/31/2018	10/31/2018



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-132_21-22_103118	V184406-06	Soil	10/31/2018	10/31/2018
DUP-28_103118	V184406-07	Soil	10/31/2018	10/31/2018
SB-133_1-2_103118	V184406-08	Soil	10/31/2018	10/31/2018
SB-133_2-3_103118	V184406-09	Soil	10/31/2018	10/31/2018
SB-133_3-4_103118	V184406-10	Soil	10/31/2018	10/31/2018
SB-133_4-5_103118	V184406-11	Soil	10/31/2018	10/31/2018
SB-133_5-6_103118	V184406-12	Soil	10/31/2018	10/31/2018
SB-133_26-27_103118	V184406-13	Soil	10/31/2018	10/31/2018
SB-134_24-28_110118	V184407-01	Water	11/01/2018	11/01/2018
SB-134_11-15_110118	V184407-02	Water	11/01/2018	11/01/2018
SB-134_6-10_110118	V184407-03	Water	11/01/2018	11/01/2018
HPT-183_14-18_110118	V184407-04	Water	11/01/2018	11/01/2018
HPT-183_9-13_110118	V184407-05	Water	11/01/2018	11/01/2018
HPT-183_3-8_110118	V184407-06	Water	11/01/2018	11/01/2018
DUP-29_110118	V184407-07	Water	11/01/2018	11/01/2018
SB-134_1-2_1101118	V184408-01	Soil	11/01/2018	11/01/2018
SB-134_2-3_1101118	V184408-02	Soil	11/01/2018	11/01/2018
SB-134_3-4_1101118	V184408-03	Soil	11/01/2018	11/01/2018
SB-134_4-5_1101118	V184408-04	Soil	11/01/2018	11/01/2018
SB-134_5-6_1101118	V184408-05	Soil	11/01/2018	11/01/2018
SB-134_23-24_1101118	V184408-06	Soil	11/01/2018	11/01/2018
HPT-183_1-2_1101118	V184408-07	Soil	11/01/2018	11/01/2018
HPT-183_2-3_1101118	V184408-08	Soil	11/01/2018	11/01/2018
HPT-183_3-4_1101118	V184408-09	Soil	11/01/2018	11/01/2018
HPT-183_4-5_1101118	V184408-10	Soil	11/01/2018	11/01/2018
HPT-183_5-6_1101118	V184408-11	Soil	11/01/2018	11/01/2018
HPT-183_17-18_1101118	V184408-12	Soil	11/01/2018	11/01/2018
HPT-183_28-19_1101118	V184408-13	Soil	11/01/2018	11/01/2018
HPT-186_14-18_110218	V184409-01	Water	11/02/2018	11/02/2018
HPT-186_8-12_110218	V184409-02	Water	11/02/2018	11/02/2018
HPT-186_3-7_110218	V184409-03	Water	11/02/2018	11/02/2018



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-135_1-5_110218	V184409-04	Water	11/02/2018	11/02/2018
SB-135_6-10_110218	V184409-05	Water	11/02/2018	11/02/2018
SB-135_11-15_110218	V184409-06	Water	11/02/2018	11/02/2018
SB-135_16-20_110218	V184409-07	Water	11/02/2018	11/02/2018
HPT-186_1-2_110218	V184410-01	Soil	11/02/2018	11/02/2018
HPT-186_2-3_110218	V184410-02	Soil	11/02/2018	11/02/2018
HPT-186_3-4_110218	V184410-03	Soil	11/02/2018	11/02/2018
HPT-186_4-5_110218	V184410-04	Soil	11/02/2018	11/02/2018
HPT-186_5-6_110218	V184410-05	Soil	11/02/2018	11/02/2018
HPT-186_18-19_110218	V184410-06	Soil	11/02/2018	11/02/2018
HPT-186_28-29_110218	V184410-07	Soil	11/02/2018	11/02/2018
SB-135_1-2_110218	V184410-08	Soil	11/02/2018	11/02/2018
SB-135_2-3_110218	V184410-09	Soil	11/02/2018	11/02/2018
SB-135_3-4_110218	V184410-10	Soil	11/02/2018	11/02/2018
SB-135_4-5_110218	V184410-11	Soil	11/02/2018	11/02/2018
SB-135_5-6_110218	V184410-12	Soil	11/02/2018	11/02/2018
SB-135_19.5-20.5_110218	V184410-13	Soil	11/02/2018	11/02/2018
SB-135_28-29_110218	V184410-14	Soil	11/02/2018	11/02/2018



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LIFHP-79_10-13'_091118
V183701-01 (Water)

Date Sampled
09/11/2018 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 15:20	EPA 8260B	
Trichloroethene	750	50	ug/L	50	09/13/2018	09/15/2018 18:27	EPA 8260B	D
cis-1,2-Dichloroethene	7600	50	ug/L	50	09/13/2018	09/15/2018 18:27	EPA 8260B	D
trans-1,2-Dichloroethene	180	1.0	ug/L	1	09/13/2018	09/13/2018 15:20	EPA 8260B	
1,1-Dichloroethene	8.5	1.0	ug/L	1	09/13/2018	09/13/2018 15:20	EPA 8260B	
Vinyl chloride	960	50	ug/L	50	09/13/2018	09/15/2018 18:27	EPA 8260B	D
1,4-Dioxane	ND	100	ug/L	50	09/13/2018	09/15/2018 18:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 15:20</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

LIFHP-79_17-20'_091118
V183701-02 (Water)

Date Sampled
 09/11/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 15:34	EPA 8260B	
Trichloroethene	26000	500	ug/L	500	09/13/2018	09/15/2018 17:00	EPA 8260B	D
cis-1,2-Dichloroethene	76000	500	ug/L	500	09/13/2018	09/15/2018 17:00	EPA 8260B	D
trans-1,2-Dichloroethene	4700	100	ug/L	100	09/13/2018	09/15/2018 16:30	EPA 8260B	D
1,1-Dichloroethene	97	1.0	ug/L	1	09/13/2018	09/13/2018 15:34	EPA 8260B	
Vinyl chloride	790	100	ug/L	100	09/13/2018	09/15/2018 16:30	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 15:34	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 114 % 60-140 09/13/2018 09/13/2018 15:34 EPA 8260B



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LIFHP-79_22-25'_091118

V183701-03 (Water)

Date Sampled
 09/11/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 15:49	EPA 8260B	
Trichloroethene	1400	100	ug/L	100	09/13/2018	09/15/2018 17:43	EPA 8260B	D
cis-1,2-Dichloroethene	9500	100	ug/L	100	09/13/2018	09/15/2018 17:43	EPA 8260B	D
trans-1,2-Dichloroethene	230	100	ug/L	100	09/13/2018	09/15/2018 17:43	EPA 8260B	D
1,1-Dichloroethene	1.7	1.0	ug/L	1	09/13/2018	09/13/2018 15:49	EPA 8260B	
Vinyl chloride	19	1.0	ug/L	1	09/13/2018	09/13/2018 15:49	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 15:49	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 115 % 60-140 09/13/2018 09/13/2018 15:49 EPA 8260B



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LIFHP-80B_18-22'_091218

V183701-04 (Water)

Date Sampled
 09/12/2018 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:03	EPA 8260B	
Trichloroethene	100000	500	ug/L	500	09/13/2018	09/15/2018 17:29	EPA 8260B	D, E
cis-1,2-Dichloroethene	58000	500	ug/L	500	09/13/2018	09/15/2018 17:29	EPA 8260B	D
trans-1,2-Dichloroethene	2400	500	ug/L	500	09/13/2018	09/15/2018 17:29	EPA 8260B	D
1,1-Dichloroethene	59	1.0	ug/L	1	09/13/2018	09/13/2018 16:03	EPA 8260B	
Vinyl chloride	170	1.0	ug/L	1	09/13/2018	09/13/2018 16:03	EPA 8260B	
1,4-Dioxane	ND	1000	ug/L	500	09/13/2018	09/15/2018 17:29	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 115 % 60-140 09/13/2018 09/13/2018 16:03 EPA 8260B



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LIFHP-80B_8-12'_091218

V183701-05 (Water)

Date Sampled
 09/12/2018 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:18	EPA 8260B	
Trichloroethene	20000	100	ug/L	100	09/13/2018	09/15/2018 18:56	EPA 8260B	D
cis-1,2-Dichloroethene	16000	100	ug/L	100	09/13/2018	09/15/2018 18:56	EPA 8260B	D
trans-1,2-Dichloroethene	52	1.0	ug/L	1	09/13/2018	09/13/2018 16:18	EPA 8260B	
1,1-Dichloroethene	1.6	1.0	ug/L	1	09/13/2018	09/13/2018 16:18	EPA 8260B	
Vinyl chloride	12000	100	ug/L	100	09/13/2018	09/15/2018 18:56	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 16:18	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 107% 60-140 09/13/2018 09/13/2018 16:18 EPA 8260B



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LIFHP-82_9-13'_091218

V183701-06 (Water)

Date Sampled
 09/12/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
Trichloroethene	12	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
cis-1,2-Dichloroethene	8.7	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
trans-1,2-Dichloroethene	1.3	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 16:32</i>	<i>EPA 8260B</i>	



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LIFHP-82_18-22'_091218

V183701-07 (Water)

Date Sampled
 09/12/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
Trichloroethene	7.8	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
cis-1,2-Dichloroethene	5.1	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 16:47</i>	<i>EPA 8260B</i>	



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LIFHP-79_1-2'_091118
V183702-01 (Soil)

Date Sampled
 09/11/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 12:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	88.4	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_3-4'_091118
V183702-02 (Soil)

Date Sampled
 09/11/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 12:46</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	92.6	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_5-6'_091118
V183702-03 (Soil)

Date Sampled
 09/11/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		116 %		60-140	09/13/2018	09/14/2018 13:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	93.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_7-8'_091118
V183702-04 (Soil)

Date Sampled
 09/11/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %		60-140	09/13/2018	09/14/2018 13:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	93.8	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_9-10'_091118
V183702-05 (Soil)

Date Sampled
 09/11/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %		60-140	09/13/2018	09/14/2018 13:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	87.0	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_18.5-19.5'_091118
V183702-06 (Soil)

Date Sampled
 09/11/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
Trichloroethene	27000	500	ug/kg dry	10	09/13/2018	09/14/2018 01:45	EPA 8260B	D
cis-1,2-Dichloroethene	20000	500	ug/kg dry	10	09/13/2018	09/14/2018 01:45	EPA 8260B	D
trans-1,2-Dichloroethene	1200	50	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 13:45</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	82.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_19.5-20.5'_091118
V183702-07 (Soil)

Date Sampled
 09/11/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
Trichloroethene	4100	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
cis-1,2-Dichloroethene	34000	460	ug/kg dry	10	09/13/2018	09/14/2018 01:59	EPA 8260B	D
trans-1,2-Dichloroethene	6200	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
1,1-Dichloroethene	50	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
Vinyl chloride	630	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 108 % 60-140 09/13/2018 09/14/2018 13:59 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	80.5	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-80B_1-2_091218
V183702-12 (Soil)

Date Sampled
 09/12/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		60-140	09/13/2018	09/14/2018 14:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	89.6	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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 Project Number: 2815

LIFHP-80B_3-4_091218
V183702-13 (Soil)

Date Sampled
 09/12/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/13/2018	09/14/2018 14:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	93.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-80B_5-6'_091218
V183702-14 (Soil)

Date Sampled
 09/12/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
Trichloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
1,4-Dioxane	ND	79	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 14:43</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	91.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-80B_6-7'_091218
V183702-15 (Soil)

Date Sampled
 09/12/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.7 %		60-140	09/13/2018	09/14/2018 14:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	96.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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 Project Number: 2815

LIFHP-80B_19-20'_091218
V183702-16 (Soil)

Date Sampled
 09/12/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
Trichloroethene	22000	490	ug/kg dry	10	09/13/2018	09/14/2018 11:04	EPA 8260B	D
cis-1,2-Dichloroethene	6200	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
trans-1,2-Dichloroethene	210	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 15:12</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	82.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-80B_23-24'_091218

V183702-17 (Soil)

Date Sampled
09/12/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	
Trichloroethene	16000	440	ug/kg dry	10	09/13/2018	09/14/2018 11:19	EPA 8260B	D
cis-1,2-Dichloroethene	32000	440	ug/kg dry	10	09/13/2018	09/14/2018 11:19	EPA 8260B	D
trans-1,2-Dichloroethene	4900	44	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	
1,1-Dichloroethene	55	44	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	
Vinyl chloride	50	44	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 104 % 60-140 09/13/2018 09/14/2018 15:27 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	88.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_1-2'_091218
V183702-18 (Soil)

Date Sampled
 09/12/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	56	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/13/2018	09/14/2018 15:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	88.0	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_2-3'_091218
V183702-19 (Soil)

Date Sampled
 09/12/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	09/13/2018	09/14/2018 15:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	89.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_4-5'_091218
V183702-20 (Soil)

Date Sampled
 09/12/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/13/2018	09/14/2018 16:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	88.4	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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 Project Number: 2815

LIFHP-82_6-7'_091218
V183702-21 (Soil)

Date Sampled
 09/12/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	63	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	09/13/2018	09/14/2018 16:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	85.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_13-14'_091218
V183702-22 (Soil)

Date Sampled
 09/12/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
Trichloroethene	480	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
trans-1,2-Dichloroethene	86	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 16:40</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	82.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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Project Number: 2815

LIFHP-82_20-21'_091218
V183702-23 (Soil)

Date Sampled
09/12/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
cis-1,2-Dichloroethene	71	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/13/2018	09/14/2018 16:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	77.7	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-83_18.5-22.5'_091318
V183703-01 (Water)

Date Sampled
 09/13/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	11	1.0	ug/L	1	09/13/2018	09/13/2018 17:31	EPA 8260B	
Trichloroethene	1900	500	ug/L	500	09/13/2018	09/15/2018 17:14	EPA 8260B	D
cis-1,2-Dichloroethene	ND	500	ug/L	500	09/13/2018	09/15/2018 17:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	500	ug/L	500	09/13/2018	09/15/2018 17:14	EPA 8260B	
1,1-Dichloroethene	71	1.0	ug/L	1	09/13/2018	09/13/2018 17:31	EPA 8260B	
Vinyl chloride	91	1.0	ug/L	1	09/13/2018	09/13/2018 17:31	EPA 8260B	
1,4-Dioxane	ND	1000	ug/L	500	09/13/2018	09/13/2018 17:31	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		110 %		60-140	09/13/2018	09/13/2018 17:31	EPA 8260B	



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LIFHP-83_9-13'_091318

V183703-02 (Water)

Date Sampled
 09/13/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	
Trichloroethene	1800	10	ug/L	10	09/13/2018	09/15/2018 18:13	EPA 8260B	D
cis-1,2-Dichloroethene	370	10	ug/L	10	09/13/2018	09/15/2018 18:13	EPA 8260B	D
trans-1,2-Dichloroethene	13	1.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	
Vinyl chloride	35	1.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 104 % 60-140 09/13/2018 09/13/2018 17:45 EPA 8260B



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LIFHP-84_18-22'_091318

V183703-03 (Water)

Date Sampled
 09/13/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
Trichloroethene	1.1	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
Vinyl chloride	1.3	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>120 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/15/2018 18:42</i>	<i>EPA 8260B</i>	



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LIFHP-84_11-15'_091318

V183703-04 (Water)

Date Sampled
 09/13/2018 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
Trichloroethene	23	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
cis-1,2-Dichloroethene	6.8	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
Vinyl chloride	1.9	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 18:15</i>	<i>EPA 8260B</i>	



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LIFHP-85_18-22'_091318

V183703-05 (Water)

Date Sampled
 09/13/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:29	EPA 8260B	
Trichloroethene	20000	100	ug/L	100	09/13/2018	09/15/2018 17:58	EPA 8260B	D, E
cis-1,2-Dichloroethene	19000	100	ug/L	100	09/13/2018	09/15/2018 17:58	EPA 8260B	D
trans-1,2-Dichloroethene	1200	100	ug/L	100	09/13/2018	09/15/2018 17:58	EPA 8260B	D
1,1-Dichloroethene	63	1.0	ug/L	1	09/13/2018	09/13/2018 18:29	EPA 8260B	
Vinyl chloride	1800	100	ug/L	100	09/13/2018	09/15/2018 17:58	EPA 8260B	D
1,4-Dioxane	6.1	2.0	ug/L	1	09/13/2018	09/13/2018 18:29	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 109 % 60-140 09/13/2018 09/13/2018 18:29 EPA 8260B



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LIFHP-85_13-17'_091318

V183703-06 (Water)

Date Sampled
 09/13/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 19:13	EPA 8260B	
Trichloroethene	6000	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	D
cis-1,2-Dichloroethene	4700	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	D
trans-1,2-Dichloroethene	200	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	D
1,1-Dichloroethene	ND	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	
Vinyl chloride	1000	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	D
1,4-Dioxane	ND	400	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 19:13</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

LIFHP-85_8-12'_091318

V183703-07 (Water)

Date Sampled
 09/13/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
Trichloroethene	94	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
cis-1,2-Dichloroethene	100	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
trans-1,2-Dichloroethene	16	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
Vinyl chloride	330	10	ug/L	10	09/13/2018	09/17/2018 18:20	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 111 % 60-140 09/13/2018 09/13/2018 18:44 EPA 8260B



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 Project Number: 2815

DUP-02
V183703-08 (Water)

Date Sampled
 09/13/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
Trichloroethene	14	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
cis-1,2-Dichloroethene	4.2	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
Vinyl chloride	2.1	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 18:58</i>	<i>EPA 8260B</i>	



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LIFHP-83_1-2'_091318
V183704-01 (Soil)

Date Sampled
 09/13/2018 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
Trichloroethene	65	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 17:38</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	93.4	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-83_2-3'_091318
V183704-02 (Soil)

Date Sampled
 09/13/2018 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/13/2018	09/14/2018 20:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	94.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-83_4-5'_091318
V183704-03 (Soil)

Date Sampled
 09/13/2018 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
Trichloroethene	2800	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
cis-1,2-Dichloroethene	360	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 20:26</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	94.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-83_6-7'_091318
V183704-04 (Soil)

Date Sampled
 09/13/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
Trichloroethene	140	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>109 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 20:41</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	86.7	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-83_16-17'_091318
V183704-05 (Soil)

Date Sampled
 09/13/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
Trichloroethene	41000	480	ug/kg dry	10	09/13/2018	09/15/2018 15:18	EPA 8260B	D
cis-1,2-Dichloroethene	2700	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
trans-1,2-Dichloroethene	67	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 20:55</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	81.5	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-83_19-20'_091318
V183704-06 (Soil)

Date Sampled
 09/13/2018 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	110	46	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	
Trichloroethene	530000	23000	ug/kg dry	500	09/13/2018	09/18/2018 12:35	EPA 8260B	D
cis-1,2-Dichloroethene	33000	2300	ug/kg dry	50	09/13/2018	09/15/2018 15:32	EPA 8260B	D
trans-1,2-Dichloroethene	940	46	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	
1,1-Dichloroethene	68	46	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 112 % 60-140 09/13/2018 09/14/2018 21:10 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	81.6	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_1-2'_091318
V183704-07 (Soil)

Date Sampled
 09/13/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
Trichloroethene	180	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>89.4 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/15/2018 11:46</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	96.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_2-3'_091318
V183704-08 (Soil)

Date Sampled
 09/13/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		60-140	09/13/2018	09/15/2018 12:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	95.7	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_5-6'_091318
V183704-09 (Soil)

Date Sampled
09/13/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
Trichloroethene	110	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/15/2018 14:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	92.0	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_7-8'_091318
V183704-10 (Soil)

Date Sampled
 09/13/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
Trichloroethene	100	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 21:39</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	86.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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Project Number: 2815

LIFHP-84_9-10'_091318
V183704-11 (Soil)

Date Sampled
09/13/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
Trichloroethene	150	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>111 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 21:54</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	85.8	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_19-20'_091318

V183704-12 (Soil)

Date Sampled
 09/13/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %		60-140	09/13/2018	09/14/2018 22:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	81.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-85_1-2'_091318
V183704-13 (Soil)

Date Sampled
 09/13/2018 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
Trichloroethene	120	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 22:23</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	91.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-85_3-4'_091318
V183704-14 (Soil)

Date Sampled
 09/13/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
Trichloroethene	220	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 22:37</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	89.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-85_6-7'_091318
V183704-15 (Soil)

Date Sampled
 09/13/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
Trichloroethene	220	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>111 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 22:52</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	87.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-85_9-10'_091318
V183704-16 (Soil)

Date Sampled
 09/13/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		114 %		60-140	09/13/2018	09/14/2018 23:06	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	85.0	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-85_19-20'_091318

V183704-17 (Soil)

Date Sampled
 09/13/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	
Trichloroethene	120000	1000	ug/kg dry	20	09/13/2018	09/15/2018 15:47	EPA 8260B	D
cis-1,2-Dichloroethene	40000	1000	ug/kg dry	20	09/13/2018	09/15/2018 15:47	EPA 8260B	D
trans-1,2-Dichloroethene	3600	50	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	
1,1-Dichloroethene	160	50	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	
Vinyl chloride	820	50	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 104 % 60-140 09/13/2018 09/14/2018 23:21 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	79.6	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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DUP-01
V183704-18 (Soil)

Date Sampled
 09/13/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
Trichloroethene	95	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>115 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 23:36</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	90.5	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-86_1-2'_091418
V183705-01 (Soil)

Date Sampled
 09/14/2018 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
Trichloroethene	600	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
cis-1,2-Dichloroethene	120	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
1,1-Dichloroethene	ND	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
Vinyl chloride	ND	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/14/2018 23:50</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_3-4'_091418
V183705-02 (Soil)

Date Sampled
 09/14/2018 08:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
Trichloroethene	430	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
cis-1,2-Dichloroethene	55	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 00:05</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.4	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_5-6'_091418
V183705-03 (Soil)

Date Sampled
 09/14/2018 08:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
Trichloroethene	680	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
cis-1,2-Dichloroethene	110	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 00:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.8	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_7-8'_091418
V183705-04 (Soil)

Date Sampled
 09/14/2018 08:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
Trichloroethene	51	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
cis-1,2-Dichloroethene	140	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>111 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 00:34</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	87.8	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_18.5-19.5'_091418
V183705-05 (Soil)

Date Sampled
 09/14/2018 08:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
Trichloroethene	2000	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
cis-1,2-Dichloroethene	960	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>115 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 00:48</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	80.2	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_22-23'_091418

V183705-06 (Soil)

Date Sampled
09/14/2018 08:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
Trichloroethene	6600	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
cis-1,2-Dichloroethene	250	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 01:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	76.0	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_1-2'_091418
V183705-07 (Soil)

Date Sampled
 09/14/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %		60-140	09/14/2018	09/15/2018 01:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	94.5	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_2-3'_091418
V183705-08 (Soil)

Date Sampled
 09/14/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
Trichloroethene	320	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
1,4-Dioxane	ND	81	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>136 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 01:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	94.0	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_4-5'_091418
V183705-09 (Soil)

Date Sampled
 09/14/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
1,4-Dioxane	ND	82	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.3 %		60-140	09/14/2018	09/15/2018 01:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	89.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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DUP-03
V183705-10 (Soil)

Date Sampled
 09/14/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
Trichloroethene	460	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
cis-1,2-Dichloroethene	76	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 02:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	97.0	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_6-7'_091418
V183705-11 (Soil)

Date Sampled
 09/14/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.1 %		60-140	09/14/2018	09/15/2018 02:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	94.4	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_8-9'_091418
V183705-12 (Soil)

Date Sampled
 09/14/2018 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
Trichloroethene	1500	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
cis-1,2-Dichloroethene	210	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 02:30</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	85.4	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_13-14'_091418
V183705-13 (Soil)

Date Sampled
 09/14/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
Trichloroethene	70	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
cis-1,2-Dichloroethene	720	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 02:45</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	82.5	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_19-20'_091418
V183705-14 (Soil)

Date Sampled
 09/14/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	
Trichloroethene	63000	500	ug/kg dry	10	09/14/2018	09/15/2018 16:01	EPA 8260B	M1, D
cis-1,2-Dichloroethene	7300	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	M
trans-1,2-Dichloroethene	920	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	M, X
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 03:00</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	80.7	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_1-2'_091418
V183705-15 (Soil)

Date Sampled
 09/14/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 04:42</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_3-4'_091418
V183705-16 (Soil)

Date Sampled
 09/14/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/14/2018	09/15/2018 03:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.5	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_5-6'_091418
V183705-17 (Soil)

Date Sampled
 09/14/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
Trichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
1,4-Dioxane	ND	81	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/14/2018	09/15/2018 03:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	88.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_7-8'_091418
V183705-18 (Soil)

Date Sampled
09/14/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		93.0 %		60-140	09/14/2018	09/15/2018 03:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	89.7	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_9-10'_091418
V183705-19 (Soil)

Date Sampled
 09/14/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 03:58</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	85.0	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_11-12'_091418
V183705-20 (Soil)

Date Sampled
09/14/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		106 %		60-140	09/14/2018	09/15/2018 04:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	85.7	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_19-20'_091418
V183705-21 (Soil)

Date Sampled
 09/14/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/14/2018	09/15/2018 04:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	81.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_18-22_091418
V183706-01 (Water)

Date Sampled
 09/14/2018 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
Trichloroethene	32	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	26	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 14:34</i>	<i>EPA 8260B</i>	



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LIFHP-86_13-17_091418
V183706-02 (Water)

Date Sampled
 09/14/2018 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
Trichloroethene	2.5	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	4.8	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>113 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 14:49</i>	<i>EPA 8260B</i>	



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LIFHP-86_8-12_091418
V183706-03 (Water)

Date Sampled
 09/14/2018 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
Trichloroethene	1.3	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
Vinyl chloride	3.4	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 15:03</i>	<i>EPA 8260B</i>	



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LIFHP-89B_18-22'_091418

V183706-04 (Water)

Date Sampled
 09/14/2018 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	
Trichloroethene	84000	500	ug/L	500	09/15/2018	09/15/2018 16:45	EPA 8260B	D
cis-1,2-Dichloroethene	11000	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	D
trans-1,2-Dichloroethene	870	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	
Vinyl chloride	ND	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	
1,4-Dioxane	ND	200	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 12:59</i>	<i>EPA 8260B</i>	



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LIFHP-89B_12-16'_091418

V183706-05 (Water)

Date Sampled
 09/14/2018 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	
Trichloroethene	2700	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	D
cis-1,2-Dichloroethene	920	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	
Vinyl chloride	240	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	09/15/2018	09/15/2018 13:14	EPA 8260B	



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LIFHP-91_24-28'_091418

V183706-06 (Water)

Date Sampled
 09/14/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 13:28	EPA 8260B	
Trichloroethene	29	1.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
cis-1,2-Dichloroethene	15	1.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
trans-1,2-Dichloroethene	1.3	1.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 13:28	EPA 8260B	
Vinyl chloride	29	1.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
1,4-Dioxane	21	2.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>119 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 16:16</i>	<i>EPA 8260B</i>	



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LIFHP-91_19-23'_091418

V183706-07 (Water)

Date Sampled
 09/14/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	
cis-1,2-Dichloroethene	7400	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	D
trans-1,2-Dichloroethene	170	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	
Vinyl chloride	9400	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 13:43</i>	<i>EPA 8260B</i>	



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LIFHP-91_14-18'_091418

V183706-08 (Water)

Date Sampled
 09/14/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	
cis-1,2-Dichloroethene	1500	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	D
trans-1,2-Dichloroethene	180	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	
Vinyl chloride	4300	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 13:57</i>	<i>EPA 8260B</i>	



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LIFHP-87_1-2_091718

Date Sampled
 09/17/2018 10:00

V183801-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
Trichloroethene	320	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
cis-1,2-Dichloroethene	44	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>89.8 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/17/2018 21:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	97.5	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_2-3_091718

V183801-02 (Soil)

Date Sampled
 09/17/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
Trichloroethene	55	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.3 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/17/2018 21:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	94.6	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_3-4_091718

Date Sampled
 09/17/2018 10:10

V183801-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
Trichloroethene	230	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
1,4-Dioxane	160	100	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.3 %		60-140	09/17/2018	09/17/2018 21:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	98.0	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_5-6_091718
V183801-04 (Soil)

Date Sampled
 09/17/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
Trichloroethene	410	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.9 %		60-140	09/17/2018	09/17/2018 21:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	93.9	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_6-7_091718

V183801-05 (Soil)

Date Sampled
 09/17/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
Trichloroethene	500	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
cis-1,2-Dichloroethene	310	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.4 %		60-140	09/17/2018	09/17/2018 22:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	88.1	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_25-26_091718
V183801-06 (Soil)

Date Sampled
 09/17/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		84.0 %		60-140	09/17/2018	09/17/2018 22:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	80.6	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_26.5-27.5_091718

V183801-07 (Soil)

Date Sampled
 09/17/2018 11:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/17/2018	09/19/2018 00:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	81.2	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_28.5-29.5_091718
V183801-08 (Soil)

Date Sampled
 09/17/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		79.4 %		60-140	09/17/2018	09/17/2018 22:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	82.1	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_1-2_091718
V183801-09 (Soil)

Date Sampled
 09/17/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %		60-140	09/17/2018	09/19/2018 00:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	93.3	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_3-4_091718
V183801-10 (Soil)

Date Sampled
 09/17/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/17/2018	09/19/2018 00:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	93.2	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_5-6_091718

V183801-11 (Soil)

Date Sampled
 09/17/2018 15:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	150	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
Trichloroethene	93	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
cis-1,2-Dichloroethene	60	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 101 % 60-140 09/17/2018 09/19/2018 00:51 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	97.5	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_7-8_091718

V183801-12 (Soil)

Date Sampled
 09/17/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
cis-1,2-Dichloroethene	140	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.6 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/19/2018 01:05</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	91.4	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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 Project Number: 2815

LIFHP-93_9-10_091718
V183801-13 (Soil)

Date Sampled
 09/17/2018 15:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/17/2018	09/19/2018 01:20	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	85.6	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_20-21_091718
V183801-14 (Soil)

Date Sampled
 09/17/2018 16:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.9 %		60-140	09/17/2018	09/19/2018 01:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	83.4	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_24-25_091718
V183801-15 (Soil)

Date Sampled
 09/17/2018 16:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
1,4-Dioxane	ND	81	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.2 %		60-140	09/17/2018	09/19/2018 01:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	85.1	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_18-23_091718
V183802-01 (Water)

Date Sampled
 09/17/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	
Trichloroethene	290	100	ug/L	100	09/17/2018	09/17/2018 19:36	EPA 8260B	M1, D
cis-1,2-Dichloroethene	630	100	ug/L	100	09/17/2018	09/17/2018 19:36	EPA 8260B	M1, D
trans-1,2-Dichloroethene	12	1.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	M
1,1-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	
Vinyl chloride	3.2	1.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>124 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/18/2018 13:05</i>	<i>EPA 8260B</i>	



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LIFHP-87_14-18_091718
V183802-02 (Water)

Date Sampled
 09/17/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
Trichloroethene	24	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
cis-1,2-Dichloroethene	35	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>126 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/18/2018 13:19</i>	<i>EPA 8260B</i>	



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LIFHP-87_9-13_091718

V183802-03 (Water)

Date Sampled
 09/17/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
Trichloroethene	6.4	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
cis-1,2-Dichloroethene	17	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>126 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/18/2018 13:34</i>	<i>EPA 8260B</i>	



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LIFHP-93_16-20_091718

V183802-04 (Water)

Date Sampled
 09/17/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
Trichloroethene	ND	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
cis-1,2-Dichloroethene	840	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	D
trans-1,2-Dichloroethene	17	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
Vinyl chloride	ND	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
1,4-Dioxane	ND	20	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		123 %		60-140	09/17/2018	09/18/2018 12:50	EPA 8260B	



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LIFHP-93_11-15_091718

Date Sampled
 09/17/2018 15:15

V183802-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
Trichloroethene	4.5	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
cis-1,2-Dichloroethene	85	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
trans-1,2-Dichloroethene	2.0	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
Vinyl chloride	17	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>123 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/18/2018 13:48</i>	<i>EPA 8260B</i>	



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LIFHP-88_9-13_091818

V183803-01 (Water)

Date Sampled
 09/18/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		120 %		60-140	09/18/2018	09/18/2018 15:06	EPA 8260B	



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LIFHP-88_14-18_091818

V183803-02 (Water)

Date Sampled
09/18/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		118 %		60-140	09/18/2018	09/18/2018 15:22	EPA 8260B	



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LIFHP-88_19-23_091818
V183803-03 (Water)

Date Sampled
 09/18/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		119 %		60-140	09/18/2018	09/18/2018 15:37	EPA 8260B	



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LIFHP-94_20-24_091818

V183803-04 (Water)

Date Sampled
 09/18/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		120 %		60-140	09/18/2018	09/18/2018 15:52	EPA 8260B	



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LIFHP-94_15-19_091818
V183803-05 (Water)

Date Sampled
 09/18/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		121 %		60-140	09/18/2018	09/18/2018 16:12	EPA 8260B	



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 Project Number: 2815

LIFHP-94_9-13_091818

V183803-06 (Water)

Date Sampled
 09/18/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		122 %		60-140	09/18/2018	09/18/2018 16:27	EPA 8260B	



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 Project Number: 2815

DUP-05

V183803-07 (Water)

Date Sampled
 09/18/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		124 %		60-140	09/18/2018	09/18/2018 16:41	EPA 8260B	



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LIFHP-95_8-12'_091818

V183803-08 (Water)

Date Sampled
 09/18/2018 16:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.0 %		60-140	09/18/2018	09/19/2018 02:03	EPA 8260B	



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LIFHP-95_13-17_091818

V183803-09 (Water)

Date Sampled
 09/18/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/18/2018	09/19/2018 02:18	EPA 8260B	



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LIFHP-88_1-2'_091818
V183804-01 (Soil)

Date Sampled
 09/18/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
1,4-Dioxane	120	87	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	M
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %		60-140	09/18/2018	09/18/2018 19:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	89.5	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_2-3'_091818
V183804-02 (Soil)

Date Sampled
 09/18/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/18/2018	09/18/2018 19:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.6	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_3-4'_091818
V183804-03 (Soil)

Date Sampled
 09/18/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		104 %		60-140	09/18/2018	09/18/2018 19:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	92.1	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_5-6'_091818
V183804-04 (Soil)

Date Sampled
 09/18/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	09/18/2018	09/18/2018 19:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	96.0	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_6-7'_091818
V183804-05 (Soil)

Date Sampled
 09/18/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/18/2018	09/18/2018 20:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.3	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_14-15'_091818

V183804-06 (Soil)

Date Sampled
 09/18/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	09/18/2018	09/18/2018 20:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	81.9	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_19.5-20.5'_091818
V183804-07 (Soil)

Date Sampled
 09/18/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	09/18/2018	09/18/2018 20:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	81.0	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_1-2_091818

V183804-08 (Soil)

Date Sampled
 09/18/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	09/18/2018	09/18/2018 20:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.9	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_3-4_091818

Date Sampled
 09/18/2018 10:10

V183804-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.4 %		60-140	09/18/2018	09/18/2018 21:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	94.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_5-6_091818

V183804-10 (Soil)

Date Sampled
 09/18/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.4 %		60-140	09/18/2018	09/18/2018 21:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	88.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_7-8_091818
V183804-11 (Soil)

Date Sampled
 09/18/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
Trichloroethene	180	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>09/18/2018</i>	<i>09/18/2018 21:41</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	90.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_23-24_091818
V183804-12 (Soil)

Date Sampled
 09/18/2018 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	09/18/2018	09/18/2018 21:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	78.9	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_19-20_091818
V183804-13 (Soil)

Date Sampled
 09/18/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/18/2018	09/18/2018 22:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	83.1	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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DUP-04
V183804-14 (Soil)

Date Sampled
 09/18/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/18/2018	09/18/2018 22:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_1-2'_091818
V183804-15 (Soil)

Date Sampled
 09/18/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	09/18/2018	09/18/2018 22:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	89.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_2-3'_091818
V183804-16 (Soil)

Date Sampled
 09/18/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/18/2018	09/18/2018 22:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	90.9	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_3-4'_091818
V183804-17 (Soil)

Date Sampled
 09/18/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
Trichloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
1,1-Dichloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
Vinyl chloride	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
1,4-Dioxane	ND	79	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		104 %		60-140	09/18/2018	09/18/2018 23:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.0	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_5-6'_091818
V183804-18 (Soil)

Date Sampled
 09/18/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>09/18/2018</i>	<i>09/18/2018 23:23</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	98.5	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_6-7'_091818
V183804-19 (Soil)

Date Sampled
 09/18/2018 15:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %		60-140	09/18/2018	09/18/2018 23:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	98.1	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_21-22'_091818

V183804-20 (Soil)

Date Sampled
 09/18/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	09/18/2018	09/18/2018 23:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	81.1	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-96_17-21_091918

V183805-01 (Water)

Date Sampled
 09/19/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809015

Tetrachloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		106 %		60-140	09/19/2018	09/19/2018 21:49	EPA 8260B	



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LIFHP-96_12-16_091918
V183805-02 (Water)

Date Sampled
 09/19/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809015

Tetrachloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		107 %		60-140	09/19/2018	09/19/2018 22:03	EPA 8260B	



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 Project Number: 2815

LIFHP-92_14-18_091918
V183805-03 (Water)

Date Sampled
 09/19/2018 17:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809015

Tetrachloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
trans-1,2-Dichloroethene	350	20	ug/L	20	09/19/2018	09/20/2018 14:08	EPA 8260B	D
1,1-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
Vinyl chloride	84	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
1,4-Dioxane	13	2.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/19/2018	09/19/2018 22:18	EPA 8260B	



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LIFHP-92_8.5-12.5_091918

V183805-04 (Water)

Date Sampled
 09/19/2018 17:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809015

Tetrachloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
trans-1,2-Dichloroethene	5.3	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	HC
1,1-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
Vinyl chloride	600	20	ug/L	20	09/19/2018	09/20/2018 14:22	EPA 8260B	M1, D
1,4-Dioxane	ND	2.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/19/2018</i>	<i>09/19/2018 22:32</i>	<i>EPA 8260B</i>	



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LIFHP-96_1-2_091918

V183806-01 (Soil)

Date Sampled
 09/19/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/19/2018</i>	<i>09/19/2018 23:45</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	92.6	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_3-4_091918

V183806-02 (Soil)

Date Sampled
 09/19/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %		60-140	09/19/2018	09/20/2018 00:00	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	92.1	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_5-6_091918

V183806-03 (Soil)

Date Sampled
 09/19/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		77.5 %		60-140	09/19/2018	09/20/2018 00:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	96.6	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_6-7_091918

V183806-04 (Soil)

Date Sampled
 09/19/2018 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
cis-1,2-Dichloroethene	53	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		72.0 %		60-140	09/19/2018	09/20/2018 00:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	97.4	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_9-10_091918

V183806-05 (Soil)

Date Sampled
 09/19/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		82.0 %		60-140	09/19/2018	09/20/2018 00:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	83.9	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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DUP-06_091918

Date Sampled

V183806-06 (Soil)

09/19/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
cis-1,2-Dichloroethene	79	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		68.3 %		60-140	09/19/2018	09/20/2018 00:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	97.5	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_21-22_091918
V183806-07 (Soil)

Date Sampled
 09/19/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.7 %		60-140	09/19/2018	09/20/2018 01:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	82.4	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_23-24_091918

V183806-08 (Soil)

Date Sampled
 09/19/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		80.3 %		60-140	09/19/2018	09/20/2018 01:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	82.9	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_1-2_091918

V183806-09 (Soil)

Date Sampled
 09/19/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>81.4 %</i>		<i>60-140</i>	<i>09/19/2018</i>	<i>09/20/2018 01:42</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	95.3	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_3-4_091918

V183806-10 (Soil)

Date Sampled
 09/19/2018 16:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.3 %		60-140	09/19/2018	09/20/2018 01:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	84.6	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_4-5_091918

V183806-11 (Soil)

Date Sampled
 09/19/2018 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.9 %		60-140	09/19/2018	09/20/2018 02:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	91.1	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_6-7_091918

V183806-12 (Soil)

Date Sampled
 09/19/2018 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
Trichloroethene	120	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
cis-1,2-Dichloroethene	69	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		78.8 %		60-140	09/19/2018	09/20/2018 02:26	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	92.0	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_20-21_091918
V183806-13 (Soil)

Date Sampled
 09/19/2018 17:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
Vinyl chloride	110	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		82.0 %		60-140	09/19/2018	09/20/2018 02:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	82.5	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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 Project Number: 2815

LIFHP-92_22-23_091918
V183806-14 (Soil)

Date Sampled
 09/19/2018 17:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.7 %		60-140	09/19/2018	09/20/2018 02:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	82.2	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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SB-100_18-22_092018

Date Sampled

V183807-01 (Water)

09/20/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809018

Tetrachloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
1,4-Dioxane	16	2.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/20/2018	09/20/2018 17:08	EPA 8260B	



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SB-100_13-17_092018

V183807-02 (Water)

Date Sampled
09/20/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809018

Tetrachloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>09/20/2018</i>	<i>09/20/2018 16:39</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

SB-100_8-12_092018

Date Sampled
 09/20/2018 15:20

V183807-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809018

Tetrachloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.1 %		60-140	09/20/2018	09/20/2018 16:24	EPA 8260B	



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DUP-07-092018

V183807-04 (Water)

Date Sampled
 09/20/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809018

Tetrachloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/20/2018	09/20/2018 16:54	EPA 8260B	



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SB-100_1-2_092018

V183808-01 (Soil)

Date Sampled
 09/20/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/20/2018	09/20/2018 18:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	91.3	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_3-4_092018

Date Sampled
09/20/2018 14:50

V183808-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/20/2018	09/20/2018 19:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	94.6	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_6-7_092018

V183808-03 (Soil)

Date Sampled
 09/20/2018 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/20/2018	09/20/2018 19:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	86.5	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_9-10_092018
V183808-04 (Soil)

Date Sampled
 09/20/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	M, X
Trichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	X
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	X
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	09/20/2018	09/20/2018 19:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	81.4	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_18-19_092018

V183808-05 (Soil)

Date Sampled
09/20/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	09/20/2018	09/20/2018 19:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	81.9	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_19-20_092018

V183808-06 (Soil)

Date Sampled
 09/20/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.7 %		60-140	09/20/2018	09/20/2018 20:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	81.5	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_21-22_092018

V183808-07 (Soil)

Date Sampled
 09/20/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.0 %		60-140	09/20/2018	09/20/2018 20:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	81.5	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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 Project Number: 2815

LIFHP-90_13-17_092118
V183809-01 (Water)

Date Sampled
 09/21/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809021

Tetrachloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
trans-1,2-Dichloroethene	2.7	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
Vinyl chloride	66	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/21/2018	09/21/2018 18:57	EPA 8260B	



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LIFHP-90_8-12_092118

V183809-02 (Water)

Date Sampled
 09/21/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809021

Tetrachloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
Vinyl chloride	1.4	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/21/2018</i>	<i>09/21/2018 18:42</i>	<i>EPA 8260B</i>	



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LIFHP-90_1-2_092118

V183810-01 (Soil)

Date Sampled
 09/21/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		60-140	09/21/2018	09/21/2018 17:00	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	94.1	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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LIFHP-90_3-4_092118

Date Sampled
 09/21/2018 10:40

V183810-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/21/2018</i>	<i>09/21/2018 17:15</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	90.9	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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LIFHP-90_5-6_092118

V183810-03 (Soil)

Date Sampled
 09/21/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/21/2018</i>	<i>09/21/2018 17:29</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	95.0	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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LIFHP-90_7-8_092118

V183810-04 (Soil)

Date Sampled
 09/21/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/21/2018</i>	<i>09/21/2018 17:44</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	85.1	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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LIFHP-90_22-23_092118

Date Sampled
 09/21/2018 10:55

V183810-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
Vinyl chloride	340	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/21/2018</i>	<i>09/21/2018 17:58</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	78.8	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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SB-101_1-2_092418

V183901-01 (Soil)

Date Sampled
 09/24/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 17:42</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	95.4	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_2-3_092418

V183901-02 (Soil)

Date Sampled
 09/24/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 17:57</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	95.1	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_4-5_092418

V183901-03 (Soil)

Date Sampled
 09/24/2018 15:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/24/2018	09/24/2018 18:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	94.4	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_6-7_092418

V183901-04 (Soil)

Date Sampled
 09/24/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
Trichloroethene	89	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	X
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 18:26</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	84.2	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_19-20_092418

V183901-05 (Soil)

Date Sampled
 09/24/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
cis-1,2-Dichloroethene	2400	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
trans-1,2-Dichloroethene	650	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/24/2018	09/24/2018 18:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	83.2	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_21-22_092418

V183901-06 (Soil)

Date Sampled
 09/24/2018 16:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
Trichloroethene	23000	500	ug/kg dry	10	09/24/2018	09/25/2018 09:47	EPA 8260B	D
cis-1,2-Dichloroethene	11000	500	ug/kg dry	10	09/24/2018	09/25/2018 09:47	EPA 8260B	D
trans-1,2-Dichloroethene	940	50	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 18:55</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	79.5	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_24-25_092418

V183901-07 (Soil)

Date Sampled
 09/24/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
Trichloroethene	25000	990	ug/kg dry	20	09/24/2018	09/25/2018 10:02	EPA 8260B	D
cis-1,2-Dichloroethene	6900	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
trans-1,2-Dichloroethene	640	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 19:10</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	81.2	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_26-27_092418

V183901-08 (Soil)

Date Sampled
 09/24/2018 16:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
Trichloroethene	150	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
cis-1,2-Dichloroethene	52	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 19:24</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	83.3	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_19-23_092518

V183902-01 (Water)

Date Sampled
 09/25/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	100	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	
Trichloroethene	53000	1000	ug/L	1000	09/25/2018	09/25/2018 14:20	EPA 8260B	D
cis-1,2-Dichloroethene	43000	1000	ug/L	1000	09/25/2018	09/25/2018 14:20	EPA 8260B	D
trans-1,2-Dichloroethene	2800	100	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	
Vinyl chloride	130	100	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 12:09</i>	<i>EPA 8260B</i>	



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SB-101_14-18_092518

Date Sampled
 09/25/2018 10:00

V183902-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	10	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	
Trichloroethene	3000	100	ug/L	100	09/25/2018	09/25/2018 11:55	EPA 8260B	D
cis-1,2-Dichloroethene	4600	100	ug/L	100	09/25/2018	09/25/2018 11:55	EPA 8260B	D
trans-1,2-Dichloroethene	480	10	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	
Vinyl chloride	18	10	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	D
1,4-Dioxane	ND	20	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 12:24</i>	<i>EPA 8260B</i>	



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SB-101_9-13_092518
V183902-03 (Water)

Date Sampled
 09/25/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	
Trichloroethene	410	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	D
cis-1,2-Dichloroethene	410	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	D
trans-1,2-Dichloroethene	34	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	
Vinyl chloride	ND	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	
1,4-Dioxane	ND	20	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 11:40</i>	<i>EPA 8260B</i>	



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SB-102_9-13_092518

Date Sampled

V183902-04 (Water)

09/25/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	09/25/2018	09/25/2018 16:17	EPA 8260B	



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SB-102_14-18_092518

V183902-05 (Water)

Date Sampled
 09/25/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		106 %		60-140	09/25/2018	09/25/2018 16:32	EPA 8260B	



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SB-102_18-22_092518

V183902-06 (Water)

Date Sampled
 09/25/2018 13:56

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.3 %		60-140	09/25/2018	09/25/2018 16:46	EPA 8260B	



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SB-102_1-2_092518

V183903-01 (Soil)

Date Sampled
 09/25/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 17:30</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	94.3	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_2-3_092518

V183903-02 (Soil)

Date Sampled
 09/25/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 17:45</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	92.8	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_4-5_092518

V183903-03 (Soil)

Date Sampled
 09/25/2018 12:18

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 17:59</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	94.1	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_6-7_092518

Date Sampled
 09/25/2018 12:24

V183903-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		60-140	09/25/2018	09/25/2018 18:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	91.2	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_14-15_092518

V183903-05 (Soil)

Date Sampled
 09/25/2018 12:28

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/25/2018	09/25/2018 18:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	81.2	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_20-21_092518

V183903-06 (Soil)

Date Sampled
 09/25/2018 12:31

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/25/2018	09/25/2018 18:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	80.9	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_25-26_092518

V183903-07 (Soil)

Date Sampled
 09/25/2018 12:33

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
Trichloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
1,1-Dichloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
Vinyl chloride	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
1,4-Dioxane	ND	76	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 18:58</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	87.6	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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DUP-08_092518

Date Sampled

V183903-08 (Soil)

09/25/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/25/2018	09/25/2018 19:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	93.4	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-103_17-21_092618
V183904-01 (Water)

Date Sampled
 09/26/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809030

Tetrachloroethene	ND	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	
Trichloroethene	16	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	D
cis-1,2-Dichloroethene	6200	100	ug/L	100	09/26/2018	09/26/2018 13:14	EPA 8260B	D
trans-1,2-Dichloroethene	1000	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	
Vinyl chloride	780	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	D
1,4-Dioxane	ND	20	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 16:54</i>	<i>EPA 8260B</i>	



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SB-103_10-14_092618

V183904-02 (Water)

Date Sampled
 09/26/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809030

Tetrachloroethene	ND	100	ug/L	100	09/26/2018	09/26/2018 12:59	EPA 8260B	
Trichloroethene	32000	1000	ug/L	1000	09/26/2018	09/26/2018 13:28	EPA 8260B	D
cis-1,2-Dichloroethene	78000	1000	ug/L	1000	09/26/2018	09/26/2018 13:28	EPA 8260B	D
trans-1,2-Dichloroethene	2600	100	ug/L	100	09/26/2018	09/26/2018 12:59	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/26/2018	09/26/2018 12:59	EPA 8260B	
Vinyl chloride	2500	100	ug/L	100	09/26/2018	09/26/2018 12:59	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/26/2018	09/26/2018 12:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 12:59</i>	<i>EPA 8260B</i>	



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DUP-09_092618

Date Sampled

V183904-03 (Water)

09/26/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809030

Tetrachloroethene	ND	100	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	
Trichloroethene	19000	1000	ug/L	1000	09/26/2018	09/27/2018 13:32	EPA 8260B	D
cis-1,2-Dichloroethene	86000	1000	ug/L	1000	09/26/2018	09/27/2018 13:32	EPA 8260B	D
trans-1,2-Dichloroethene	3300	100	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	
Vinyl chloride	1700	100	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/27/2018 13:13</i>	<i>EPA 8260B</i>	



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SB-104_17-21_092618

V183904-04 (Water)

Date Sampled
 09/26/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809030

Tetrachloroethene	ND	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	
Trichloroethene	40	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	D
cis-1,2-Dichloroethene	2600	100	ug/L	100	09/26/2018	09/26/2018 17:23	EPA 8260B	M1, D
trans-1,2-Dichloroethene	270	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	
Vinyl chloride	41	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	D
1,4-Dioxane	ND	20	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 21:46</i>	<i>EPA 8260B</i>	



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SB-104_10-14_092618

Date Sampled
 09/26/2018 16:25

V183904-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809030

Tetrachloroethene	ND	100	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	
Trichloroethene	22000	1000	ug/L	1000	09/26/2018	09/26/2018 18:51	EPA 8260B	D
cis-1,2-Dichloroethene	93000	1000	ug/L	1000	09/26/2018	09/26/2018 18:51	EPA 8260B	D
trans-1,2-Dichloroethene	3300	100	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	
Vinyl chloride	1400	100	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 17:08</i>	<i>EPA 8260B</i>	



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SB-103_1-2_092618

V183905-01 (Soil)

Date Sampled
 09/26/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/26/2018	09/26/2018 14:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	91.7	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_3-4_092618

V183905-02 (Soil)

Date Sampled
 09/26/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
cis-1,2-Dichloroethene	65	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 15:12</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	85.3	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_5-6_092618

V183905-03 (Soil)

Date Sampled
 09/26/2018 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/26/2018	09/26/2018 15:26	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	90.1	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_7-8_092618

V183905-04 (Soil)

Date Sampled
 09/26/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 14:14</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	86.4	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_9-10_092618
V183905-05 (Soil)

Date Sampled
 09/26/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
cis-1,2-Dichloroethene	1200	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
trans-1,2-Dichloroethene	350	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
Vinyl chloride	260	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 15:55</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	84.4	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_18-19_092618

V183905-06 (Soil)

Date Sampled
 09/26/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
Trichloroethene	20000	500	ug/kg dry	10	09/26/2018	09/26/2018 14:43	EPA 8260B	D
cis-1,2-Dichloroethene	12000	500	ug/kg dry	10	09/26/2018	09/26/2018 14:43	EPA 8260B	D
trans-1,2-Dichloroethene	360	50	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 18:21</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	81.2	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_21-22_092618

V183905-07 (Soil)

Date Sampled
 09/26/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
Trichloroethene	78	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
cis-1,2-Dichloroethene	11000	490	ug/kg dry	10	09/26/2018	09/26/2018 15:41	EPA 8260B	D
trans-1,2-Dichloroethene	2200	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
Vinyl chloride	380	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 103 % 60-140 09/26/2018 09/26/2018 16:39 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	80.0	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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 Project Number: 2815

SB-103_25-26_092618

V183905-08 (Soil)

Date Sampled
 09/26/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
Trichloroethene	1100	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
cis-1,2-Dichloroethene	650	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 16:10</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	82.2	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_27-28_092618

V183905-09 (Soil)

Date Sampled
 09/26/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/26/2018	09/26/2018 16:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	78.2	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_1-2_092618

Date Sampled
 09/26/2018 15:40

V183905-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 19:05</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	86.0	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_3-4_092618

V183905-11 (Soil)

Date Sampled
 09/26/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.4 %		60-140	09/26/2018	09/26/2018 19:20	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	87.8	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_5-6_092618

Date Sampled
 09/26/2018 15:50

V183905-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>117 %</i>	<i>60-140</i>		<i>09/26/2018</i>	<i>09/26/2018 19:34</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	93.3	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_7-8_092618

Date Sampled
 09/26/2018 15:55

V183905-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	09/26/2018	09/26/2018 19:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	96.6	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_9-10_092618
V183905-14 (Soil)

Date Sampled
 09/26/2018 16:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
trans-1,2-Dichloroethene	160	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
Vinyl chloride	370	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>124 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 20:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	85.7	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_16-17_092618

V183905-15 (Soil)

Date Sampled
09/26/2018 16:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
Trichloroethene	830000	20000	ug/kg dry	400	09/26/2018	09/26/2018 17:38	EPA 8260B	D
cis-1,2-Dichloroethene	910000	20000	ug/kg dry	400	09/26/2018	09/26/2018 17:38	EPA 8260B	D
trans-1,2-Dichloroethene	840	51	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 20:47</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	81.6	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_19-20_092618

V183905-16 (Soil)

Date Sampled
 09/26/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
Trichloroethene	32000	500	ug/kg dry	10	09/26/2018	09/27/2018 12:29	EPA 8260B	D
cis-1,2-Dichloroethene	15000	500	ug/kg dry	10	09/26/2018	09/27/2018 12:29	EPA 8260B	D
trans-1,2-Dichloroethene	750	50	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 20:33</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	81.3	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_23-24_092618

V183905-17 (Soil)

Date Sampled
 09/26/2018 16:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
Trichloroethene	63	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 20:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	84.2	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-105_18-22_092718

V183906-01 (Water)

Date Sampled
09/27/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	100	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	
Trichloroethene	58000	1000	ug/L	1000	09/27/2018	09/27/2018 16:11	EPA 8260B	D
cis-1,2-Dichloroethene	66000	1000	ug/L	1000	09/27/2018	09/27/2018 16:11	EPA 8260B	D
trans-1,2-Dichloroethene	2400	100	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	
Vinyl chloride	100	100	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>125 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 15:42</i>	<i>EPA 8260B</i>	



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SB-105_13-17_092718

V183906-02 (Water)

Date Sampled
 09/27/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	
Trichloroethene	12000	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	D
cis-1,2-Dichloroethene	26000	1000	ug/L	1000	09/27/2018	09/27/2018 16:40	EPA 8260B	D
trans-1,2-Dichloroethene	780	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	
Vinyl chloride	970	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>124 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 15:56</i>	<i>EPA 8260B</i>	



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SB-105_8-12_092718
V183906-03 (Water)

Date Sampled
 09/27/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	
Trichloroethene	990	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	M, D
cis-1,2-Dichloroethene	2600	100	ug/L	100	09/27/2018	09/27/2018 16:25	EPA 8260B	M1, D
trans-1,2-Dichloroethene	120	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	
Vinyl chloride	180	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	D
1,4-Dioxane	ND	20	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 17:24</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

LIFHP-105_20-24_092718

V183906-04 (Water)

Date Sampled
 09/27/2018 18:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
Vinyl chloride	4.0	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/27/2018	09/27/2018 21:21	EPA 8260B	



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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-105_15-19_092718

V183906-05 (Water)

Date Sampled
 09/27/2018 18:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
cis-1,2-Dichloroethene	1000	40	ug/L	40	09/27/2018	09/28/2018 12:29	EPA 8260B	D
trans-1,2-Dichloroethene	26	1.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
1,1-Dichloroethene	3.7	1.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
Vinyl chloride	2100	40	ug/L	40	09/27/2018	09/28/2018 12:29	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 21:06</i>	<i>EPA 8260B</i>	



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LIFHP-105_10-14_092718

V183906-06 (Water)

Date Sampled
 09/27/2018 19:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	
cis-1,2-Dichloroethene	410	20	ug/L	20	09/27/2018	09/27/2018 21:36	EPA 8260B	D
trans-1,2-Dichloroethene	28	1.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	
1,1-Dichloroethene	1.4	1.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	
Vinyl chloride	2100	20	ug/L	20	09/27/2018	09/27/2018 21:36	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 103 % 60-140 09/27/2018 09/27/2018 20:20 EPA 8260B



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LIFHP-97_18-22_092718
V183906-07 (Water)

Date Sampled
 09/27/2018 20:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
Trichloroethene	40	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
cis-1,2-Dichloroethene	28	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
trans-1,2-Dichloroethene	10	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
Vinyl chloride	9.7	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 21:50</i>	<i>EPA 8260B</i>	



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LIFHP-97_13-17_092718
V183906-08 (Water)

Date Sampled
 09/27/2018 20:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
Trichloroethene	27	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
cis-1,2-Dichloroethene	14	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
trans-1,2-Dichloroethene	370	20	ug/L	20	09/27/2018	09/28/2018 11:02	EPA 8260B	D
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
Vinyl chloride	8.4	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 22:05</i>	<i>EPA 8260B</i>	



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SB-105_1-2_092718

V183907-01 (Soil)

Date Sampled
 09/27/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	09/27/2018	09/27/2018 17:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	92.9	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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SB-105_3-4_092718

V183907-02 (Soil)

Date Sampled
 09/27/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		85.8 %		60-140	09/27/2018	09/27/2018 17:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	91.7	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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SB-105_5-6_092718

Date Sampled
 09/27/2018 14:10

V183907-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/27/2018	09/27/2018 17:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	93.2	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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SB-105_6-7_092718

V183907-04 (Soil)

Date Sampled
 09/27/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
Trichloroethene	1100	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
cis-1,2-Dichloroethene	64	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 18:07</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	93.3	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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SB-105_20-21_092718

Date Sampled
 09/27/2018 14:20

V183907-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	44	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	
Trichloroethene	29000	440	ug/kg dry	10	09/27/2018	09/27/2018 16:54	EPA 8260B	D
cis-1,2-Dichloroethene	28000	440	ug/kg dry	10	09/27/2018	09/27/2018 16:54	EPA 8260B	D
trans-1,2-Dichloroethene	4000	44	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	
1,1-Dichloroethene	48	44	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	
Vinyl chloride	44	44	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 104 % 60-140 09/27/2018 09/27/2018 19:35 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	83.3	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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SB-105_22-23_092718

V183907-06 (Soil)

Date Sampled
 09/27/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
Trichloroethene	63	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
cis-1,2-Dichloroethene	2400	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
trans-1,2-Dichloroethene	210	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 18:22</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	84.4	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-105_1-2_092718
V183907-07 (Soil)

Date Sampled
 09/27/2018 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	09/27/2018	09/27/2018 22:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	96.9	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-105_3-4_092718
V183907-08 (Soil)

Date Sampled
 09/27/2018 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		104 %		60-140	09/27/2018	09/27/2018 22:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	95.4	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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V183907-09 (Soil)

Date Sampled
 09/27/2018 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/27/2018	09/27/2018 23:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	92.6	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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 Project Number: 2815

LIFHP-105_7-8_092718
V183907-10 (Soil)

Date Sampled
 09/27/2018 17:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		88.7 %		60-140	09/27/2018	09/27/2018 23:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	95.3	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-105_9-10_092718
V183907-11 (Soil)

Date Sampled
 09/27/2018 17:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		125 %		60-140	09/27/2018	09/27/2018 23:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	84.2	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-105_20-21_092718
V183907-12 (Soil)

Date Sampled
 09/27/2018 17:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
cis-1,2-Dichloroethene	3500	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
trans-1,2-Dichloroethene	140	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
Vinyl chloride	2100	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/28/2018 13:28</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	82.4	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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 Project Number: 2815

DUP-10_092718
V183907-13 (Soil)

Date Sampled
 09/27/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		86.3 %		60-140	09/27/2018	09/28/2018 00:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	90.4	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_1-2_092718

V183907-14 (Soil)

Date Sampled
 09/27/2018 18:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		123 %		60-140	09/27/2018	09/28/2018 00:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	94.3	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_2-3_092718

V183907-15 (Soil)

Date Sampled
 09/27/2018 19:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.6 %		60-140	09/27/2018	09/28/2018 00:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	91.6	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_5-6_092718

V183907-16 (Soil)

Date Sampled
 09/27/2018 19:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	09/27/2018	09/28/2018 00:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	93.8	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_8-9_092718

Date Sampled

V183907-17 (Soil)

09/27/2018 19:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
Trichloroethene	63	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
1,1-Dichloroethene	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
Vinyl chloride	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.9 %		60-140	09/27/2018	09/28/2018 12:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	84.2	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_10-11_092718
V183907-18 (Soil)

Date Sampled
 09/27/2018 19:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/27/2018	09/28/2018 12:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	85.6	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_20-21_092718

V183907-19 (Soil)

Date Sampled
09/27/2018 19:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
Vinyl chloride	61	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/28/2018 12:58</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	79.7	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-106_15-19_092718
V183908-01 (Water)

Date Sampled
 09/27/2018 23:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		104 %		60-140	09/28/2018	09/28/2018 13:57	EPA 8260B	



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LIFHP-106_10-14_092718
V183908-02 (Water)

Date Sampled
 09/27/2018 23:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	09/28/2018	09/28/2018 14:26	EPA 8260B	



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LIFHP-106_1-2_092718
V183909-01 (Soil)

Date Sampled
 09/27/2018 20:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

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Tetrachloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>	<i>60-140</i>		<i>09/28/2018</i>	<i>09/28/2018 14:41</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	96.5	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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 Project Number: 2815

LIFHP-106_2-3_092718
V183909-02 (Soil)

Date Sampled
 09/27/2018 20:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/28/2018	09/28/2018 16:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	86.3	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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 Project Number: 2815

LIFHP-106_5-6_092718
V183909-03 (Soil)

Date Sampled
 09/27/2018 20:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.6 %		60-140	09/28/2018	09/28/2018 16:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	85.2	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-106_6-7_092718
V183909-04 (Soil)

Date Sampled
 09/27/2018 21:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		92.3 %		60-140	09/28/2018	09/28/2018 16:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	97.1	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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Project Number: 2815

LIFHP-106_7-8_092718

V183909-05 (Soil)

Date Sampled
09/27/2018 21:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		88.3 %		60-140	09/28/2018	09/28/2018 17:06	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	93.8	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-106_25-26_092718
V183909-06 (Soil)

Date Sampled
 09/27/2018 22:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>127 %</i>	<i>60-140</i>		<i>09/28/2018</i>	<i>09/28/2018 17:21</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	77.8	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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 Project Number: 2815

LIFHP-100_1-2_092818
V183910-01 (Soil)

Date Sampled
 09/28/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/28/2018	09/28/2018 15:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	97.6	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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 Project Number: 2815

LIFHP-100_4-5_092818
V183910-02 (Soil)

Date Sampled
 09/28/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
Trichloroethene	420	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
cis-1,2-Dichloroethene	4700	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
trans-1,2-Dichloroethene	570	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
1,1-Dichloroethene	110	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
Vinyl chloride	ND	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 91.7 % 60-140 09/28/2018 09/28/2018 17:35 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	88.7	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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 Project Number: 2815

LIFHP-100_7-8_092818
V183910-03 (Soil)

Date Sampled
 09/28/2018 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
Trichloroethene	120	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
cis-1,2-Dichloroethene	410	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 17:50</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	89.3	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_10-11_092818
V183910-04 (Soil)

Date Sampled
 09/28/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
Trichloroethene	53	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
trans-1,2-Dichloroethene	200	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.3 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 18:04</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	90.5	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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 Project Number: 2815

LIFHP-100_12-13_092818
V183910-05 (Soil)

Date Sampled
 09/28/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
cis-1,2-Dichloroethene	1200	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
Vinyl chloride	150	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>127 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 18:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	84.7	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_23-24_092818

V183910-06 (Soil)

Date Sampled
 09/28/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
Vinyl chloride	400	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.0 %</i>	<i>60-140</i>		<i>09/28/2018</i>	<i>09/28/2018 18:34</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	82.0	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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 Project Number: 2815

LIFHP-100_25-26_092818
V183910-07 (Soil)

Date Sampled
 09/28/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	09/28/2018	09/28/2018 18:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	78.2	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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 Project Number: 2815

LIFHP-100_26-30_092818

V183911-01 (Water)

Date Sampled
 09/28/2018 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
Trichloroethene	13	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
cis-1,2-Dichloroethene	5.0	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
Vinyl chloride	51	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
1,4-Dioxane	19	2.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 102 % 60-140 09/28/2018 09/28/2018 19:17 EPA 8260B



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LIFHP-100_21-25_092818
V183911-02 (Water)

Date Sampled
 09/28/2018 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
Trichloroethene	8.9	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
cis-1,2-Dichloroethene	4.5	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
Vinyl chloride	130	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
1,4-Dioxane	50	2.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 19:03</i>	<i>EPA 8260B</i>	



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LIFHP-100_14-18_092818
V183911-03 (Water)

Date Sampled
 09/28/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
cis-1,2-Dichloroethene	480	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
Vinyl chloride	19000	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 14:55</i>	<i>EPA 8260B</i>	



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DUP-11_092818

Date Sampled

V183911-04 (Water)

09/28/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
cis-1,2-Dichloroethene	660	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
Vinyl chloride	17000	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/28/2018	09/28/2018 15:53	EPA 8260B	



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LIFHP-99_1-2_100118

V184001-01 (Soil)

Date Sampled
 10/01/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.2 %		60-140	10/01/2018	10/01/2018 14:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	96.7	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_3-4_100118

V184001-02 (Soil)

Date Sampled
 10/01/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>90.5 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 14:49</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	94.5	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_6-7_100118
V184001-03 (Soil)

Date Sampled
 10/01/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/01/2018	10/01/2018 14:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	90.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_10-11_100118
V184001-04 (Soil)

Date Sampled
 10/01/2018 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		88.5 %		60-140	10/01/2018	10/01/2018 15:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	94.6	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_11-12_100118

V184001-05 (Soil)

Date Sampled
10/01/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.4 %		60-140	10/01/2018	10/01/2018 15:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	87.4	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_19-20_100118

V184001-06 (Soil)

Date Sampled
 10/01/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
cis-1,2-Dichloroethene	5500	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
Vinyl chloride	2200	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>124 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 16:02</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	80.6	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_28-29_100118

V184001-07 (Soil)

Date Sampled
 10/01/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/01/2018	10/01/2018 16:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	82.6	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-103_1-2_100118
V184001-08 (Soil)

Date Sampled
 10/01/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.5 %		60-140	10/01/2018	10/01/2018 18:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	95.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-103_3-4_100118
V184001-09 (Soil)

Date Sampled
 10/01/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/01/2018	10/01/2018 19:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	89.1	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-103_6-7_100118
V184001-10 (Soil)

Date Sampled
 10/01/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/01/2018	10/01/2018 19:26	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	93.7	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-103_7-8_100118
V184001-11 (Soil)

Date Sampled
 10/01/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.3 %		60-140	10/01/2018	10/01/2018 19:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	96.7	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-103_9-10_100118

V184001-12 (Soil)

Date Sampled
 10/01/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/01/2018	10/01/2018 19:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	87.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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Project Number: 2815

LIFHP-103_25-26_100118

V184001-13 (Soil)

Date Sampled
10/01/2018 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/01/2018	10/01/2018 20:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	81.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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 Project Number: 2815

DUP-12_100118
V184001-14 (Soil)

Date Sampled
 10/01/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 20:24</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	83.1	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-98_1-2_100118
V184001-15 (Soil)

Date Sampled
 10/01/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/01/2018	10/01/2018 21:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	97.5	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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 Project Number: 2815

LIFHP-98_5-6_100118
V184001-16 (Soil)

Date Sampled
 10/01/2018 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>95.1 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 21:23</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	92.4	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_7-8_100118
V184001-17 (Soil)

Date Sampled
 10/01/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		116 %		60-140	10/01/2018	10/01/2018 21:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	95.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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 Project Number: 2815

LIFHP-98_9-10_100118
V184001-18 (Soil)

Date Sampled
 10/01/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
trans-1,2-Dichloroethene	74	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
1,4-Dioxane	200	85	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>90.5 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/02/2018 11:38</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	97.1	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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 Project Number: 2815

LIFHP-98_11-12_100118
V184001-19 (Soil)

Date Sampled
 10/01/2018 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		86.9 %		60-140	10/01/2018	10/01/2018 22:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	96.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_19-20_100118
V184001-20 (Soil)

Date Sampled
 10/01/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	
Trichloroethene	460000	19000	ug/kg dry	400	10/01/2018	10/02/2018 12:08	EPA 8260B	D
cis-1,2-Dichloroethene	800000	19000	ug/kg dry	400	10/01/2018	10/02/2018 12:08	EPA 8260B	D
trans-1,2-Dichloroethene	58	49	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	
Vinyl chloride	110	49	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 121 % 60-140 10/01/2018 10/01/2018 22:21 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	83.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_23.5-24.5_100118
V184001-21 (Soil)

Date Sampled
 10/01/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
Trichloroethene	2900000	20000	ug/kg dry	400	10/01/2018	10/02/2018 11:53	EPA 8260B	D
cis-1,2-Dichloroethene	690000	20000	ug/kg dry	400	10/01/2018	10/02/2018 11:53	EPA 8260B	D
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 22:36</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	80.8	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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 Project Number: 2815

LIFHP-98_26-27_100118

V184001-22 (Soil)

Date Sampled
 10/01/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
Trichloroethene	340	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
cis-1,2-Dichloroethene	150	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 22:50</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	81.4	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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 Project Number: 2815

LIFHP-102_1-2_100118
V184001-23 (Soil)

Date Sampled
 10/01/2018 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.8 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 23:05</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	97.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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Project Number: 2815

LIFHP-102_3-4_100118
V184001-24 (Soil)

Date Sampled
10/01/2018 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.5 %		60-140	10/01/2018	10/01/2018 23:20	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	91.5	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_4-5_100118
V184001-25 (Soil)

Date Sampled
 10/01/2018 17:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/01/2018	10/01/2018 23:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	92.3	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_6-7_100118
V184001-26 (Soil)

Date Sampled
 10/01/2018 17:08

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/01/2018	10/01/2018 23:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	96.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_7-8_100118
V184001-27 (Soil)

Date Sampled
 10/01/2018 17:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/02/2018 00:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	89.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_15-16_100118
V184001-28 (Soil)

Date Sampled
 10/01/2018 17:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
cis-1,2-Dichloroethene	5300	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
trans-1,2-Dichloroethene	140	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
Vinyl chloride	490	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/02/2018 00:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	84.5	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_22-23_100118
V184001-29 (Soil)

Date Sampled
 10/01/2018 17:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
cis-1,2-Dichloroethene	710	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
Vinyl chloride	1400	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/02/2018 00:33</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	79.8	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-99_25-29_100118

V184002-01 (Water)

Date Sampled
 10/01/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
Trichloroethene	ND	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
cis-1,2-Dichloroethene	75	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	D
trans-1,2-Dichloroethene	ND	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
Vinyl chloride	300	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	D
1,4-Dioxane	ND	80	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 15:04</i>	<i>EPA 8260B</i>	



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LIFHP-99_20-24_100118

V184002-02 (Water)

Date Sampled
 10/01/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
cis-1,2-Dichloroethene	340	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
Vinyl chloride	11000	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 14:20</i>	<i>EPA 8260B</i>	



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LIFHP-99_15-19_100118

V184002-03 (Water)

Date Sampled
 10/01/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
cis-1,2-Dichloroethene	8100	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
Vinyl chloride	18000	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %		60-140	10/01/2018	10/01/2018 13:51	EPA 8260B	



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LIFHP-103_11-15_100118

V184002-04 (Water)

Date Sampled
 10/01/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
cis-1,2-Dichloroethene	1.8	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
Vinyl chloride	19	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/01/2018	10/01/2018 16:31	EPA 8260B	



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LIFHP-103_16-20_100118

V184002-05 (Water)

Date Sampled
 10/01/2018 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
cis-1,2-Dichloroethene	1.5	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
Vinyl chloride	45	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		60-140	10/01/2018	10/02/2018 09:36	EPA 8260B	



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LIFHP-103_21-26_100118

V184002-06 (Water)

Date Sampled
 10/01/2018 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
cis-1,2-Dichloroethene	1.4	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
Vinyl chloride	52	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
1,4-Dioxane	4.2	2.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/01/2018	10/01/2018 18:42	EPA 8260B	



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LIFHP-98_25-29_100118
V184002-07 (Water)

Date Sampled
 10/01/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	
Trichloroethene	700	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	D
cis-1,2-Dichloroethene	3400	100	ug/L	100	10/01/2018	10/02/2018 10:05	EPA 8260B	D
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	
1,1-Dichloroethene	ND	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	
Vinyl chloride	55	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	D
1,4-Dioxane	510	40	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 17:59</i>	<i>EPA 8260B</i>	



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LIFHP-98_20-24_100118

V184002-08 (Water)

Date Sampled
 10/01/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	20	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	
Trichloroethene	90000	2000	ug/L	2000	10/01/2018	10/02/2018 09:50	EPA 8260B	D
cis-1,2-Dichloroethene	75000	2000	ug/L	2000	10/01/2018	10/02/2018 09:50	EPA 8260B	D
trans-1,2-Dichloroethene	170	20	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	D
1,1-Dichloroethene	120	20	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	D
Vinyl chloride	1400	20	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	D
1,4-Dioxane	570	40	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	D

Surrogate: 4-Bromofluorobenzene 107 % 60-140 10/01/2018 10/01/2018 18:13 EPA 8260B



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LIFHP-98_15-19_100118
V184002-09 (Water)

Date Sampled
 10/01/2018 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	20	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	
Trichloroethene	4200	100	ug/L	100	10/01/2018	10/01/2018 17:00	EPA 8260B	D
cis-1,2-Dichloroethene	4300	100	ug/L	100	10/01/2018	10/01/2018 17:00	EPA 8260B	D
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	
1,1-Dichloroethene	ND	20	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	
Vinyl chloride	160	20	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	D
1,4-Dioxane	48	40	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/01/2018	10/02/2018 00:47	EPA 8260B	



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LIFHP-102_10-14_100118

V184003-01 (Water)

Date Sampled
 10/01/2018 18:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
cis-1,2-Dichloroethene	1800	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
Vinyl chloride	3700	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 10:25</i>	<i>EPA 8260B</i>	



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LIFHP-102_15-19_100118
V184003-02 (Water)

Date Sampled
 10/01/2018 18:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	
cis-1,2-Dichloroethene	11000	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	D
trans-1,2-Dichloroethene	220	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	
Vinyl chloride	7000	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 12:22</i>	<i>EPA 8260B</i>	



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LIFHP-102_20-24_100118

V184003-03 (Water)

Date Sampled
 10/01/2018 17:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
cis-1,2-Dichloroethene	9700	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
Vinyl chloride	6100	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 10:40</i>	<i>EPA 8260B</i>	



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LIFHP-101_11-15_100218

V184004-01 (Water)

Date Sampled
 10/02/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 15:08	EPA 8260B	
Trichloroethene	20	1.0	ug/L	1	10/02/2018	10/02/2018 15:08	EPA 8260B	
cis-1,2-Dichloroethene	20	1.0	ug/L	1	10/02/2018	10/02/2018 15:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 15:08	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 15:08	EPA 8260B	
Vinyl chloride	4.0	1.0	ug/L	1	10/02/2018	10/02/2018 15:08	EPA 8260B	
1,4-Dioxane	2.3	2.0	ug/L	1	10/02/2018	10/02/2018 15:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 15:08</i>	<i>EPA 8260B</i>	



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DUP-13_100218

Date Sampled

V184004-02 (Water)

10/02/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
Trichloroethene	15	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
cis-1,2-Dichloroethene	17	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
Vinyl chloride	3.9	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
1,4-Dioxane	2.2	2.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 12:51</i>	<i>EPA 8260B</i>	



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SB-106_25-29_100218

V184004-03 (Water)

Date Sampled
 10/02/2018 15:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
Trichloroethene	2.3	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
cis-1,2-Dichloroethene	2.2	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
Vinyl chloride	16	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
1,4-Dioxane	42	2.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 17:40</i>	<i>EPA 8260B</i>	



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SB-106_20-24_100218

V184004-04 (Water)

Date Sampled
 10/02/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
cis-1,2-Dichloroethene	1.1	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
Vinyl chloride	42	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
1,4-Dioxane	33	2.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 17:56</i>	<i>EPA 8260B</i>	



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V184004-05 (Water)

Date Sampled
 10/02/2018 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
Trichloroethene	1.3	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
cis-1,2-Dichloroethene	1.8	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
Vinyl chloride	1200	40	ug/L	40	10/02/2018	10/02/2018 18:25	EPA 8260B	D
1,4-Dioxane	12	2.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 17:25</i>	<i>EPA 8260B</i>	



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LIFHP-101_1-2_100218
V184005-01 (Soil)

Date Sampled
 10/02/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	10/02/2018	10/02/2018 13:06	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	93.5	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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LIFHP-101_2-3_100218
V184005-02 (Soil)

Date Sampled
 10/02/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/02/2018	10/02/2018 13:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	92.4	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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LIFHP-101_3-4_100218
V184005-03 (Soil)

Date Sampled
 10/02/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	10/02/2018	10/02/2018 13:35	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	92.1	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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 Project Number: 2815

LIFHP-101_4-5_100218
V184005-04 (Soil)

Date Sampled
 10/02/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	10/02/2018	10/02/2018 13:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	92.3	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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 Project Number: 2815

LIFHP-101_5-6_100218
V184005-05 (Soil)

Date Sampled
 10/02/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	10/02/2018	10/02/2018 14:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	91.4	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_1-2_100218

V184005-06 (Soil)

Date Sampled
 10/02/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 18:40</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	97.0	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_3-4_100218

V184005-07 (Soil)

Date Sampled
 10/02/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 18:54</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	96.6	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_6-7_100218

V184005-08 (Soil)

Date Sampled
 10/02/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.7 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 19:09</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	93.0	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_10-11_100218

Date Sampled
 10/02/2018 14:35

V184005-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		93.2 %		60-140	10/02/2018	10/02/2018 19:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	86.0	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_11-12_100218

V184005-10 (Soil)

Date Sampled
 10/02/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %		60-140	10/02/2018	10/02/2018 19:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	84.3	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_19-20_100218

V184005-11 (Soil)

Date Sampled
 10/02/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
Trichloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
Vinyl chloride	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
1,4-Dioxane	ND	210	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 19:53</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	80.0	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_26-27_100218

V184005-12 (Soil)

Date Sampled
 10/02/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/02/2018	10/02/2018 20:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	82.6	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-107_1-2_100318

V184006-01 (Soil)

Date Sampled
 10/03/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/03/2018</i>	<i>10/03/2018 14:10</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	94.8	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_5-6_100318

V184006-02 (Soil)

Date Sampled
 10/03/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		107 %		60-140	10/03/2018	10/03/2018 14:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	93.6	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_7-8_100318

V184006-03 (Soil)

Date Sampled
 10/03/2018 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	55	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
cis-1,2-Dichloroethene	320	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		92.9 %		60-140	10/03/2018	10/03/2018 14:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	93.7	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_9-10_100318
V184006-04 (Soil)

Date Sampled
 10/03/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	830	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
Trichloroethene	140	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	23000	470	ug/kg dry	10	10/03/2018	10/03/2018 15:42	EPA 8260B	D
trans-1,2-Dichloroethene	930	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
1,1-Dichloroethene	1400	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
Vinyl chloride	470	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 72.7 % 60-140 10/03/2018 10/03/2018 14:54 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	94.0	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_11-12_100318

V184006-05 (Soil)

Date Sampled
 10/03/2018 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>125 %</i>		<i>60-140</i>	<i>10/03/2018</i>	<i>10/03/2018 15:09</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	84.3	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_19-20_100318

V184006-06 (Soil)

Date Sampled
 10/03/2018 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>125 %</i>		<i>60-140</i>	<i>10/03/2018</i>	<i>10/03/2018 15:23</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	86.8	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_25-29_100318

V184007-01 (Water)

Date Sampled
 10/03/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810009

Tetrachloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
1,4-Dioxane	7.4	2.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/03/2018	10/03/2018 17:42	EPA 8260B	



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SB-107_20-24_100318

V184007-02 (Water)

Date Sampled
 10/03/2018 15:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810009

Tetrachloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
Vinyl chloride	17	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
1,4-Dioxane	20	2.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/03/2018	10/03/2018 17:28	EPA 8260B	



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SB-107_15-19_100318

V184007-03 (Water)

Date Sampled
 10/03/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810009

Tetrachloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
cis-1,2-Dichloroethene	3.3	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
Vinyl chloride	6.2	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
1,4-Dioxane	7.3	2.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/03/2018	10/03/2018 17:13	EPA 8260B	



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SB-108_1-2_100418

V184008-01 (Soil)

Date Sampled
 10/04/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 14:04</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	91.6	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_5-6_100418

V184008-02 (Soil)

Date Sampled
 10/04/2018 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	M, X
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 14:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	88.4	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_7-8_100418

Date Sampled
 10/04/2018 11:50

V184008-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/04/2018	10/04/2018 14:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	88.9	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_9-10_100418

Date Sampled

V184008-04 (Soil)

10/04/2018 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		83.5 %		60-140	10/04/2018	10/04/2018 14:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	97.6	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_11-12_100418

V184008-05 (Soil)

Date Sampled
 10/04/2018 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.3 %		60-140	10/04/2018	10/04/2018 15:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	95.9	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_19-20_100418

V184008-06 (Soil)

Date Sampled
 10/04/2018 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
Trichloroethene	43000	480	ug/kg dry	10	10/04/2018	10/04/2018 17:44	EPA 8260B	D
cis-1,2-Dichloroethene	6700	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
Vinyl chloride	260	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 15:48</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	86.0	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_23.5-24.5_100418

V184008-07 (Soil)

Date Sampled
 10/04/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	53	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	
Trichloroethene	110000	1300	ug/kg dry	25	10/04/2018	10/04/2018 18:14	EPA 8260B	D
cis-1,2-Dichloroethene	13000	1300	ug/kg dry	25	10/04/2018	10/04/2018 18:14	EPA 8260B	D
trans-1,2-Dichloroethene	160	53	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	
Vinyl chloride	150	53	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>	<i>60-140</i>		<i>10/04/2018</i>	<i>10/04/2018 16:31</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	78.2	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_25-26_100418

V184008-08 (Soil)

Date Sampled
 10/04/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
Trichloroethene	660	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
cis-1,2-Dichloroethene	13000	460	ug/kg dry	10	10/04/2018	10/04/2018 18:28	EPA 8260B	D
trans-1,2-Dichloroethene	440	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
Vinyl chloride	150	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 16:46</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	79.3	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_28-29_100418

V184008-09 (Soil)

Date Sampled
 10/04/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/04/2018	10/04/2018 17:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	81.1	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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DUP-14_1001418
V184008-10 (Soil)

Date Sampled
 10/04/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
Trichloroethene	60000	1300	ug/kg dry	25	10/04/2018	10/04/2018 18:43	EPA 8260B	D
cis-1,2-Dichloroethene	4500	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
Vinyl chloride	120	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 17:15</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	84.5	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_25-29_100418

V184009-01 (Water)

Date Sampled
 10/04/2018 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810012

Tetrachloroethene	ND	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	
Trichloroethene	33000	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	D
cis-1,2-Dichloroethene	34000	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	D
trans-1,2-Dichloroethene	1200	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	D
1,1-Dichloroethene	ND	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	
Vinyl chloride	430	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	D
1,4-Dioxane	ND	400	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 17:59</i>	<i>EPA 8260B</i>	



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SB-108_20-24_100418

V184009-02 (Water)

Date Sampled
 10/04/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810012

Tetrachloroethene	ND	100	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	
Trichloroethene	330000	2000	ug/L	2000	10/04/2018	10/04/2018 16:17	EPA 8260B	D
cis-1,2-Dichloroethene	83000	2000	ug/L	2000	10/04/2018	10/04/2018 16:17	EPA 8260B	D
trans-1,2-Dichloroethene	320	100	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	D
1,1-Dichloroethene	250	100	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	D
Vinyl chloride	3500	100	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 124 % 60-140 10/04/2018 10/04/2018 15:33 EPA 8260B



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SB-108_15-19_100418

V184009-03 (Water)

Date Sampled
 10/04/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810012

Tetrachloroethene	ND	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	
Trichloroethene	14000	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	D
cis-1,2-Dichloroethene	4300	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	
Vinyl chloride	280	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 15:04</i>	<i>EPA 8260B</i>	



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SB-109_1-2_100518

V184010-01 (Soil)

Date Sampled
 10/05/2018 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	X
Trichloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 12:54</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	91.2	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_5-6_100518

Date Sampled

V184010-02 (Soil)

10/05/2018 08:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.4 %		60-140	10/05/2018	10/05/2018 10:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	90.3	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_7-8_100518

Date Sampled

V184010-03 (Soil)

10/05/2018 08:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.0 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 12:40</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	90.8	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_9-10_100518
V184010-04 (Soil)

Date Sampled
 10/05/2018 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
trans-1,2-Dichloroethene	250	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
Vinyl chloride	2300	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.0 %		60-140	10/05/2018	10/05/2018 12:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	96.1	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_11-12_100518

Date Sampled

V184010-05 (Soil)

10/05/2018 08:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/05/2018	10/05/2018 12:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	88.8	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_19-20_100518

V184010-06 (Soil)

Date Sampled
 10/05/2018 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	49	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
Trichloroethene	65000	490	ug/kg dry	10	10/05/2018	10/05/2018 14:36	EPA 8260B	D
cis-1,2-Dichloroethene	14000	490	ug/kg dry	10	10/05/2018	10/05/2018 14:36	EPA 8260B	D
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
Vinyl chloride	160	49	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 11:56</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	83.9	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_23.5-24.5_100518

V184010-07 (Soil)

Date Sampled
 10/05/2018 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	
Trichloroethene	170000	2300	ug/kg dry	50	10/05/2018	10/05/2018 14:22	EPA 8260B	D
cis-1,2-Dichloroethene	18000	2300	ug/kg dry	50	10/05/2018	10/05/2018 14:22	EPA 8260B	D
trans-1,2-Dichloroethene	520	46	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	
Vinyl chloride	190	46	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 104 % 60-140 10/05/2018 10/05/2018 10:43 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	80.5	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_26-27_100518

V184010-08 (Soil)

Date Sampled
 10/05/2018 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
Trichloroethene	150	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 11:41</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	81.4	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_29-30_100518

V184010-09 (Soil)

Date Sampled
 10/05/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/05/2018	10/05/2018 13:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	78.5	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_25-29_100518

V184011-01 (Water)

Date Sampled
 10/05/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810015

Tetrachloroethene	ND	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	
Trichloroethene	2000	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	D
cis-1,2-Dichloroethene	1100	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	M, D
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	
1,1-Dichloroethene	ND	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	
Vinyl chloride	90	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	D
1,4-Dioxane	65	40	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	D

Surrogate: 4-Bromofluorobenzene 104 % 60-140 10/05/2018 10/05/2018 13:23 EPA 8260B



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 Project Number: 2815

SB-109_20-24_100518

V184011-02 (Water)

Date Sampled
 10/05/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810015

Tetrachloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	
Trichloroethene	420000	4000	ug/L	4000	10/05/2018	10/05/2018 13:52	EPA 8260B	D
cis-1,2-Dichloroethene	88000	4000	ug/L	4000	10/05/2018	10/05/2018 13:52	EPA 8260B	D
trans-1,2-Dichloroethene	480	200	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	D
1,1-Dichloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	
Vinyl chloride	3200	200	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	D
1,4-Dioxane	ND	400	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 10:57</i>	<i>EPA 8260B</i>	



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SB-109_15-19_100518

Date Sampled
 10/05/2018 10:15

V184011-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810015

Tetrachloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	
Trichloroethene	110000	2000	ug/L	2000	10/05/2018	10/05/2018 14:07	EPA 8260B	D
cis-1,2-Dichloroethene	22000	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	D
trans-1,2-Dichloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	
1,1-Dichloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	
Vinyl chloride	1600	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	D
1,4-Dioxane	ND	400	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 11:27</i>	<i>EPA 8260B</i>	



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DUP-15_100518

Date Sampled

V184011-04 (Water)

10/05/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810015

Tetrachloroethene	ND	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	
Trichloroethene	1600	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	D
cis-1,2-Dichloroethene	850	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	D
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	
1,1-Dichloroethene	ND	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	
Vinyl chloride	79	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	D
1,4-Dioxane	55	40	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	D

Surrogate: 4-Bromofluorobenzene 104 % 60-140 10/05/2018 10/08/2018 14:29 EPA 8260B



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LIFHP-108_1-2_100818

V184101-01 (Soil)

Date Sampled
 10/08/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.3 %		60-140	10/08/2018	10/08/2018 15:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	92.6	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_3-4_100818
V184101-02 (Soil)

Date Sampled
10/08/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
Trichloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
1,1-Dichloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
Vinyl chloride	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
1,4-Dioxane	150	75	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		118 %		60-140	10/08/2018	10/08/2018 16:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	86.5	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_5-6_100818
V184101-03 (Soil)

Date Sampled
 10/08/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %		60-140	10/08/2018	10/08/2018 16:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	94.7	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_7-8_100818
V184101-04 (Soil)

Date Sampled
 10/08/2018 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/08/2018	10/08/2018 19:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	95.0	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_9-10_100818

V184101-05 (Soil)

Date Sampled
 10/08/2018 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.9 %</i>		<i>60-140</i>	<i>10/08/2018</i>	<i>10/08/2018 16:46</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	88.5	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_26-27_100818

V184101-06 (Soil)

Date Sampled
 10/08/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.7 %		60-140	10/08/2018	10/08/2018 17:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	80.9	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_29-30_100818
V184101-07 (Soil)

Date Sampled
 10/08/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/08/2018	10/08/2018 17:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	82.9	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_21-25_100818

V184102-01 (Water)

Date Sampled
 10/08/2018 16:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810018

Tetrachloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
Vinyl chloride	2.0	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
1,4-Dioxane	2.3	2.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.3 %		60-140	10/08/2018	10/08/2018 19:08	EPA 8260B	



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LIFHP-108_16-20_100818
V184102-02 (Water)

Date Sampled
 10/08/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810018

Tetrachloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
Vinyl chloride	23	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
1,4-Dioxane	4.1	2.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.7 %		60-140	10/08/2018	10/08/2018 18:54	EPA 8260B	



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LIFHP-108_10-14_100818
V184102-03 (Water)

Date Sampled
 10/08/2018 17:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810018

Tetrachloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
1,4-Dioxane	4.1	2.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/08/2018	10/08/2018 18:39	EPA 8260B	



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 Project Number: 2815

LIFHP-109_23-27_100918

V184103-01 (Water)

Date Sampled
 10/09/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	10/09/2018	10/09/2018 13:39	EPA 8260B	



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LIFHP-109_18-22_100918

V184103-02 (Water)

Date Sampled
 10/09/2018 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
Vinyl chloride	1.3	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	10/09/2018	10/09/2018 13:24	EPA 8260B	



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LIFHP-109_13-17_100918

V184103-03 (Water)

Date Sampled
 10/09/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
Vinyl chloride	5.3	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
1,4-Dioxane	3.0	2.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/09/2018	10/09/2018 13:10	EPA 8260B	



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LIFHP-111A_20-24_100918

V184103-04 (Water)

Date Sampled
 10/09/2018 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	10/09/2018	10/09/2018 17:03	EPA 8260B	



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LIFHP-111A_15-19_100918

V184103-05 (Water)

Date Sampled
 10/09/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
Vinyl chloride	4.4	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
1,4-Dioxane	4.9	2.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/09/2018	10/09/2018 17:18	EPA 8260B	



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LIFHP-111A_8-12_100918
V184103-06 (Water)

Date Sampled
 10/09/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	430	10	ug/L	10	10/09/2018	10/10/2018 09:50	EPA 8260B	D
Trichloroethene	130	1.0	ug/L	1	10/09/2018	10/09/2018 17:32	EPA 8260B	
cis-1,2-Dichloroethene	670	10	ug/L	10	10/09/2018	10/10/2018 09:50	EPA 8260B	D
trans-1,2-Dichloroethene	1.7	1.0	ug/L	1	10/09/2018	10/09/2018 17:32	EPA 8260B	
1,1-Dichloroethene	1.3	1.0	ug/L	1	10/09/2018	10/09/2018 17:32	EPA 8260B	
Vinyl chloride	310	10	ug/L	10	10/09/2018	10/10/2018 09:50	EPA 8260B	D
1,4-Dioxane	2.7	2.0	ug/L	1	10/09/2018	10/09/2018 17:32	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 103 % 60-140 10/09/2018 10/09/2018 17:32 EPA 8260B



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LIFHP-109_1-2_100918
V184104-01 (Soil)

Date Sampled
 10/09/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/09/2018	10/09/2018 14:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	94.2	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-109_2-3_100918
V184104-02 (Soil)

Date Sampled
 10/09/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	80	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
cis-1,2-Dichloroethene	82	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.0 %		60-140	10/09/2018	10/09/2018 15:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	91.8	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-109_3-4_100918
V184104-03 (Soil)

Date Sampled
 10/09/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		123 %		60-140	10/09/2018	10/09/2018 14:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	90.4	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-109_7-8_100918
V184104-04 (Soil)

Date Sampled
 10/09/2018 11:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	2.3	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
Trichloroethene	ND	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
cis-1,2-Dichloroethene	16	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
1,1-Dichloroethene	ND	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
Vinyl chloride	2.5	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
1,4-Dioxane	ND	2.3	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/09/2018</i>	<i>10/09/2018 14:39</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	87.6	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-109_9-10_100918

V184104-05 (Soil)

Date Sampled
 10/09/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/09/2018	10/09/2018 14:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	90.1	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-109_21-22_100918
V184104-06 (Soil)

Date Sampled
 10/09/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	49	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
cis-1,2-Dichloroethene	6700	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
Vinyl chloride	290	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 102 % 60-140 10/09/2018 10/09/2018 15:09 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	82.5	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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 Project Number: 2815

Dup-16_100918
V184104-07 (Soil)

Date Sampled
 10/09/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/09/2018</i>	<i>10/09/2018 15:23</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	81.2	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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 Project Number: 2815

LIFHP-111A_1-2_100918

V184104-08 (Soil)

Date Sampled
 10/09/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/09/2018	10/09/2018 18:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	93.4	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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 Project Number: 2815

LIFHP-111A_3-4_100918

V184104-09 (Soil)

Date Sampled
 10/09/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/09/2018	10/09/2018 18:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	94.0	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-111A_4-5_100918
V184104-10 (Soil)

Date Sampled
 10/09/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/09/2018	10/09/2018 18:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	88.6	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-111A_5-6_100918

V184104-11 (Soil)

Date Sampled
 10/09/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/09/2018	10/09/2018 18:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	87.2	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-111A_7-8_100918

V184104-12 (Soil)

Date Sampled
 10/09/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
cis-1,2-Dichloroethene	2000	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
Vinyl chloride	260	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/09/2018</i>	<i>10/09/2018 19:00</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	83.5	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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Project Number: 2815

LIFHP-111A_26-27_100918

V184104-13 (Soil)

Date Sampled
10/09/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/09/2018	10/09/2018 19:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	80.6	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-107_1-2_100218
V184105-01 (Soil)

Date Sampled
 10/02/2018 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	M
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>10/10/2018</i>	<i>10/10/2018 11:43</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	97.3	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-107_3-4_100218
V184105-02 (Soil)

Date Sampled
 10/02/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
1,4-Dioxane	340	94	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.3 %		60-140	10/10/2018	10/10/2018 11:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	91.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-107_5-6_100218
V184105-03 (Soil)

Date Sampled
 10/02/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
1,4-Dioxane	1200	87	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.1 %		60-140	10/10/2018	10/10/2018 12:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	89.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-107_7-8_100218
V184105-04 (Soil)

Date Sampled
 10/02/2018 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
Vinyl chloride	44	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
1,4-Dioxane	270	87	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		60-140	10/10/2018	10/10/2018 12:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	98.0	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-107_9-10_100218

V184105-05 (Soil)

Date Sampled
 10/02/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %		60-140	10/10/2018	10/10/2018 12:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	85.3	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-107_21-22_100218
V184105-06 (Soil)

Date Sampled
 10/02/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		91.5 %		60-140	10/10/2018	10/10/2018 12:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	80.8	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-110_22-26_101018

V184106-01 (Water)

Date Sampled
 10/10/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
1,4-Dioxane	6.7	2.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/10/2018	10/10/2018 14:25	EPA 8260B	



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 Project Number: 2815

LIFHP-110_15-19_101018
V184106-02 (Water)

Date Sampled
 10/10/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
Vinyl chloride	3.3	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
1,4-Dioxane	4.2	2.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/10/2018	10/10/2018 14:10	EPA 8260B	



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LIFHP-110_8-12_101018

V184106-03 (Water)

Date Sampled
 10/10/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	2.0	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
cis-1,2-Dichloroethene	4.7	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
Vinyl chloride	9.7	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
1,4-Dioxane	2.1	2.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/10/2018	10/10/2018 13:56	EPA 8260B	



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 Project Number: 2815

LIFHP-114_18-22_101018

V184106-04 (Water)

Date Sampled
 10/10/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
Vinyl chloride	35	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
1,4-Dioxane	16	2.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/10/2018	10/10/2018 17:35	EPA 8260B	



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LIFHP-114_13-17_101018

V184106-05 (Water)

Date Sampled
 10/10/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
Vinyl chloride	1.6	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
1,4-Dioxane	7.1	2.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %		60-140	10/10/2018	10/10/2018 17:50	EPA 8260B	



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LIFHP-114_8-12_101018

V184106-06 (Water)

Date Sampled
 10/10/2018 15:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
Vinyl chloride	1.8	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
1,4-Dioxane	9.8	2.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/10/2018	10/10/2018 18:04	EPA 8260B	



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 Project Number: 2815

LIFHP-110_1-2_101018
V184107-01 (Soil)

Date Sampled
 10/10/2018 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	54000	720	ug/kg dry	10	10/10/2018	10/10/2018 16:36	EPA 8260B	D
Trichloroethene	260	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
cis-1,2-Dichloroethene	180	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
1,1-Dichloroethene	ND	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
Vinyl chloride	ND	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
1,4-Dioxane	ND	140	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.4 %		60-140	10/10/2018	10/10/2018 14:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	99.0	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-110_3-4_101018
V184107-02 (Soil)

Date Sampled
 10/10/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	1000000	12000	ug/kg dry	250	10/10/2018	10/10/2018 17:20	EPA 8260B	D
Trichloroethene	4900	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	3000	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.0 %		60-140	10/10/2018	10/10/2018 14:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	93.3	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_4-5_101018
V184107-03 (Soil)

Date Sampled
 10/10/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	8100	480	ug/kg dry	10	10/10/2018	10/10/2018 16:51	EPA 8260B	D
Trichloroethene	680	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
cis-1,2-Dichloroethene	4700	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
Vinyl chloride	55	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 101 % 60-140 10/10/2018 10/10/2018 15:09 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	91.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_5-6_101018
V184107-04 (Soil)

Date Sampled
 10/10/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	1700	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
Trichloroethene	130	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
cis-1,2-Dichloroethene	78000	2700	ug/kg dry	50	10/10/2018	10/10/2018 17:06	EPA 8260B	D
trans-1,2-Dichloroethene	480	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
1,1-Dichloroethene	81	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
Vinyl chloride	4500	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 99.9 % 60-140 10/10/2018 10/10/2018 15:23 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	83.7	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_6-7_101018
V184107-05 (Soil)

Date Sampled
 10/10/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	1500	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
Trichloroethene	74	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
cis-1,2-Dichloroethene	6500	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
trans-1,2-Dichloroethene	51	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
Vinyl chloride	61	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 99.2 % 60-140 10/10/2018 10/10/2018 15:38 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	88.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_26-27_101018

V184107-06 (Soil)

Date Sampled
 10/10/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/10/2018	10/10/2018 15:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	82.3	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-114_1-2_101018
V184107-07 (Soil)

Date Sampled
 10/10/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/10/2018	10/10/2018 18:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	94.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-114_2-3_101018
V184107-08 (Soil)

Date Sampled
 10/10/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.3 %		60-140	10/10/2018	10/10/2018 18:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	97.7	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-114_3-4_101018
V184107-09 (Soil)

Date Sampled
 10/10/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.6 %		60-140	10/10/2018	10/10/2018 18:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	96.7	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-114_4-5_101018
V184107-10 (Soil)

Date Sampled
 10/10/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/10/2018</i>	<i>10/10/2018 19:02</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	92.8	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-114_5-6_101018
V184107-11 (Soil)

Date Sampled
 10/10/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/10/2018	10/10/2018 19:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	94.0	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-114_26-27_101018

V184107-12 (Soil)

Date Sampled
 10/10/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/10/2018	10/10/2018 19:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	80.7	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-116_23-27_101118

V184108-01 (Water)

Date Sampled
 10/11/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
1,4-Dioxane	6.5	2.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/11/2018	10/11/2018 13:58	EPA 8260B	



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 Project Number: 2815

LIFHP-116_16-20_101118

V184108-02 (Water)

Date Sampled
 10/11/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
1,4-Dioxane	11	2.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/11/2018	10/11/2018 14:13	EPA 8260B	



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LIFHP-116_11-15_101118

V184108-03 (Water)

Date Sampled
 10/11/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
Vinyl chloride	2.5	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
1,4-Dioxane	8.8	2.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/11/2018	10/11/2018 13:43	EPA 8260B	



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LIFHP-113_18-22_101118

V184108-04 (Water)

Date Sampled
 10/11/2018 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
Vinyl chloride	3.7	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
1,4-Dioxane	8.4	2.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/11/2018	10/11/2018 19:35	EPA 8260B	



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LIFHP-113_13-17_101118

V184108-05 (Water)

Date Sampled
 10/11/2018 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
Vinyl chloride	2.0	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
1,4-Dioxane	4.8	2.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/11/2018	10/11/2018 19:50	EPA 8260B	



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LIFHP-113_8-12_101118

V184108-06 (Water)

Date Sampled
 10/11/2018 17:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
Vinyl chloride	2.7	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
1,4-Dioxane	2.0	2.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/11/2018	10/11/2018 20:04	EPA 8260B	



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 Project Number: 2815

LIFHP-116_1-2_101118
V184109-01 (Soil)

Date Sampled
 10/11/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.3 %		60-140	10/11/2018	10/11/2018 14:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	93.8	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-116_3-4_101118
V184109-02 (Soil)

Date Sampled
 10/11/2018 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.4 %		60-140	10/11/2018	10/11/2018 14:42	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	93.3	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-116_5-6_101118
V184109-03 (Soil)

Date Sampled
 10/11/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.4 %</i>		<i>60-140</i>	<i>10/11/2018</i>	<i>10/11/2018 14:56</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	90.9	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-116_7-8_101118
V184109-04 (Soil)

Date Sampled
 10/11/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		82.9 %		60-140	10/11/2018	10/11/2018 15:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	96.6	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-116_9-10_101118
V184109-05 (Soil)

Date Sampled
 10/11/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/11/2018	10/11/2018 15:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	93.1	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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 Project Number: 2815

LIFHP-116_23-24_101118
V184109-06 (Soil)

Date Sampled
 10/11/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.8 %		60-140	10/11/2018	10/11/2018 15:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	82.9	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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 Project Number: 2815

LIFHP-113_1-2_101118
V184109-07 (Soil)

Date Sampled
 10/11/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.9 %</i>		<i>60-140</i>	<i>10/11/2018</i>	<i>10/11/2018 17:38</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	88.9	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_2-3_101118
V184109-08 (Soil)

Date Sampled
 10/11/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>115 %</i>		<i>60-140</i>	<i>10/11/2018</i>	<i>10/11/2018 17:53</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	92.7	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_3-4_101118
V184109-09 (Soil)

Date Sampled
 10/11/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.3 %		60-140	10/11/2018	10/11/2018 18:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	90.6	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_4-5_101118
V184109-10 (Soil)

Date Sampled
 10/11/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.7 %		60-140	10/11/2018	10/11/2018 18:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	86.6	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_5-6_101118
V184109-11 (Soil)

Date Sampled
 10/11/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/11/2018</i>	<i>10/11/2018 18:37</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	91.5	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_21-22_101118

V184109-12 (Soil)

Date Sampled
 10/11/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.4 %		60-140	10/11/2018	10/11/2018 18:51	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	80.6	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_22-23_101118
V184109-13 (Soil)

Date Sampled
 10/11/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/11/2018	10/11/2018 19:06	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	83.8	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-115_24-28_101218

V184110-01 (Water)

Date Sampled
 10/12/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
Vinyl chloride	3.2	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
1,4-Dioxane	28	2.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/12/2018	10/12/2018 13:12	EPA 8260B	



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LIFHP-115_19-20_101218

V184110-02 (Water)

Date Sampled
 10/12/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
Vinyl chloride	2.4	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
1,4-Dioxane	26	2.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.4 %		60-140	10/12/2018	10/12/2018 15:52	EPA 8260B	



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 Project Number: 2815

LIFHP-115_14-18_101218

V184110-03 (Water)

Date Sampled
 10/12/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
1,4-Dioxane	3.0	2.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/12/2018	10/12/2018 13:26	EPA 8260B	



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 Project Number: 2815

DUP-18

V184110-04 (Water)

Date Sampled
 10/12/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
Vinyl chloride	2.6	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
1,4-Dioxane	21	2.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/12/2018	10/12/2018 13:41	EPA 8260B	



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LIFHP-118_21-25_101218
V184110-05 (Water)

Date Sampled
 10/12/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
1,4-Dioxane	36	2.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/12/2018	10/12/2018 17:20	EPA 8260B	



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LIFHP-118_16-20_101218

V184110-06 (Water)

Date Sampled
 10/12/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
1,4-Dioxane	55	2.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.1 %		60-140	10/12/2018	10/12/2018 17:35	EPA 8260B	



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LIFHP-118_11-15_101218

V184110-07 (Water)

Date Sampled
 10/12/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	M
1,4-Dioxane	31	2.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	10/12/2018	10/12/2018 17:49	EPA 8260B	



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 Project Number: 2815

DUP-19

V184110-08 (Water)

Date Sampled
 10/12/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
1,4-Dioxane	36	2.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %		60-140	10/12/2018	10/12/2018 18:04	EPA 8260B	



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LIFHP-115_1-2_101218
V184111-01 (Soil)

Date Sampled
 10/12/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
Trichloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
1,1-Dichloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
Vinyl chloride	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	10/12/2018	10/12/2018 13:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	89.0	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_4-5_101218
V184111-02 (Soil)

Date Sampled
 10/12/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
Trichloroethene	890	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
cis-1,2-Dichloroethene	360	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>76.9 %</i>		<i>60-140</i>	<i>10/12/2018</i>	<i>10/12/2018 14:10</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	87.6	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_6-7_101218
V184111-03 (Soil)

Date Sampled
10/12/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
Trichloroethene	3000	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	2200	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	87	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
1,1-Dichloroethene	440	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
Vinyl chloride	46	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 80.3 % 60-140 10/12/2018 10/12/2018 14:25 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	92.8	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_8-9_101218
V184111-04 (Soil)

Date Sampled
 10/12/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		89.0 %		60-140	10/12/2018	10/12/2018 14:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	88.4	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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 Project Number: 2815

LIFHP-115_10-11_101218
V184111-05 (Soil)

Date Sampled
 10/12/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.9 %		60-140	10/12/2018	10/12/2018 14:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	86.3	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_19-20_101218

V184111-06 (Soil)

Date Sampled
 10/12/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.5 %		60-140	10/12/2018	10/12/2018 15:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	83.1	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_22-23_101218

V184111-07 (Soil)

Date Sampled
 10/12/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		91.4 %		60-140	10/12/2018	10/12/2018 15:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	83.5	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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DUP-17
V184111-08 (Soil)

Date Sampled
10/12/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.3 %		60-140	10/12/2018	10/12/2018 15:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	83.4	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_1-2_101218
V184111-09 (Soil)

Date Sampled
 10/12/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		91.2 %		60-140	10/12/2018	10/12/2018 18:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	94.1	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_3-4_101218
V184111-10 (Soil)

Date Sampled
 10/12/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.8 %		60-140	10/12/2018	10/12/2018 18:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	94.4	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_5-6_101218

V184111-11 (Soil)

Date Sampled
 10/12/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		83.8 %		60-140	10/12/2018	10/12/2018 18:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	94.8	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_8-9_101218
V184111-12 (Soil)

Date Sampled
 10/12/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

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Tetrachloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		72.5 %		60-140	10/12/2018	10/12/2018 19:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	90.8	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_10-11_101218
V184111-13 (Soil)

Date Sampled
 10/12/2018 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

CN

Tetrachloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.2 %		60-140	10/12/2018	10/12/2018 19:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	92.2	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_25-26_101218

V184111-14 (Soil)

Date Sampled
 10/12/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %		60-140	10/12/2018	10/12/2018 19:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	81.5	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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DUP-20
V184111-15 (Soil)

Date Sampled
 10/12/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>116 %</i>		<i>60-140</i>	<i>10/12/2018</i>	<i>10/12/2018 19:46</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	92.3	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-122_21-25_101318

V184201-01 (Water)

Date Sampled
 10/13/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
Vinyl chloride	1.3	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
1,4-Dioxane	92	2.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	M
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/14/2018	10/14/2018 10:08	EPA 8260B	



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LIFHP-122_16-20_101318

V184201-02 (Water)

Date Sampled
 10/13/2018 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
1,4-Dioxane	110	2.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.3 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 10:23</i>	<i>EPA 8260B</i>	



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LIFHP-122_11-15_101318

V184201-03 (Water)

Date Sampled
 10/13/2018 17:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
1,4-Dioxane	53	2.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %		60-140	10/14/2018	10/14/2018 10:37	EPA 8260B	



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LIFHP-121_22-26_101318

V184201-04 (Water)

Date Sampled
 10/13/2018 17:22

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
Vinyl chloride	1.1	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
1,4-Dioxane	100	2.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.4 %		60-140	10/14/2018	10/14/2018 10:52	EPA 8260B	



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LIFHP-121_16-20_101318
V184201-05 (Water)

Date Sampled
 10/13/2018 17:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
Vinyl chloride	2.9	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
1,4-Dioxane	91	2.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/14/2018	10/14/2018 11:06	EPA 8260B	



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LIFHP-121_11-15_101318

V184201-06 (Water)

Date Sampled
 10/13/2018 18:16

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
Vinyl chloride	1.3	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
1,4-Dioxane	49	2.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %		60-140	10/14/2018	10/14/2018 11:21	EPA 8260B	



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LIFHP-117B_22-26_101318
V184201-07 (Water)

Date Sampled
 10/13/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
1,4-Dioxane	29	2.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/14/2018	10/14/2018 11:35	EPA 8260B	



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LIFHP-117B_17-21_101318
V184201-08 (Water)

Date Sampled
 10/13/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
1,4-Dioxane	31	2.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/14/2018	10/14/2018 11:50	EPA 8260B	



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LIFHP-117B_12-16_101318
V184201-09 (Water)

Date Sampled
 10/13/2018 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
1,4-Dioxane	2.6	2.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.8 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 12:05</i>	<i>EPA 8260B</i>	



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LIFHP-117B_1-2_101318

V184202-01 (Soil)

Date Sampled
 10/13/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/14/2018	10/14/2018 13:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	90.1	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-117B_3-4_101318
V184202-02 (Soil)

Date Sampled
 10/13/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.0 %		60-140	10/14/2018	10/14/2018 13:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.2	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-117B_6-7_101318
V184202-03 (Soil)

Date Sampled
 10/13/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.8 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 14:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	87.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-117B_9-10_101318
V184202-04 (Soil)

Date Sampled
 10/13/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		77.8 %		60-140	10/14/2018	10/14/2018 14:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	89.9	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-117B_10-11_101318

V184202-05 (Soil)

Date Sampled
 10/13/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %		60-140	10/14/2018	10/14/2018 14:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	84.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-117B_29-30_101318

V184202-06 (Soil)

Date Sampled
 10/13/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %		60-140	10/14/2018	10/14/2018 14:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	81.2	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_1-2_101318
V184202-07 (Soil)

Date Sampled
 10/13/2018 14:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.6 %		60-140	10/14/2018	10/14/2018 14:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.2	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-122_3-4_101318
V184202-08 (Soil)

Date Sampled
 10/13/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.0 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 15:14</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	95.1	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-122_6-7_101318
V184202-09 (Soil)

Date Sampled
 10/13/2018 14:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.0 %		60-140	10/14/2018	10/14/2018 15:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.2	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_9-10_101318

V184202-10 (Soil)

Date Sampled
 10/13/2018 14:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.3 %		60-140	10/14/2018	10/14/2018 15:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	93.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_8-9_101318
V184202-11 (Soil)

Date Sampled
 10/13/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/14/2018	10/14/2018 15:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_25-26_101318
V184202-12 (Soil)

Date Sampled
 10/13/2018 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/14/2018	10/14/2018 16:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	80.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_1-2_101318
V184202-13 (Soil)

Date Sampled
 10/13/2018 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.1 %		60-140	10/14/2018	10/14/2018 16:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	96.0	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_2-3_101318
V184202-14 (Soil)

Date Sampled
 10/13/2018 16:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	10/14/2018	10/14/2018 17:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	96.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_4-5_101318
V184202-15 (Soil)

Date Sampled
 10/13/2018 16:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
Trichloroethene	64	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
cis-1,2-Dichloroethene	71	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
1,1-Dichloroethene	63	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>	<i>60-140</i>		<i>10/14/2018</i>	<i>10/14/2018 17:25</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	95.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_8-9_101318
V184202-16 (Soil)

Date Sampled
 10/13/2018 16:56

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/14/2018	10/14/2018 17:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	93.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_9-10_101318

V184202-17 (Soil)

Date Sampled
 10/13/2018 16:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.4 %		60-140	10/14/2018	10/14/2018 17:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	86.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_23-24_101318
V184202-18 (Soil)

Date Sampled
 10/13/2018 17:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/14/2018	10/14/2018 18:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	83.4	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-123_22-26_101418

V184203-01 (Water)

Date Sampled
 10/14/2018 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
Vinyl chloride	1.1	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
1,4-Dioxane	24	2.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.0 %		60-140	10/14/2018	10/14/2018 18:52	EPA 8260B	



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LIFHP-123_16-20_101418
V184203-02 (Water)

Date Sampled
 10/14/2018 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
1,4-Dioxane	67	2.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	10/14/2018	10/14/2018 19:07	EPA 8260B	



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LIFHP-123_10-14_101418
V184203-03 (Water)

Date Sampled
 10/14/2018 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
1,4-Dioxane	47	2.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.4 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 19:22</i>	<i>EPA 8260B</i>	



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DUP-21_101418

Date Sampled

V184203-04 (Water)

10/14/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
1,4-Dioxane	45	2.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 19:36</i>	<i>EPA 8260B</i>	



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LIFHP-124_21-25_101418

V184203-05 (Water)

Date Sampled
 10/14/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
1,4-Dioxane	79	2.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/14/2018	10/14/2018 19:51	EPA 8260B	



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LIFHP-124_16-20_101418

V184203-06 (Water)

Date Sampled
 10/14/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
1,4-Dioxane	68	2.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.4 %		60-140	10/14/2018	10/14/2018 20:05	EPA 8260B	



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LIFHP-124_11-15_101418

V184203-07 (Water)

Date Sampled
 10/14/2018 16:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
1,4-Dioxane	60	2.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.5 %		60-140	10/14/2018	10/14/2018 20:20	EPA 8260B	



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LIFHP-123_1-2_101418
V184204-01 (Soil)

Date Sampled
 10/14/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/14/2018	10/14/2018 21:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.7	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-123_3-4_101418
V184204-02 (Soil)

Date Sampled
 10/14/2018 11:12

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %		60-140	10/14/2018	10/14/2018 21:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.1	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-123_4-5_101418
V184204-03 (Soil)

Date Sampled
 10/14/2018 11:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/14/2018	10/14/2018 21:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	93.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-123_5-6_101418
V184204-04 (Soil)

Date Sampled
 10/14/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.8 %		60-140	10/14/2018	10/14/2018 21:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	95.3	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-123_7-8_101418
V184204-05 (Soil)

Date Sampled
 10/14/2018 11:42

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.4 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 22:02</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	88.7	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-123_22-23_101418
V184204-06 (Soil)

Date Sampled
 10/14/2018 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.8 %		60-140	10/14/2018	10/14/2018 22:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	77.4	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-123_25-26_101418
V184204-07 (Soil)

Date Sampled
 10/14/2018 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/14/2018	10/14/2018 22:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	80.3	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-124_1-2_101418
V184204-08 (Soil)

Date Sampled
 10/14/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.1 %		60-140	10/14/2018	10/14/2018 22:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	95.4	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-124_3-4_101418
V184204-09 (Soil)

Date Sampled
 10/14/2018 14:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
Trichloroethene	81	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 23:00</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	93.1	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-124_6-7_101418
V184204-10 (Soil)

Date Sampled
 10/14/2018 14:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.9 %		60-140	10/14/2018	10/14/2018 23:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.7	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-124_8-9_101418
V184204-11 (Soil)

Date Sampled
10/14/2018 14:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
Trichloroethene	620	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.0 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 23:30</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	91.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-124_9-10_101418

V184204-12 (Soil)

Date Sampled
 10/14/2018 14:38

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.3 %		60-140	10/14/2018	10/14/2018 23:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	88.3	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-124_24-25_101418
V184204-13 (Soil)

Date Sampled
 10/14/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.4 %		60-140	10/14/2018	10/14/2018 23:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	80.4	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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SB-110_8-12_101618

V184205-01 (Water)

Date Sampled
 10/16/2018 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
Vinyl chloride	2.4	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/16/2018	10/16/2018 12:37	EPA 8260B	



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LIFHP-119_10-14_101618
V184205-02 (Water)

Date Sampled
 10/16/2018 13:12

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
Vinyl chloride	7.4	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/16/2018	10/16/2018 16:09	EPA 8260B	



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 Project Number: 2815

LIFHP-119_15-19_101618

V184205-03 (Water)

Date Sampled
 10/16/2018 12:57

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
Vinyl chloride	44	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.6 %</i>		<i>60-140</i>	<i>10/16/2018</i>	<i>10/16/2018 16:24</i>	<i>EPA 8260B</i>	



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SB-111_8-12_101618

V184205-04 (Water)

Date Sampled
 10/16/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
cis-1,2-Dichloroethene	1.4	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
Vinyl chloride	1.1	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/16/2018	10/16/2018 18:51	EPA 8260B	



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 Project Number: 2815

SB-113_8-12_101618

V184205-05 (Water)

Date Sampled
 10/16/2018 16:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.0 %		60-140	10/16/2018	10/16/2018 19:20	EPA 8260B	



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 Project Number: 2815

DUP-22_101618

Date Sampled

V184205-06 (Water)

10/16/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.9 %		60-140	10/16/2018	10/16/2018 19:35	EPA 8260B	



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SB-110_1-2_101618

V184206-01 (Soil)

Date Sampled
 10/16/2018 11:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.6 %		60-140	10/16/2018	10/16/2018 13:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	92.7	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-110_3-4_101618

V184206-02 (Soil)

Date Sampled
 10/16/2018 11:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/16/2018	10/16/2018 13:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	95.1	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-110_4-5_101618

V184206-03 (Soil)

Date Sampled
 10/16/2018 11:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.5 %		60-140	10/16/2018	10/16/2018 14:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	88.5	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-110_5-6_101618

V184206-04 (Soil)

Date Sampled
 10/16/2018 11:38

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
Trichloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
1,1-Dichloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
Vinyl chloride	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	10/16/2018	10/16/2018 14:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	93.3	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-110_7-8_101618

V184206-05 (Soil)

Date Sampled
 10/16/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.2 %		60-140	10/16/2018	10/16/2018 14:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	93.1	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_1-2_101618
V184206-06 (Soil)

Date Sampled
 10/16/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
Trichloroethene	62	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/16/2018	10/16/2018 16:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	86.7	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_4-5_101618
V184206-07 (Soil)

Date Sampled
 10/16/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	110	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
cis-1,2-Dichloroethene	240	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		78.7 %		60-140	10/16/2018	10/16/2018 22:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	97.7	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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 Project Number: 2815

LIFHP-119_6-7_101618
V184206-08 (Soil)

Date Sampled
 10/16/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
cis-1,2-Dichloroethene	450	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>90.4 %</i>		<i>60-140</i>	<i>10/16/2018</i>	<i>10/16/2018 17:24</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	87.9	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_7-8_101618
V184206-09 (Soil)

Date Sampled
 10/16/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	150	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
cis-1,2-Dichloroethene	3800	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
trans-1,2-Dichloroethene	53	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
Vinyl chloride	330	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 73.8 % 60-140 10/16/2018 10/16/2018 17:38 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	94.7	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_9-10_101618

V184206-10 (Soil)

Date Sampled
 10/16/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.0 %		60-140	10/16/2018	10/16/2018 17:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	83.6	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_22-23_101618
V184206-11 (Soil)

Date Sampled
 10/16/2018 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.1 %		60-140	10/16/2018	10/16/2018 18:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	84.4	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_1-2_101618
V184206-12 (Soil)

Date Sampled
 10/16/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/16/2018	10/16/2018 20:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	90.8	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_3-4_101618

V184206-13 (Soil)

Date Sampled
 10/16/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
Trichloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
1,1-Dichloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
Vinyl chloride	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/16/2018	10/16/2018 20:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	93.5	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_4-5_101618

V184206-14 (Soil)

Date Sampled
 10/16/2018 14:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/16/2018	10/16/2018 20:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	87.2	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_5-6_101618
V184206-15 (Soil)

Date Sampled
 10/16/2018 14:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.5 %		60-140	10/16/2018	10/16/2018 20:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	91.2	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_7-8_101618

V184206-16 (Soil)

Date Sampled
 10/16/2018 14:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/16/2018	10/16/2018 21:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	88.3	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_2-3_101618

V184206-17 (Soil)

Date Sampled
 10/16/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>92.1 %</i>		<i>60-140</i>	<i>10/16/2018</i>	<i>10/16/2018 21:46</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	85.8	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_3-4_101618

V184206-18 (Soil)

Date Sampled
 10/16/2018 16:12

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.5 %</i>		<i>60-140</i>	<i>10/16/2018</i>	<i>10/16/2018 22:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	89.3	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_4-5_101618

V184206-19 (Soil)

Date Sampled
 10/16/2018 16:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/16/2018	10/16/2018 22:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	91.0	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_5-6_101618

V184206-20 (Soil)

Date Sampled
 10/16/2018 16:16

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		60-140	10/16/2018	10/16/2018 22:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	87.4	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_6-7_101618

V184206-21 (Soil)

Date Sampled
 10/16/2018 16:18

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/16/2018	10/16/2018 22:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	90.0	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-114_6-10_101718

V184207-01 (Water)

Date Sampled
10/17/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.5 %		60-140	10/17/2018	10/17/2018 11:18	EPA 8260B	



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SB-112_10-14_101718

V184207-02 (Water)

Date Sampled
 10/17/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
Vinyl chloride	1.9	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %		60-140	10/17/2018	10/17/2018 13:07	EPA 8260B	



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SB-112_15-19_101718

V184207-03 (Water)

Date Sampled
 10/17/2018 11:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
Vinyl chloride	2.7	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.5 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 13:21</i>	<i>EPA 8260B</i>	



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SB-112_20-24_101718

V184207-04 (Water)

Date Sampled
 10/17/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
Vinyl chloride	2.5	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	10/17/2018	10/17/2018 13:36	EPA 8260B	



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SB-115_6-10_101718
V184207-05 (Water)

Date Sampled
 10/17/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		91.3 %		60-140	10/17/2018	10/17/2018 15:47	EPA 8260B	



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SB-116_20-24_101718

V184207-06 (Water)

Date Sampled
 10/17/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.2 %		60-140	10/17/2018	10/17/2018 18:02	EPA 8260B	



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SB-116_15-19_101718

Date Sampled
 10/17/2018 14:50

V184207-07 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.6 %		60-140	10/17/2018	10/17/2018 18:17	EPA 8260B	



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SB-116_10-14_101718

V184207-08 (Water)

Date Sampled
10/17/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.8 %		60-140	10/17/2018	10/17/2018 18:31	EPA 8260B	



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SB-117_8-12_101718

V184207-09 (Water)

Date Sampled
10/17/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/17/2018	10/17/2018 18:46	EPA 8260B	



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SB-114_1-2_101718

V184208-01 (Soil)

Date Sampled
 10/17/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 11:39</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.5	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-114_2-3_101718

V184208-02 (Soil)

Date Sampled
 10/17/2018 10:03

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/17/2018	10/17/2018 11:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	91.8	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-114_3-4_101718

V184208-03 (Soil)

Date Sampled
 10/17/2018 09:57

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.7 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 12:08</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	90.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-114_4-5_101718

V184208-04 (Soil)

Date Sampled
 10/17/2018 09:59

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.6 %		60-140	10/17/2018	10/17/2018 12:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	87.7	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-114_5-6_101718

Date Sampled

V184208-05 (Soil)

10/17/2018 10:01

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/17/2018	10/17/2018 12:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.0	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_1-2_101718

V184208-06 (Soil)

Date Sampled
10/17/2018 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.9 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 14:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	97.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_3-4_101718

Date Sampled
 10/17/2018 09:10

V184208-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.6 %		60-140	10/17/2018	10/17/2018 14:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	92.7	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_5-6_101718

V184208-08 (Soil)

Date Sampled
 10/17/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.4 %		60-140	10/17/2018	10/17/2018 14:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	93.4	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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 Project Number: 2815

SB-112_6-7_101718

V184208-09 (Soil)

Date Sampled
 10/17/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.5 %		60-140	10/17/2018	10/17/2018 15:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	96.5	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_7-8_101718

V184208-10 (Soil)

Date Sampled
 10/17/2018 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		83.4 %		60-140	10/17/2018	10/17/2018 15:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	96.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_24-25_101718

V184208-11 (Soil)

Date Sampled
10/17/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.3 %		60-140	10/17/2018	10/17/2018 15:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	81.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-115_0-1_101718

Date Sampled

V184208-12 (Soil)

10/17/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.8 %		60-140	10/17/2018	10/17/2018 16:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.2	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-115_1-2_101718

Date Sampled

V184208-13 (Soil)

10/17/2018 12:17

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.7 %		60-140	10/17/2018	10/17/2018 16:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.8	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-115_2-3_101718

Date Sampled
 10/17/2018 12:19

V184208-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.2 %		60-140	10/17/2018	10/17/2018 16:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	80.3	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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V184208-15 (Soil)

Date Sampled
 10/17/2018 12:21

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.4 %		60-140	10/17/2018	10/17/2018 17:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	87.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-115_4-5_101718

V184208-16 (Soil)

Date Sampled
 10/17/2018 12:23

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.2 %		60-140	10/17/2018	10/17/2018 17:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.0	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_1-2_101718

V184208-17 (Soil)

Date Sampled
 10/17/2018 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.3 %		60-140	10/17/2018	10/17/2018 19:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	95.5	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_3-4_101718

V184208-18 (Soil)

Date Sampled
 10/17/2018 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/17/2018	10/17/2018 19:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	96.4	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_5-6_101718

V184208-19 (Soil)

Date Sampled
 10/17/2018 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		60-140	10/17/2018	10/17/2018 19:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	94.6	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_6-7_101718

V184208-20 (Soil)

Date Sampled
 10/17/2018 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
1,4-Dioxane	ND	82	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.9 %		60-140	10/17/2018	10/17/2018 20:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	92.3	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_7-8_101718

V184208-21 (Soil)

Date Sampled
 10/17/2018 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/17/2018	10/17/2018 20:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	87.4	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-116_21-22_101718

V184208-22 (Soil)

Date Sampled
 10/17/2018 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/17/2018	10/17/2018 20:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	76.6	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-117_1-2_101718

V184208-23 (Soil)

Date Sampled
 10/17/2018 14:43

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/17/2018	10/17/2018 20:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	91.1	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-117_2-3_101718

V184208-24 (Soil)

Date Sampled
 10/17/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
Trichloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
1,1-Dichloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
Vinyl chloride	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.0 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 21:12</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	89.4	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-117_3-4_101718

V184208-25 (Soil)

Date Sampled
 10/17/2018 14:47

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.0 %		60-140	10/17/2018	10/17/2018 21:26	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	80.5	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-117_4-5_101718

V184208-26 (Soil)

Date Sampled
 10/17/2018 14:49

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	10/17/2018	10/17/2018 21:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	83.8	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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DUP-23_101718

Date Sampled

V184208-27 (Soil)

10/17/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.9 %		60-140	10/17/2018	10/17/2018 21:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	93.8	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-118_6-10_101818

V184209-01 (Water)

Date Sampled
 10/18/2018 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/18/2018	10/18/2018 10:00	EPA 8260B	



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 Project Number: 2815

SB-120_8-12_101818
V184209-02 (Water)

Date Sampled
 10/18/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
Trichloroethene	330	10	ug/L	10	10/18/2018	10/22/2018 17:26	EPA 8260B	D
cis-1,2-Dichloroethene	38	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
trans-1,2-Dichloroethene	4.2	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
1,1-Dichloroethene	4.5	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
Vinyl chloride	13	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
1,4-Dioxane	5.6	2.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 101 % 60-140 10/18/2018 10/18/2018 11:57 EPA 8260B



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SB-119_25-29_101818

Date Sampled
 10/18/2018 12:15

V184209-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
cis-1,2-Dichloroethene	14	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
1,4-Dioxane	61	2.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %		60-140	10/18/2018	10/18/2018 14:19	EPA 8260B	



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 Project Number: 2815

SB-119_20-24_101818

V184209-04 (Water)

Date Sampled
 10/18/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
Vinyl chloride	10	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
1,4-Dioxane	250	2.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/18/2018	10/18/2018 14:34	EPA 8260B	



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SB-119_15-19_101818

V184209-05 (Water)

Date Sampled
 10/18/2018 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
Vinyl chloride	25	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
1,4-Dioxane	47	2.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/18/2018	10/18/2018 14:48	EPA 8260B	



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SB-121_8-12_101818

Date Sampled
 10/18/2018 14:05

V184209-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
Trichloroethene	8.2	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
cis-1,2-Dichloroethene	1.3	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.0 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 15:03</i>	<i>EPA 8260B</i>	



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DUP-24_101818

Date Sampled

V184209-07 (Water)

10/18/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
Trichloroethene	4.8	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
cis-1,2-Dichloroethene	6.2	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
Vinyl chloride	3.6	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.7 %		60-140	10/18/2018	10/18/2018 17:58	EPA 8260B	



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SB-123_8-12_101818

Date Sampled
 10/18/2018 15:40

V184209-08 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
Trichloroethene	3.8	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
cis-1,2-Dichloroethene	5.6	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
Vinyl chloride	3.1	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>93.9 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 18:12</i>	<i>EPA 8260B</i>	



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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-122_25-29_101818

V184209-09 (Water)

Date Sampled
 10/18/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
cis-1,2-Dichloroethene	130	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
Vinyl chloride	190	10	ug/L	10	10/18/2018	10/22/2018 18:09	EPA 8260B	D
1,4-Dioxane	27	2.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.4 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 18:27</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

SB-122_20-24_101818

Date Sampled
 10/18/2018 16:10

V184209-10 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	
cis-1,2-Dichloroethene	2700	100	ug/L	100	10/18/2018	10/22/2018 18:53	EPA 8260B	D
trans-1,2-Dichloroethene	19	1.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	
1,1-Dichloroethene	2.5	1.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	
Vinyl chloride	6300	100	ug/L	100	10/18/2018	10/22/2018 18:53	EPA 8260B	D
1,4-Dioxane	18	2.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>96.3 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 18:41</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

SB-122_15-19_101818

Date Sampled
 10/18/2018 16:30

V184209-11 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	
cis-1,2-Dichloroethene	5900	100	ug/L	100	10/18/2018	10/22/2018 19:23	EPA 8260B	D
trans-1,2-Dichloroethene	34	1.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	
1,1-Dichloroethene	5.9	1.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	
Vinyl chloride	9400	100	ug/L	100	10/18/2018	10/22/2018 19:23	EPA 8260B	D
1,4-Dioxane	48	2.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 95.8 % 60-140 10/18/2018 10/18/2018 18:56 EPA 8260B



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 Project Number: 2815

DUP-25_101818

Date Sampled

V184209-12 (Water)

10/18/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	
cis-1,2-Dichloroethene	6800	100	ug/L	100	10/18/2018	10/22/2018 17:55	EPA 8260B	D
trans-1,2-Dichloroethene	33	1.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	
1,1-Dichloroethene	5.7	1.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	
Vinyl chloride	9800	100	ug/L	100	10/18/2018	10/22/2018 17:55	EPA 8260B	D
1,4-Dioxane	51	2.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 97.3 % 60-140 10/18/2018 10/18/2018 19:11 EPA 8260B



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SB-118_1-2_101818

V184210-01 (Soil)

Date Sampled
 10/18/2018 08:44

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 10:44</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	85.9	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-118_2-3_101818

V184210-02 (Soil)

Date Sampled
 10/18/2018 08:46

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
Trichloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
1,1-Dichloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
Vinyl chloride	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/18/2018	10/18/2018 10:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.5	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-118_3-4_101818

V184210-03 (Soil)

Date Sampled
 10/18/2018 08:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/18/2018	10/18/2018 11:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	90.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-118_4-5_101818

Date Sampled
 10/18/2018 08:50

V184210-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.1 %		60-140	10/18/2018	10/18/2018 11:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	84.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-118_5-6_101818

V184210-05 (Soil)

Date Sampled
 10/18/2018 08:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/18/2018	10/18/2018 11:42	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	85.6	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-120_1-2_101818

V184210-06 (Soil)

Date Sampled
 10/18/2018 10:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
Trichloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
1,1-Dichloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
Vinyl chloride	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
1,4-Dioxane	ND	77	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.9 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 13:21</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	92.8	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-120_3-4_101818

Date Sampled
 10/18/2018 10:38

V184210-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
Trichloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
1,4-Dioxane	ND	80	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/18/2018	10/18/2018 13:35	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	87.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-120_5-6_101818

Date Sampled
 10/18/2018 10:40

V184210-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.7 %		60-140	10/18/2018	10/18/2018 13:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-120_7-8_101818

V184210-09 (Soil)

Date Sampled
 10/18/2018 10:42

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
Trichloroethene	130	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 14:04</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	91.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_1-2_101818

V184210-10 (Soil)

Date Sampled
 10/18/2018 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		60-140	10/18/2018	10/18/2018 16:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	94.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_5-6_101818

Date Sampled
 10/18/2018 09:50

V184210-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
1,4-Dioxane	140	97	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.7 %		60-140	10/18/2018	10/18/2018 16:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	92.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_7-8_101818

V184210-12 (Soil)

Date Sampled
 10/18/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.0 %		60-140	10/18/2018	10/18/2018 16:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	95.7	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_9-10_101818
V184210-13 (Soil)

Date Sampled
 10/18/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	180	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
trans-1,2-Dichloroethene	240	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
Vinyl chloride	370	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.5 %		60-140	10/18/2018	10/18/2018 16:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	92.7	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_11-12_101818

V184210-14 (Soil)

Date Sampled
10/18/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

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Tetrachloroethene	810	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
cis-1,2-Dichloroethene	16000	480	ug/kg dry	10	10/18/2018	10/22/2018 23:46	EPA 8260B	D
trans-1,2-Dichloroethene	2100	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
1,1-Dichloroethene	1100	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
Vinyl chloride	3600	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 72.4 % 60-140 10/18/2018 10/18/2018 16:59 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	87.5	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_19-20_101818

V184210-15 (Soil)

Date Sampled
 10/18/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %		60-140	10/18/2018	10/18/2018 17:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.7	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_23.5-24.5_101818

V184210-16 (Soil)

Date Sampled
 10/18/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>113 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 17:29</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	87.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_26-27_101818

V184210-17 (Soil)

Date Sampled
10/18/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>90.2 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 17:43</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_2-3_101818

Date Sampled
 10/18/2018 13:52

V184210-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
Trichloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
1,1-Dichloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
Vinyl chloride	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.8 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/22/2018 22:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	81.7	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_3-4_101818

V184210-19 (Soil)

Date Sampled
 10/18/2018 13:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.4 %		60-140	10/18/2018	10/22/2018 22:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	94.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_4-5_101818

Date Sampled

V184210-20 (Soil)

10/18/2018 13:56

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/18/2018	10/22/2018 22:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	91.8	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_5-6_101818

V184210-21 (Soil)

Date Sampled
 10/18/2018 13:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.1 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 20:38</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	92.4	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_6-7_101818

V184210-22 (Soil)

Date Sampled
 10/18/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %		60-140	10/18/2018	10/18/2018 20:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	84.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_1-2_101818

V184210-23 (Soil)

Date Sampled
 10/18/2018 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 21:07</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	96.8	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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 Project Number: 2815

SB-122_5-6_101818

V184210-24 (Soil)

Date Sampled
 10/18/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.0 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 21:22</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	95.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_7-8_101818

Date Sampled
 10/18/2018 15:05

V184210-25 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.6 %		60-140	10/18/2018	10/18/2018 21:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	89.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_9-10_101818
V184210-26 (Soil)

Date Sampled
 10/18/2018 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.7 %		60-140	10/18/2018	10/18/2018 21:51	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	97.1	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_11-12_101818

V184210-27 (Soil)

Date Sampled
 10/18/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
Vinyl chloride	53	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>96.9 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/22/2018 23:02</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	84.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_19-20_101818

V184210-28 (Soil)

Date Sampled
 10/18/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
cis-1,2-Dichloroethene	8000	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
trans-1,2-Dichloroethene	76	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
Vinyl chloride	1200	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/18/2018	10/18/2018 22:20	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	85.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_23.5-24.5_101818

V184210-29 (Soil)

Date Sampled
 10/18/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.3 %		60-140	10/18/2018	10/18/2018 22:35	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_26-27_101818

V184210-30 (Soil)

Date Sampled
 10/18/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
Vinyl chloride	47	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.7 %		60-140	10/18/2018	10/18/2018 22:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	81.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-123_1-2_101818

Date Sampled
 10/18/2018 15:24

V184210-31 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.5 %		60-140	10/18/2018	10/18/2018 23:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	88.8	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-123_3-4_101818

Date Sampled
 10/18/2018 15:28

V184210-32 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.6 %		60-140	10/18/2018	10/18/2018 23:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	93.4	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-123_4-5_101818

V184210-33 (Soil)

Date Sampled
 10/18/2018 15:26

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 23:33</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	90.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-123_5-6_101818

Date Sampled
 10/18/2018 15:30

V184210-34 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/18/2018	10/18/2018 23:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	91.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-123_7-8_101818

V184210-35 (Soil)

Date Sampled
10/18/2018 15:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %		60-140	10/18/2018	10/19/2018 00:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	87.9	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-124_6-10_101818
V184301-01 (Water)

Date Sampled
 10/18/2018 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
Trichloroethene	1.1	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/22/2018	10/22/2018 19:52	EPA 8260B	



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 Project Number: 2815

SB-125_6-10_101918

Date Sampled

V184301-02 (Water)

10/19/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/22/2018	10/22/2018 20:06	EPA 8260B	



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SB-126_6-10_101918
V184301-03 (Water)

Date Sampled
 10/19/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/22/2018	10/22/2018 20:21	EPA 8260B	



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SB-127_25-29_102218

V184301-04 (Water)

Date Sampled
 10/22/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
Vinyl chloride	22	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
1,4-Dioxane	32	2.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/22/2018	10/22/2018 19:37	EPA 8260B	



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SB-127_20-24_102218

Date Sampled
 10/22/2018 15:45

V184301-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
Trichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
1,1-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
Vinyl chloride	2800	100	ug/L	100	10/22/2018	10/22/2018 19:08	EPA 8260B	D
1,4-Dioxane	61	20	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/22/2018	10/22/2018 20:37	EPA 8260B	



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SB-127_15-19_102218

V184301-06 (Water)

Date Sampled
 10/22/2018 16:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	
Trichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	
cis-1,2-Dichloroethene	220	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	D
trans-1,2-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	
1,1-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	
Vinyl chloride	3100	100	ug/L	100	10/22/2018	10/22/2018 18:39	EPA 8260B	D
1,4-Dioxane	65	20	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	10/22/2018	10/22/2018 20:51	EPA 8260B	



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SB-124_1-2_101818

V184302-01 (Soil)

Date Sampled
 10/18/2018 16:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.3 %		60-140	10/22/2018	10/23/2018 00:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	89.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-124_2-3_101818

V184302-02 (Soil)

Date Sampled
 10/18/2018 16:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/22/2018	10/23/2018 01:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	81.3	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-124_3-4_101818

V184302-03 (Soil)

Date Sampled
 10/18/2018 16:38

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.8 %		60-140	10/22/2018	10/23/2018 01:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	87.8	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-124_4-5_101818

V184302-04 (Soil)

Date Sampled
 10/18/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.8 %		60-140	10/22/2018	10/23/2018 01:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	87.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-124_5-6_101818

V184302-05 (Soil)

Date Sampled
 10/18/2018 16:42

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.2 %		60-140	10/22/2018	10/23/2018 01:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	85.8	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_1-2_101918

V184302-06 (Soil)

Date Sampled
 10/19/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %		60-140	10/22/2018	10/23/2018 02:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	86.4	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_2-3_101918

V184302-07 (Soil)

Date Sampled
 10/19/2018 09:53

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.2 %		60-140	10/22/2018	10/23/2018 02:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	90.9	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_3-4_101918

V184302-08 (Soil)

Date Sampled
 10/19/2018 09:56

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.8 %		60-140	10/22/2018	10/23/2018 02:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	88.7	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_4-5_101918

V184302-09 (Soil)

Date Sampled
 10/19/2018 09:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	10/22/2018	10/23/2018 10:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	89.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_0-1_101918

Date Sampled
 10/19/2018 10:02

V184302-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/22/2018	10/23/2018 11:24	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	91.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-126_0-1_101918

Date Sampled
 10/19/2018 13:50

V184302-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.5 %		60-140	10/22/2018	10/23/2018 11:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	97.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-126_1-2_101918

V184302-12 (Soil)

Date Sampled
 10/19/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.7 %		60-140	10/22/2018	10/23/2018 11:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	88.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-126_2-3_101918

V184302-13 (Soil)

Date Sampled
 10/19/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/22/2018	10/23/2018 12:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	87.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-126_3-4_101918

V184302-14 (Soil)

Date Sampled
 10/19/2018 14:03

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	10/22/2018	10/23/2018 12:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	89.1	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-126_4-5_101918

Date Sampled

V184302-15 (Soil)

10/19/2018 14:07

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.5 %		60-140	10/22/2018	10/23/2018 12:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	90.0	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_1-2_102218

V184302-16 (Soil)

Date Sampled
 10/22/2018 14:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.1 %		60-140	10/22/2018	10/23/2018 12:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	97.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_5-6_102218

V184302-17 (Soil)

Date Sampled
 10/22/2018 14:44

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
Trichloroethene	160	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
cis-1,2-Dichloroethene	120	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>80.1 %</i>		<i>60-140</i>	<i>10/22/2018</i>	<i>10/23/2018 13:06</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	94.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_7-8_102218

V184302-18 (Soil)

Date Sampled
 10/22/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>81.2 %</i>		<i>60-140</i>	<i>10/22/2018</i>	<i>10/23/2018 13:21</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	91.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_9-10_102218
V184302-19 (Soil)

Date Sampled
 10/22/2018 14:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

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Tetrachloroethene	ND	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
Trichloroethene	79	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
cis-1,2-Dichloroethene	4600	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
trans-1,2-Dichloroethene	180	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
1,1-Dichloroethene	170	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
Vinyl chloride	580	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 89.2 % 60-140 10/22/2018 10/23/2018 13:35 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	91.6	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_11-12_102218

V184302-20 (Soil)

Date Sampled
10/22/2018 14:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %		60-140	10/22/2018	10/23/2018 13:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	83.4	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_19-20_102218

V184302-21 (Soil)

Date Sampled
 10/22/2018 15:12

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
Vinyl chloride	990	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>95.1 %</i>		<i>60-140</i>	<i>10/22/2018</i>	<i>10/23/2018 14:34</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	83.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_23.5-24.5_102218

V184302-22 (Soil)

Date Sampled
 10/22/2018 15:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
Vinyl chloride	53	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.7 %</i>		<i>60-140</i>	<i>10/22/2018</i>	<i>10/23/2018 14:48</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	80.8	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_26-27_102218

V184302-23 (Soil)

Date Sampled
 10/22/2018 15:16

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/22/2018	10/23/2018 15:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	80.8	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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LIFHP-128_21-25_102318

V184303-01 (Water)

Date Sampled
 10/23/2018 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		114 %		60-140	10/23/2018	10/23/2018 17:25	EPA 8260B	



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LIFHP-128_16-20_102318
V184303-02 (Water)

Date Sampled
 10/23/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
Vinyl chloride	18	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.8 %		60-140	10/23/2018	10/23/2018 17:39	EPA 8260B	



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LIFHP-128_11-15_102318

V184303-03 (Water)

Date Sampled
 10/23/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
Vinyl chloride	3.6	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.0 %		60-140	10/23/2018	10/23/2018 17:54	EPA 8260B	



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SB-128_20-24_102318

V184303-04 (Water)

Date Sampled
 10/23/2018 18:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
Vinyl chloride	7.7	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
1,4-Dioxane	130	2.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.0 %		60-140	10/23/2018	10/23/2018 22:31	EPA 8260B	



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SB-128_15-19_102318

V184303-05 (Water)

Date Sampled
 10/23/2018 19:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:45	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:45	EPA 8260B	
cis-1,2-Dichloroethene	1600	20	ug/L	20	10/23/2018	10/24/2018 10:45	EPA 8260B	D
trans-1,2-Dichloroethene	3.5	1.0	ug/L	1	10/23/2018	10/23/2018 22:45	EPA 8260B	
1,1-Dichloroethene	2.1	1.0	ug/L	1	10/23/2018	10/23/2018 22:45	EPA 8260B	
Vinyl chloride	1300	20	ug/L	20	10/23/2018	10/24/2018 10:45	EPA 8260B	D
1,4-Dioxane	660	40	ug/L	20	10/23/2018	10/24/2018 10:45	EPA 8260B	D

Surrogate: 4-Bromofluorobenzene 95.7 % 60-140 10/23/2018 10/23/2018 22:45 EPA 8260B



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LIFHP-128_1-2_102318
V184304-01 (Soil)

Date Sampled
 10/23/2018 12:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.8 %		60-140	10/23/2018	10/23/2018 18:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	95.4	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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LIFHP-128_3-4_102318
V184304-02 (Soil)

Date Sampled
 10/23/2018 12:16

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.6 %		60-140	10/23/2018	10/23/2018 18:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.0	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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LIFHP-128_5-6_102318
V184304-03 (Soil)

Date Sampled
 10/23/2018 12:18

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
1,4-Dioxane	96	95	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.0 %		60-140	10/23/2018	10/23/2018 19:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.3	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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LIFHP-128_7-8_102318
V184304-04 (Soil)

Date Sampled
 10/23/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.7 %		60-140	10/23/2018	10/23/2018 19:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	85.5	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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LIFHP-128_9-10_102318

V184304-05 (Soil)

Date Sampled
 10/23/2018 12:22

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		114 %		60-140	10/23/2018	10/23/2018 19:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	84.2	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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LIFHP-128_19-20_102318
V184304-06 (Soil)

Date Sampled
 10/23/2018 12:42

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	M
Trichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.9 %		60-140	10/23/2018	10/23/2018 19:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	79.9	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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DUP-26_102318

Date Sampled

V184304-07 (Soil)

10/23/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/23/2018	10/23/2018 20:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	85.4	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_1-2_102318

V184304-08 (Soil)

Date Sampled
 10/23/2018 17:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		86.6 %		60-140	10/23/2018	10/23/2018 20:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.5	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_5-6_102318

V184304-09 (Soil)

Date Sampled
 10/23/2018 17:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.7 %</i>		<i>60-140</i>	<i>10/23/2018</i>	<i>10/23/2018 20:34</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.3	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_7-8_102318

V184304-10 (Soil)

Date Sampled
 10/23/2018 17:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.3 %</i>		<i>60-140</i>	<i>10/23/2018</i>	<i>10/23/2018 20:49</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.7	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_9-10_102318
V184304-11 (Soil)

Date Sampled
 10/23/2018 17:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
Trichloroethene	230	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
cis-1,2-Dichloroethene	1200	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
Vinyl chloride	94	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>72.1 %</i>	<i>60-140</i>		<i>10/23/2018</i>	<i>10/23/2018 21:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	94.3	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_11-12_102318

V184304-12 (Soil)

Date Sampled
 10/23/2018 17:56

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
cis-1,2-Dichloroethene	1400	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
Vinyl chloride	150	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.2 %		60-140	10/23/2018	10/23/2018 21:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	86.2	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_19-20_102318

V184304-13 (Soil)

Date Sampled
 10/23/2018 17:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
Vinyl chloride	73	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>115 %</i>		<i>60-140</i>	<i>10/23/2018</i>	<i>10/23/2018 21:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	86.7	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_23.5-24.5_102318

V184304-14 (Soil)

Date Sampled
 10/23/2018 18:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		121 %		60-140	10/23/2018	10/23/2018 21:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	79.4	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_26-27_102318

V184304-15 (Soil)

Date Sampled
 10/23/2018 18:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.7 %</i>		<i>60-140</i>	<i>10/23/2018</i>	<i>10/23/2018 22:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	80.8	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-129_22-26_102418

V184305-01 (Water)

Date Sampled
 10/24/2018 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
Vinyl chloride	59	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
1,4-Dioxane	10	2.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.8 %</i>		<i>60-140</i>	<i>10/24/2018</i>	<i>10/24/2018 12:58</i>	<i>EPA 8260B</i>	



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SB-129_16-20_102418

V184305-02 (Water)

Date Sampled
 10/24/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
trans-1,2-Dichloroethene	1.4	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
1,1-Dichloroethene	1.6	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
Vinyl chloride	39	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
1,4-Dioxane	3.6	2.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.1 %</i>		<i>60-140</i>	<i>10/24/2018</i>	<i>10/24/2018 13:12</i>	<i>EPA 8260B</i>	



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SB-129_11-15_102418

Date Sampled

V184305-03 (Water)

10/24/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
Vinyl chloride	11	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
1,4-Dioxane	68	2.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.8 %		60-140	10/24/2018	10/24/2018 13:27	EPA 8260B	



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SB-130_21-25_102418

V184305-04 (Soil)

Date Sampled
 10/24/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.2 %		60-140	10/24/2018	10/24/2018 17:06	EPA 8260B	



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SB-130_16-20_102418

V184305-05 (Soil)

Date Sampled
10/24/2018 16:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/24/2018</i>	<i>10/24/2018 17:21</i>	<i>EPA 8260B</i>	



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SB-130_11-15_102418

V184305-06 (Soil)

Date Sampled
 10/24/2018 16:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.0 %		60-140	10/24/2018	10/24/2018 17:35	EPA 8260B	



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SB-129_1-2_102418

V184306-01 (Soil)

Date Sampled
10/24/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.8 %		60-140	10/24/2018	10/24/2018 13:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	92.3	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_3-4_102418

V184306-02 (Soil)

Date Sampled
 10/24/2018 11:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.4 %		60-140	10/24/2018	10/24/2018 14:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	93.5	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_6-7_102418

V184306-03 (Soil)

Date Sampled
 10/24/2018 11:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	10/24/2018	10/24/2018 14:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	91.0	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_7-8_102418

V184306-04 (Soil)

Date Sampled
 10/24/2018 11:16

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		82.4 %		60-140	10/24/2018	10/24/2018 14:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	95.5	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_9-10_102418
V184306-05 (Soil)

Date Sampled
 10/24/2018 11:18

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
1,4-Dioxane	290	100	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.8 %</i>		<i>60-140</i>	<i>10/24/2018</i>	<i>10/24/2018 14:54</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	84.1	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_24-25_102418

V184306-06 (Soil)

Date Sampled
 10/24/2018 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.0 %</i>		<i>60-140</i>	<i>10/24/2018</i>	<i>10/24/2018 15:09</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	82.7	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_1-2_102418

V184306-07 (Soil)

Date Sampled
 10/24/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/24/2018	10/24/2018 17:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	98.1	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_2-3_102418

V184306-08 (Soil)

Date Sampled
 10/24/2018 15:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %		60-140	10/24/2018	10/24/2018 18:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	93.3	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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Date Sampled
 10/24/2018 15:04

V184306-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/24/2018	10/24/2018 18:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	92.4	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_7-8_102418

Date Sampled
 10/24/2018 15:06

V184306-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/24/2018	10/24/2018 18:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	86.2	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_9-10_102418

V184306-11 (Soil)

Date Sampled
 10/24/2018 15:08

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/24/2018	10/24/2018 18:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	88.0	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_21-22_102418

V184306-12 (Soil)

Date Sampled
 10/24/2018 15:24

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/24/2018	10/24/2018 19:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	78.1	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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V184306-13 (Soil)

Date Sampled
 10/24/2018 15:26

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	10/24/2018	10/24/2018 19:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	82.6	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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LIFHP-112_21-25_102418
V184307-01 (Water)

Date Sampled
 10/24/2018 18:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
Vinyl chloride	35	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
1,4-Dioxane	2.1	2.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/25/2018	10/25/2018 10:55	EPA 8260B	



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LIFHP-112_15-19_102418
V184307-02 (Water)

Date Sampled
 10/24/2018 19:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
Vinyl chloride	52	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/25/2018	10/25/2018 11:10	EPA 8260B	



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LIFHP-112_10-14_102418

V184307-03 (Water)

Date Sampled
 10/24/2018 19:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
Vinyl chloride	27	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 11:25</i>	<i>EPA 8260B</i>	



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HPT-180_20-24_102518

Date Sampled

V184307-04 (Water)

10/25/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.6 %		60-140	10/25/2018	10/25/2018 13:51	EPA 8260B	



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HPT-180_14-18_102518
V184307-05 (Water)

Date Sampled
 10/25/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.9 %		60-140	10/25/2018	10/25/2018 14:06	EPA 8260B	



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HPT-180_6-10_102518

V184307-06 (Water)

Date Sampled
 10/25/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.5 %		60-140	10/25/2018	10/25/2018 14:20	EPA 8260B	



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 Project Number: 2815

DUP-27_102518

Date Sampled

V184307-07 (Water)

10/25/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 14:35</i>	<i>EPA 8260B</i>	



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LIFHP-112_1-2_102418
V184308-01 (Soil)

Date Sampled
 10/24/2018 17:44

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.5 %		60-140	10/25/2018	10/25/2018 12:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	94.1	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_3-4_102418
V184308-02 (Soil)

Date Sampled
 10/24/2018 17:46

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
cis-1,2-Dichloroethene	110	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 12:24</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	95.9	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_4-5_102418
V184308-03 (Soil)

Date Sampled
 10/24/2018 17:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
cis-1,2-Dichloroethene	100	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.9 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 12:38</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	91.3	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_6-7_102418
V184308-04 (Soil)

Date Sampled
 10/24/2018 17:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
cis-1,2-Dichloroethene	240	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.1 %		60-140	10/25/2018	10/25/2018 12:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	94.9	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_8-9_102418
V184308-05 (Soil)

Date Sampled
10/24/2018 17:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
cis-1,2-Dichloroethene	43	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.8 %		60-140	10/25/2018	10/25/2018 13:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	89.8	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_26-27_102418

V184308-06 (Soil)

Date Sampled
 10/24/2018 18:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	10/25/2018	10/25/2018 13:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	82.6	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-112_29-30_102418

V184308-07 (Soil)

Date Sampled
 10/24/2018 18:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
Trichloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
1,4-Dioxane	ND	80	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %		60-140	10/25/2018	10/25/2018 13:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	84.7	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

HPT-180_1-2_102518

Date Sampled
 10/25/2018 10:26

V184308-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
Trichloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
Vinyl chloride	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	75	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.1 %		60-140	10/25/2018	10/25/2018 14:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	98.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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 Project Number: 2815

HPT-180_2-3_102518

Date Sampled

V184308-09 (Soil)

10/25/2018 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
Trichloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
1,1-Dichloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
Vinyl chloride	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
1,4-Dioxane	ND	79	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.7 %		60-140	10/25/2018	10/25/2018 15:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	94.6	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-180_3-4_102518
V184308-10 (Soil)

Date Sampled
 10/25/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/25/2018	10/25/2018 15:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	94.5	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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 Project Number: 2815

HPT-180_4-5_102518

V184308-11 (Soil)

Date Sampled
 10/25/2018 10:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 15:33</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	89.3	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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 Project Number: 2815

HPT-180_23-24_102518
V184308-12 (Soil)

Date Sampled
 10/25/2018 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/25/2018	10/25/2018 15:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	84.4	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-180_25-26_102518
V184308-13 (Soil)

Date Sampled
 10/25/2018 11:57

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/25/2018	10/25/2018 16:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	81.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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 Project Number: 2815

HPT-181_1-2_102518
V184308-14 (Soil)

Date Sampled
 10/25/2018 14:26

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/25/2018	10/25/2018 17:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	90.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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Project Number: 2815

HPT-181_2-3_102518

V184308-15 (Soil)

Date Sampled
10/25/2018 14:28

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/25/2018	10/25/2018 17:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	88.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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 Project Number: 2815

HPT-181_3-4_102518
V184308-16 (Soil)

Date Sampled
 10/25/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
Trichloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
1,1-Dichloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
Vinyl chloride	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
1,4-Dioxane	ND	130	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 18:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	82.5	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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 Project Number: 2815

HPT-181_4-5_102518

V184308-17 (Soil)

Date Sampled
 10/25/2018 14:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
Trichloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
1,1-Dichloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
Vinyl chloride	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 18:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	85.6	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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 Project Number: 2815

HPT-181_5-6_102518
V184308-18 (Soil)

Date Sampled
 10/25/2018 15:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 18:33</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	87.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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 Project Number: 2815

HPT-181_22-23_102518
V184308-19 (Soil)

Date Sampled
 10/25/2018 16:22

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/25/2018	10/25/2018 18:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	81.6	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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 Project Number: 2815

HPT-181_24-28_102618
V184309-01 (Water)

Date Sampled
 10/26/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
Trichloroethene	4.9	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.2 %		60-140	10/26/2018	10/26/2018 11:55	EPA 8260B	



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 Project Number: 2815

HPT-181_11-15_102618

Date Sampled

V184309-02 (Water)

10/26/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
Trichloroethene	360	10	ug/L	10	10/26/2018	10/26/2018 12:42	EPA 8260B	D
cis-1,2-Dichloroethene	170	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
trans-1,2-Dichloroethene	52	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
Vinyl chloride	11	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 102 % 60-140 10/26/2018 10/26/2018 12:09 EPA 8260B



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HPT-181_6-10_102618

V184309-03 (Water)

Date Sampled
 10/26/2018 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	
Trichloroethene	150	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	M
cis-1,2-Dichloroethene	140	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	M
trans-1,2-Dichloroethene	26	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	
Vinyl chloride	15	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 103 % 60-140 10/26/2018 10/26/2018 12:24 EPA 8260B



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HPT-184_16-20_102618
V184309-04 (Water)

Date Sampled
 10/26/2018 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
cis-1,2-Dichloroethene	180	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
trans-1,2-Dichloroethene	160	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/26/2018</i>	<i>10/26/2018 16:06</i>	<i>EPA 8260B</i>	



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HPT-184_11-15_102618

Date Sampled
 10/26/2018 13:45

V184309-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
Trichloroethene	200	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
cis-1,2-Dichloroethene	36	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
trans-1,2-Dichloroethene	32	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/26/2018</i>	<i>10/26/2018 16:20</i>	<i>EPA 8260B</i>	



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HPT-184_6-10_102618

V184309-06 (Water)

Date Sampled
 10/26/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
Trichloroethene	56	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
cis-1,2-Dichloroethene	19	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
trans-1,2-Dichloroethene	17	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.6 %</i>		<i>60-140</i>	<i>10/26/2018</i>	<i>10/26/2018 16:35</i>	<i>EPA 8260B</i>	



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HPT-184_1-2_102618

Date Sampled

V184310-01 (Soil)

10/26/2018 12:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/26/2018	10/26/2018 14:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	92.0	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_2-3_102618

V184310-02 (Soil)

Date Sampled
 10/26/2018 12:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/26/2018</i>	<i>10/26/2018 14:53</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	91.4	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_3-4_102618

Date Sampled
 10/26/2018 12:36

V184310-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/26/2018</i>	<i>10/26/2018 15:08</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	87.0	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_4-5_102618

V184310-04 (Soil)

Date Sampled
 10/26/2018 12:38

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/26/2018	10/26/2018 15:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	83.3	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_5-6_102618

Date Sampled
 10/26/2018 12:40

V184310-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/26/2018	10/26/2018 15:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	83.5	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_21-22_102618
V184310-06 (Soil)

Date Sampled
 10/26/2018 13:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/26/2018	10/26/2018 15:51	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	81.9	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-182_22-26_102918

Date Sampled

V184401-01 (Water)

10/29/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810065

Tetrachloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.4 %		60-140	10/29/2018	10/29/2018 17:17	EPA 8260B	



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HPT-182_13-17_102918

Date Sampled

V184401-02 (Water)

10/29/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810065

Tetrachloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
Trichloroethene	10	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
cis-1,2-Dichloroethene	2.8	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
trans-1,2-Dichloroethene	6.4	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/29/2018	10/29/2018 17:32	EPA 8260B	



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ARCADIS
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

HPT-182_5-9_102918

V184401-03 (Water)

Date Sampled
 10/29/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810065

Tetrachloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
Trichloroethene	2500	20	ug/L	20	10/29/2018	10/29/2018 18:30	EPA 8260B	D
cis-1,2-Dichloroethene	74	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
trans-1,2-Dichloroethene	150	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
1,4-Dioxane	ND	40	ug/L	20	10/29/2018	10/29/2018 18:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/29/2018</i>	<i>10/29/2018 17:46</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

HPT-182_1-2_102918

Date Sampled
 10/29/2018 14:20

V184402-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.4 %		60-140	10/29/2018	10/29/2018 18:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	81.9	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-182_2-3_102918

Date Sampled

V184402-02 (Soil)

10/29/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/29/2018	10/29/2018 18:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	84.2	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-182_3-4_102918

V184402-03 (Soil)

Date Sampled
 10/29/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
Trichloroethene	1200	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
cis-1,2-Dichloroethene	200	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/29/2018</i>	<i>10/29/2018 19:00</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	84.8	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-182_4-5_102918
V184402-04 (Soil)

Date Sampled
 10/29/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
Trichloroethene	2800	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
cis-1,2-Dichloroethene	190	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
trans-1,2-Dichloroethene	82	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.8 %</i>		<i>60-140</i>	<i>10/29/2018</i>	<i>10/29/2018 19:14</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	85.1	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-182_5-6_102918

Date Sampled
 10/29/2018 14:40

V184402-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
Trichloroethene	8300	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
cis-1,2-Dichloroethene	640	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
trans-1,2-Dichloroethene	950	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.2 %</i>		<i>60-140</i>	<i>10/29/2018</i>	<i>10/29/2018 18:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	83.2	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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 Project Number: 2815

HPT-182_27-28_102918
V184402-06 (Soil)

Date Sampled
 10/29/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/29/2018	10/29/2018 19:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	82.0	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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 Project Number: 2815

HPT-185_19-23_103018

Date Sampled
 10/30/2018 11:50

V184403-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/30/2018	10/30/2018 13:34	EPA 8260B	



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HPT-185_14-18_103018
V184403-02 (Water)

Date Sampled
 10/30/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/30/2018	10/30/2018 13:49	EPA 8260B	



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HPT-185_4-8_103018
V184403-03 (Water)

Date Sampled
 10/30/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/30/2018	10/30/2018 14:04	EPA 8260B	



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 Project Number: 2815

SB-131_14-18_103018

V184403-04 (Water)

Date Sampled
 10/30/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/30/2018	10/30/2018 17:08	EPA 8260B	



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SB-131_5-9_103018

V184403-05 (Water)

Date Sampled
 10/30/2018 16:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/30/2018	10/30/2018 17:23	EPA 8260B	



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HPT-185_1-2_103018
V184404-01 (Soil)

Date Sampled
 10/30/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
Trichloroethene	170	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
cis-1,2-Dichloroethene	74	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
trans-1,2-Dichloroethene	1000	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>88.9 %</i>		<i>60-140</i>	<i>10/30/2018</i>	<i>10/30/2018 14:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	79.4	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_2-3_103018

Date Sampled
 10/30/2018 10:35

V184404-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.8 %		60-140	10/30/2018	10/30/2018 14:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	83.3	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_3-4_103018

Date Sampled
 10/30/2018 10:40

V184404-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.6 %		60-140	10/30/2018	10/30/2018 14:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	82.8	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_4-5_103018

Date Sampled
 10/30/2018 10:45

V184404-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.4 %		60-140	10/30/2018	10/30/2018 15:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	85.5	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_5-6_103018

V184404-05 (Soil)

Date Sampled
 10/30/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.5 %		60-140	10/30/2018	10/30/2018 15:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	82.9	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_21-22_103018
V184404-06 (Soil)

Date Sampled
 10/30/2018 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %		60-140	10/30/2018	10/30/2018 15:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	79.8	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_1-2_103018

V184404-07 (Soil)

Date Sampled
 10/30/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/30/2018</i>	<i>10/30/2018 17:52</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	88.7	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_2-3_103018

V184404-08 (Soil)

Date Sampled
 10/30/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
Trichloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
1,1-Dichloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
Vinyl chloride	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
1,4-Dioxane	ND	78	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>118 %</i>		<i>60-140</i>	<i>10/30/2018</i>	<i>10/30/2018 18:07</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	103	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_3-4_103018

V184404-09 (Soil)

Date Sampled
 10/30/2018 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/30/2018	10/30/2018 18:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	82.7	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_4-5_103018

V184404-10 (Soil)

Date Sampled
 10/30/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %		60-140	10/30/2018	10/30/2018 18:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	81.4	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_5-6_103018

Date Sampled
 10/30/2018 15:05

V184404-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %		60-140	10/30/2018	10/30/2018 18:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	88.9	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_19-20_103018

V184404-12 (Soil)

Date Sampled
 10/30/2018 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.7 %		60-140	10/30/2018	10/30/2018 19:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	83.8	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-132_22-26_103118

V184405-01 (Water)

Date Sampled
 10/31/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/31/2018	10/31/2018 13:05	EPA 8260B	



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SB-132_13-17_103118

V184405-02 (Water)

Date Sampled
 10/31/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
Trichloroethene	510	4.0	ug/L	4	10/31/2018	10/31/2018 15:31	EPA 8260B	D
cis-1,2-Dichloroethene	160	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
trans-1,2-Dichloroethene	94	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 13:20</i>	<i>EPA 8260B</i>	



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SB-132_5-9_103118
V184405-03 (Water)

Date Sampled
 10/31/2018 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	
Trichloroethene	43	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	M
cis-1,2-Dichloroethene	40	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	M
trans-1,2-Dichloroethene	9.9	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	
Vinyl chloride	47	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	M
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 13:34</i>	<i>EPA 8260B</i>	



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SB-133_16-20_103118

V184405-04 (Water)

Date Sampled
 10/31/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.9 %		60-140	10/31/2018	10/31/2018 17:00	EPA 8260B	



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SB-133_11-15_103118

V184405-05 (Water)

Date Sampled
 10/31/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.4 %		60-140	10/31/2018	10/31/2018 17:14	EPA 8260B	



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SB-133_6-10_103118
V184405-06 (Water)

Date Sampled
 10/31/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
Trichloroethene	1.2	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 17:29</i>	<i>EPA 8260B</i>	



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SB-132_1-2_103118

V184406-01 (Soil)

Date Sampled
 10/31/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/31/2018	10/31/2018 13:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	89.6	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_2-3_103118

V184406-02 (Soil)

Date Sampled
 10/31/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>117 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 14:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	87.7	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_3-4_103118

V184406-03 (Soil)

Date Sampled
 10/31/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.1 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 14:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	88.8	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_4-5_103118

V184406-04 (Soil)

Date Sampled
 10/31/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 14:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	87.5	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_5-6_103118

V184406-05 (Soil)

Date Sampled
 10/31/2018 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
cis-1,2-Dichloroethene	75	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
1,4-Dioxane	ND	82	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/31/2018	10/31/2018 14:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	89.9	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_21-22_103118

V184406-06 (Soil)

Date Sampled
 10/31/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/31/2018	10/31/2018 15:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	80.8	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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DUP-28_103118

Date Sampled

V184406-07 (Soil)

10/31/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.9 %		60-140	10/31/2018	10/31/2018 15:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	80.8	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-133_1-2_103118
V184406-08 (Soil)

Date Sampled
 10/31/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/31/2018	10/31/2018 17:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	98.2	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-133_2-3_103118

V184406-09 (Soil)

Date Sampled
 10/31/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/31/2018	10/31/2018 18:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	91.7	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-133_3-4_103118

V184406-10 (Soil)

Date Sampled
 10/31/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 18:27</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	93.3	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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 Novi MI, 48377

Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-133_4-5_103118

V184406-11 (Soil)

Date Sampled
 10/31/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 18:42</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	89.2	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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 Project Number: 2815

SB-133_5-6_103118

V184406-12 (Soil)

Date Sampled
 10/31/2018 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/31/2018	10/31/2018 18:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	83.8	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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 Project Number: 2815

SB-133_26-27_103118

Date Sampled
 10/31/2018 15:00

V184406-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %		60-140	10/31/2018	10/31/2018 19:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	81.6	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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 Project Number: 2815

SB-134_24-28_110118

V184407-01 (Water)

Date Sampled
 11/01/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
Trichloroethene	1.3	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
trans-1,2-Dichloroethene	2.1	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	11/01/2018	11/01/2018 12:25	EPA 8260B	



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 Project Number: 2815

SB-134_11-15_110118
V184407-02 (Water)

Date Sampled
 11/01/2018 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
Trichloroethene	270	2.0	ug/L	2	11/01/2018	11/01/2018 15:14	EPA 8260B	D
cis-1,2-Dichloroethene	31	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
trans-1,2-Dichloroethene	57	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>121 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 12:39</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

SB-134_6-10_110118
V184407-03 (Water)

Date Sampled
 11/01/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
Trichloroethene	47	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
cis-1,2-Dichloroethene	3.8	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
trans-1,2-Dichloroethene	2.4	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.6 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 12:54</i>	<i>EPA 8260B</i>	



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HPT-183_14-18_110118
V184407-04 (Water)

Date Sampled
 11/01/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
cis-1,2-Dichloroethene	1.1	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
Vinyl chloride	23	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %		60-140	11/01/2018	11/01/2018 16:27	EPA 8260B	



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HPT-183_9-13_110118

V184407-05 (Water)

Date Sampled
 11/01/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
Vinyl chloride	32	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	11/01/2018	11/01/2018 16:41	EPA 8260B	



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HPT-183_3-8_110118

V184407-06 (Water)

Date Sampled
 11/01/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
trans-1,2-Dichloroethene	2.0	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
Vinyl chloride	4.9	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	11/01/2018	11/01/2018 16:56	EPA 8260B	



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 Project Number: 2815

DUP-29_110118

Date Sampled

V184407-07 (Water)

11/01/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
trans-1,2-Dichloroethene	1.9	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
Vinyl chloride	5.7	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.7 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 17:10</i>	<i>EPA 8260B</i>	



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SB-134_1-2_1101118
V184408-01 (Soil)

Date Sampled
 11/01/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	11/01/2018	11/01/2018 13:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	90.9	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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SB-134_2-3_1101118
V184408-02 (Soil)

Date Sampled
 11/01/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
Trichloroethene	47	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.9 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 13:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	88.6	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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SB-134_3-4_1101118
V184408-03 (Soil)

Date Sampled
 11/01/2018 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
Trichloroethene	45	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 13:47</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	89.5	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-134_4-5_1101118
V184408-04 (Soil)

Date Sampled
 11/01/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
Trichloroethene	55	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 14:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	89.8	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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 Project Number: 2815

SB-134_5-6_1101118
V184408-05 (Soil)

Date Sampled
 11/01/2018 11:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	11/01/2018	11/01/2018 14:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	87.1	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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SB-134_23-24_1101118

Date Sampled

V184408-06 (Soil)

11/01/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	11/01/2018	11/01/2018 14:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	83.1	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_1-2_1101118
V184408-07 (Soil)

Date Sampled
 11/01/2018 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.3 %		60-140	11/01/2018	11/01/2018 17:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	89.9	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_2-3_1101118

V184408-08 (Soil)

Date Sampled
11/01/2018 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	11/01/2018	11/01/2018 18:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	87.6	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_3-4_1101118

V184408-09 (Soil)

Date Sampled
 11/01/2018 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.2 %		60-140	11/01/2018	11/01/2018 18:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	80.4	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_4-5_1101118
V184408-10 (Soil)

Date Sampled
 11/01/2018 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.1 %		60-140	11/01/2018	11/01/2018 18:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	79.6	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_5-6_1101118

V184408-11 (Soil)

Date Sampled
 11/01/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.1 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 18:52</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	80.8	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_17-18_1101118
V184408-12 (Soil)

Date Sampled
11/01/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	11/01/2018	11/01/2018 19:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	77.3	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_28-19_1101118
V184408-13 (Soil)

Date Sampled
 11/01/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.1 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 19:22</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	83.8	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-186_14-18_110218
V184409-01 (Water)

Date Sampled
 11/02/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	11/02/2018	11/02/2018 12:13	EPA 8260B	



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HPT-186_8-12_110218

Date Sampled

V184409-02 (Water)

11/02/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.2 %		60-140	11/02/2018	11/02/2018 12:28	EPA 8260B	



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HPT-186_3-7_110218
V184409-03 (Water)

Date Sampled
 11/02/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	11/02/2018	11/02/2018 12:42	EPA 8260B	



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SB-135_1-5_110218
V184409-04 (Water)

Date Sampled
 11/02/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
cis-1,2-Dichloroethene	1.3	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	11/02/2018	11/02/2018 14:47	EPA 8260B	



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SB-135_6-10_110218

Date Sampled

V184409-05 (Water)

11/02/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		60-140	11/02/2018	11/02/2018 15:02	EPA 8260B	



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SB-135_11-15_110218

V184409-06 (Water)

Date Sampled
 11/02/2018 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.2 %		60-140	11/02/2018	11/02/2018 15:17	EPA 8260B	



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SB-135_16-20_110218

V184409-07 (Water)

Date Sampled
 11/02/2018 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.0 %		60-140	11/02/2018	11/02/2018 15:31	EPA 8260B	



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HPT-186_1-2_110218
V184410-01 (Soil)

Date Sampled
 11/02/2018 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
cis-1,2-Dichloroethene	110	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>11/02/2018</i>	<i>11/02/2018 12:59</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	85.9	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_2-3_110218

V184410-02 (Soil)

Date Sampled
 11/02/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
Trichloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
1,1-Dichloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
Vinyl chloride	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	11/02/2018	11/02/2018 13:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	82.5	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_3-4_110218
V184410-03 (Soil)

Date Sampled
 11/02/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	11/02/2018	11/02/2018 13:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	86.1	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_4-5_110218

V184410-04 (Soil)

Date Sampled
 11/02/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>11/02/2018</i>	<i>11/02/2018 13:43</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	81.3	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_5-6_110218

V184410-05 (Soil)

Date Sampled
 11/02/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>11/02/2018</i>	<i>11/02/2018 13:58</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	86.4	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_18-19_110218
V184410-06 (Soil)

Date Sampled
 11/02/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.4 %		60-140	11/02/2018	11/02/2018 14:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	83.1	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_28-29_110218
V184410-07 (Soil)

Date Sampled
 11/02/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	11/02/2018	11/02/2018 14:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	81.8	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_1-2_110218

V184410-08 (Soil)

Date Sampled
 11/02/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %		60-140	11/02/2018	11/02/2018 15:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	86.3	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_2-3_110218

V184410-09 (Soil)

Date Sampled
 11/02/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	89	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
Trichloroethene	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
1,1-Dichloroethene	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
Vinyl chloride	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.1 %		60-140	11/02/2018	11/02/2018 16:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	72.5	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_3-4_110218

V184410-10 (Soil)

Date Sampled
 11/02/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.5 %		60-140	11/02/2018	11/02/2018 16:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	82.4	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_4-5_110218

V184410-11 (Soil)

Date Sampled
11/02/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		117 %		60-140	11/02/2018	11/02/2018 16:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	81.9	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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 Project Number: 2815

SB-135_5-6_110218

Date Sampled
 11/02/2018 12:40

V184410-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		117 %		60-140	11/02/2018	11/02/2018 16:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	86.5	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_19.5-20.5_110218

V184410-13 (Soil)

Date Sampled
11/02/2018 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %		60-140	11/02/2018	11/02/2018 16:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	82.1	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_28-29_110218

Date Sampled

V184410-14 (Soil)

11/02/2018 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.8 %		60-140	11/02/2018	11/02/2018 17:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	82.2	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809001 - No Preparation

Blank (V809001-BLK1)

Prepared: 09/13/2018 Analyzed: 09/13/2018 13:50

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>60-140</i>			

LCS (V809001-BS1)

Prepared: 09/13/2018 Analyzed: 09/13/2018 14:04

Tetrachloroethene	17.6	1.0	ug/L	20.00		88.1	70-130			
Trichloroethene	21.7	1.0	ug/L	20.00		108	70-130			
cis-1,2-Dichloroethene	23.1	1.0	ug/L	20.00		115	70-130			
trans-1,2-Dichloroethene	21.4	1.0	ug/L	20.00		107	70-130			
1,1-Dichloroethene	21.1	1.0	ug/L	20.00		106	70-130			
Vinyl chloride	23.1	1.0	ug/L	20.00		115	70-130			
1,4-Dioxane	49.4	2.0	ug/L	40.00		124	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike (V809001-MS1)

Source: V183701-07

Prepared: 09/13/2018 Analyzed: 09/20/2018 15:41

Tetrachloroethene	20.5	1.0	ug/L	20.00	ND	102	70-130			
Trichloroethene	25.8	1.0	ug/L	20.00	7.78	90.3	70-130			
cis-1,2-Dichloroethene	19.1	1.0	ug/L	20.00	5.07	70.4	70-130			
trans-1,2-Dichloroethene	19.6	1.0	ug/L	20.00	0.230	97.1	70-130			
1,1-Dichloroethene	19.9	1.0	ug/L	20.00	ND	99.3	70-130			
Vinyl chloride	19.2	1.0	ug/L	20.00	ND	96.1	70-130			
1,4-Dioxane	32.7	2.0	ug/L	40.00	ND	81.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.2</i>	<i>70-130</i>			

Matrix Spike Dup (V809001-MSD1)

Source: V183701-07

Prepared: 09/13/2018 Analyzed: 09/20/2018 15:55

Tetrachloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130	0.440	20	
Trichloroethene	25.8	1.0	ug/L	20.00	7.78	90.2	70-130	0.0387	20	
cis-1,2-Dichloroethene	19.7	1.0	ug/L	20.00	5.07	73.2	70-130	2.88	20	
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00	0.230	99.2	70-130	2.12	20	
1,1-Dichloroethene	19.7	1.0	ug/L	20.00	ND	98.6	70-130	0.708	20	
Vinyl chloride	19.1	1.0	ug/L	20.00	ND	95.5	70-130	0.626	20	
1,4-Dioxane	35.3	2.0	ug/L	40.00	ND	88.3	70-130	7.83	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.9</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809004 - EPA 3550B

Blank (V809004-BLK1)

Prepared: 09/13/2018 Analyzed: 09/14/2018 19:43

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V809004-BS1)

Prepared: 09/13/2018 Analyzed: 09/13/2018 20:10

Tetrachloroethene	10.0	0.50	ug/kg wet	10.00		100	70-130			
Trichloroethene	10.9	0.50	ug/kg wet	10.00		109	70-130			
cis-1,2-Dichloroethene	9.75	0.50	ug/kg wet	10.00		97.5	70-130			
trans-1,2-Dichloroethene	9.62	0.50	ug/kg wet	10.00		96.2	70-130			
1,1-Dichloroethene	10.1	0.50	ug/kg wet	10.00		101	70-130			
Vinyl chloride	11.7	0.50	ug/kg wet	10.00		117	70-130			
1,4-Dioxane	20.5	1.0	ug/kg wet	20.00		103	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.6		ug/L	20.00		108	70-130			

Matrix Spike (V809004-MS1)

Source: V183702-23

Prepared: 09/13/2018 Analyzed: 09/13/2018 21:08

Tetrachloroethene	990	51	ug/kg dry	1030	ND	96.1	70-130			
Trichloroethene	1070	51	ug/kg dry	1030	11.6	103	70-130			
cis-1,2-Dichloroethene	1050	51	ug/kg dry	1030	71.4	94.9	70-130			
trans-1,2-Dichloroethene	1000	51	ug/kg dry	1030	ND	97.0	70-130			
1,1-Dichloroethene	1050	51	ug/kg dry	1030	ND	102	70-130			
Vinyl chloride	1220	51	ug/kg dry	1030	ND	119	70-130			
1,4-Dioxane	2450	100	ug/kg dry	2060	ND	119	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.9		ug/L	20.00		105	70-130			

Matrix Spike Dup (V809004-MSD1)

Source: V183702-23

Prepared: 09/13/2018 Analyzed: 09/13/2018 21:23

Tetrachloroethene	943	51	ug/kg dry	1030	ND	91.6	70-130	4.85	20	
Trichloroethene	1090	51	ug/kg dry	1030	11.6	105	70-130	2.00	20	
cis-1,2-Dichloroethene	1140	51	ug/kg dry	1030	71.4	103	70-130	8.11	20	
trans-1,2-Dichloroethene	1050	51	ug/kg dry	1030	ND	102	70-130	4.78	20	
1,1-Dichloroethene	1060	51	ug/kg dry	1030	ND	103	70-130	1.32	20	
Vinyl chloride	1100	51	ug/kg dry	1030	ND	107	70-130	10.4	20	
1,4-Dioxane	2490	100	ug/kg dry	2060	ND	121	70-130	1.71	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	21.8		ug/L	20.00		109	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809005 - EPA 3550B

Blank (V809005-BLK1)

Prepared: 09/13/2018 Analyzed: 09/14/2018 19:57

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V809005-BS1)

Prepared: 09/13/2018 Analyzed: 09/13/2018 20:24

Tetrachloroethene	738	40	ug/kg wet	800.0		92.2	70-130			
Trichloroethene	879	40	ug/kg wet	800.0		110	70-130			
cis-1,2-Dichloroethene	833	40	ug/kg wet	800.0		104	70-130			
trans-1,2-Dichloroethene	790	40	ug/kg wet	800.0		98.8	70-130			
1,1-Dichloroethene	791	40	ug/kg wet	800.0		98.9	70-130			
Vinyl chloride	946	40	ug/kg wet	800.0		118	70-130			
1,4-Dioxane	1800	80	ug/kg wet	1600		113	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Matrix Spike (V809005-MS1)

Source: V183704-10

Prepared: 09/13/2018 Analyzed: 09/13/2018 21:37

Tetrachloroethene	942	46	ug/kg dry	927.5	1.92	101	70-130			
Trichloroethene	998	46	ug/kg dry	927.5	103	96.4	70-130			
cis-1,2-Dichloroethene	913	46	ug/kg dry	927.5	ND	98.5	70-130			
trans-1,2-Dichloroethene	892	46	ug/kg dry	927.5	ND	96.2	70-130			
1,1-Dichloroethene	906	46	ug/kg dry	927.5	ND	97.7	70-130			
Vinyl chloride	801	46	ug/kg dry	927.5	ND	86.4	70-130			
1,4-Dioxane	1530	93	ug/kg dry	1855	53.3	79.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike Dup (V809005-MSD1)

Source: V183704-10

Prepared: 09/13/2018 Analyzed: 09/13/2018 21:52

Tetrachloroethene	868	46	ug/kg dry	927.5	1.92	93.4	70-130	8.20	20	
Trichloroethene	1060	46	ug/kg dry	927.5	103	103	70-130	6.26	20	
cis-1,2-Dichloroethene	1050	46	ug/kg dry	927.5	ND	113	70-130	13.8	20	
trans-1,2-Dichloroethene	940	46	ug/kg dry	927.5	ND	101	70-130	5.22	20	
1,1-Dichloroethene	888	46	ug/kg dry	927.5	ND	95.7	70-130	2.07	20	
Vinyl chloride	769	46	ug/kg dry	927.5	ND	83.0	70-130	4.07	20	
1,4-Dioxane	1630	93	ug/kg dry	1855	53.3	85.2	70-130	6.36	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809006 - EPA 3550B

Blank (V809006-BLK1)

Prepared: 09/14/2018 Analyzed: 09/15/2018 11:17

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>60-140</i>			

Blank (V809006-BLK2)

Prepared: 09/14/2018 Analyzed: 09/15/2018 11:32

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>109</i>	<i>60-140</i>			

LCS (V809006-BS1)

Prepared: 09/14/2018 Analyzed: 09/14/2018 08:44

Tetrachloroethene	871	40	ug/kg wet	800.0		109	70-130			
Trichloroethene	743	40	ug/kg wet	800.0		92.9	70-130			
cis-1,2-Dichloroethene	637	40	ug/kg wet	800.0		79.6	70-130			
trans-1,2-Dichloroethene	666	40	ug/kg wet	800.0		83.2	70-130			
1,1-Dichloroethene	720	40	ug/kg wet	800.0		90.0	70-130			
Vinyl chloride	886	40	ug/kg wet	800.0		111	70-130			
1,4-Dioxane	1980	80	ug/kg wet	1600		123	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>23.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>116</i>	<i>70-130</i>			

LCS (V809006-BS2)

Prepared: 09/14/2018 Analyzed: 09/14/2018 19:28

Tetrachloroethene	854	40	ug/kg wet	800.0		107	70-130			
Trichloroethene	848	40	ug/kg wet	800.0		106	70-130			
cis-1,2-Dichloroethene	829	40	ug/kg wet	800.0		104	70-130			
trans-1,2-Dichloroethene	828	40	ug/kg wet	800.0		104	70-130			
1,1-Dichloroethene	839	40	ug/kg wet	800.0		105	70-130			
Vinyl chloride	755	40	ug/kg wet	800.0		94.4	70-130			
1,4-Dioxane	1680	80	ug/kg wet	1600		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike (V809006-MS1)

Source: V183705-14

Prepared: 09/14/2018 Analyzed: 09/15/2018 04:56

Tetrachloroethene	977	50	ug/kg dry	1002	ND	97.4	70-130			
Trichloroethene	45700	50	ug/kg dry	1002	62600	NR	70-130			M1, E
cis-1,2-Dichloroethene	7250	50	ug/kg dry	1002	7280	NR	70-130			M
trans-1,2-Dichloroethene	1750	50	ug/kg dry	1002	915	83.5	70-130			



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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809006 - EPA 3550B

Matrix Spike (V809006-MS1)		Source: V183705-14		Prepared: 09/14/2018 Analyzed: 09/15/2018 04:56						
1,1-Dichloroethene	1010	50	ug/kg dry	1002	ND	101	70-130			
Vinyl chloride	943	50	ug/kg dry	1002	ND	94.2	70-130			
1,4-Dioxane	2140	100	ug/kg dry	2004	ND	107	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>94.5</i>	<i>70-130</i>			

Matrix Spike (V809006-MS2)		Source: V183705-15		Prepared: 09/14/2018 Analyzed: 09/15/2018 05:25						
Tetrachloroethene	903	51	ug/kg dry	1027	ND	88.0	70-130			
Trichloroethene	1050	51	ug/kg dry	1027	ND	102	70-130			
cis-1,2-Dichloroethene	1180	51	ug/kg dry	1027	ND	115	70-130			
trans-1,2-Dichloroethene	1080	51	ug/kg dry	1027	ND	105	70-130			
1,1-Dichloroethene	1130	51	ug/kg dry	1027	ND	110	70-130			
Vinyl chloride	1090	51	ug/kg dry	1027	ND	107	70-130			
1,4-Dioxane	2670	100	ug/kg dry	2053	ND	130	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike Dup (V809006-MSD1)		Source: V183705-14		Prepared: 09/14/2018 Analyzed: 09/15/2018 05:11						
Tetrachloroethene	1030	50	ug/kg dry	1002	ND	103	70-130	5.39	20	
Trichloroethene	48400	50	ug/kg dry	1002	62600	NR	70-130	5.66	20	M1, E
cis-1,2-Dichloroethene	7830	50	ug/kg dry	1002	7280	54.2	70-130	7.60	20	M
trans-1,2-Dichloroethene	1870	50	ug/kg dry	1002	915	94.8	70-130	6.29	20	
1,1-Dichloroethene	1080	50	ug/kg dry	1002	ND	108	70-130	7.04	20	
Vinyl chloride	993	50	ug/kg dry	1002	ND	99.0	70-130	5.07	20	
1,4-Dioxane	2760	100	ug/kg dry	2004	ND	138	70-130	25.5	20	M, X
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.9</i>	<i>70-130</i>			

Matrix Spike Dup (V809006-MSD2)		Source: V183705-15		Prepared: 09/14/2018 Analyzed: 09/15/2018 05:40						
Tetrachloroethene	928	51	ug/kg dry	1027	ND	90.4	70-130	2.69	20	
Trichloroethene	1030	51	ug/kg dry	1027	ND	101	70-130	1.48	20	
cis-1,2-Dichloroethene	1130	51	ug/kg dry	1027	ND	110	70-130	3.69	20	
trans-1,2-Dichloroethene	1050	51	ug/kg dry	1027	ND	102	70-130	2.80	20	
1,1-Dichloroethene	1120	51	ug/kg dry	1027	ND	109	70-130	0.961	20	
Vinyl chloride	1050	51	ug/kg dry	1027	ND	103	70-130	3.87	20	
1,4-Dioxane	2640	100	ug/kg dry	2053	ND	129	70-130	1.16	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809008 - No Preparation

Blank (V809008-BLK1)

Prepared: 09/15/2018 Analyzed: 09/20/2018 17:52

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>60-140</i>			

LCS (V809008-BS1)

Prepared: 09/15/2018 Analyzed: 09/20/2018 18:07

Tetrachloroethene	19.4	1.0	ug/L	20.00		97.2	70-130			
Trichloroethene	18.5	1.0	ug/L	20.00		92.6	70-130			
cis-1,2-Dichloroethene	17.4	1.0	ug/L	20.00		86.8	70-130			
trans-1,2-Dichloroethene	18.1	1.0	ug/L	20.00		90.7	70-130			
1,1-Dichloroethene	18.6	1.0	ug/L	20.00		93.1	70-130			
Vinyl chloride	18.8	1.0	ug/L	20.00		94.2	70-130			
1,4-Dioxane	33.7	2.0	ug/L	40.00		84.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.0</i>	<i>70-130</i>			

Matrix Spike (V809008-MS1)

Source: V183706-02

Prepared: 09/15/2018 Analyzed: 09/20/2018 18:21

Tetrachloroethene	20.1	1.0	ug/L	20.00	ND	101	70-130			
Trichloroethene	22.7	1.0	ug/L	20.00	2.52	101	70-130			
cis-1,2-Dichloroethene	21.8	1.0	ug/L	20.00	4.78	85.3	70-130			
trans-1,2-Dichloroethene	18.6	1.0	ug/L	20.00	ND	93.2	70-130			
1,1-Dichloroethene	19.2	1.0	ug/L	20.00	ND	96.2	70-130			
Vinyl chloride	21.8	1.0	ug/L	20.00	ND	109	70-130			
1,4-Dioxane	36.4	2.0	ug/L	40.00	ND	91.0	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike Dup (V809008-MSD1)

Source: V183706-02

Prepared: 09/15/2018 Analyzed: 09/20/2018 18:36

Tetrachloroethene	19.8	1.0	ug/L	20.00	ND	99.0	70-130	1.55	20	
Trichloroethene	21.7	1.0	ug/L	20.00	2.52	96.0	70-130	4.46	20	
cis-1,2-Dichloroethene	20.7	1.0	ug/L	20.00	4.78	79.4	70-130	5.56	20	
trans-1,2-Dichloroethene	17.7	1.0	ug/L	20.00	ND	88.7	70-130	4.89	20	
1,1-Dichloroethene	18.8	1.0	ug/L	20.00	ND	94.2	70-130	2.10	20	
Vinyl chloride	22.4	1.0	ug/L	20.00	ND	112	70-130	2.90	20	
1,4-Dioxane	33.2	2.0	ug/L	40.00	ND	82.9	70-130	9.26	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809009 - No Preparation

Blank (V809009-BLK1)

Prepared: 09/17/2018 Analyzed: 09/17/2018 18:06

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V809009-BS1)

Prepared: 09/17/2018 Analyzed: 09/17/2018 17:36

Tetrachloroethene	18.2	1.0	ug/L	20.00		90.8	70-130			
Trichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
cis-1,2-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
trans-1,2-Dichloroethene	21.4	1.0	ug/L	20.00		107	70-130			
1,1-Dichloroethene	21.4	1.0	ug/L	20.00		107	70-130			
Vinyl chloride	17.9	1.0	ug/L	20.00		89.4	70-130			
1,4-Dioxane	35.0	2.0	ug/L	40.00		87.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.2		ug/L	20.00		96.1	70-130			

Matrix Spike (V809009-MS1)

Source: V183802-01

Prepared: 09/17/2018 Analyzed: 09/18/2018 14:03

Tetrachloroethene	17.5	1.0	ug/L	20.00	0.180	86.7	70-130			
Trichloroethene	425	1.0	ug/L	20.00	294	653	70-130			M1, E
cis-1,2-Dichloroethene	632	1.0	ug/L	20.00	630	8.50	70-130			M1, E
trans-1,2-Dichloroethene	30.3	1.0	ug/L	20.00	12.5	89.1	70-130			
1,1-Dichloroethene	18.6	1.0	ug/L	20.00	0.460	90.8	70-130			
Vinyl chloride	25.8	1.0	ug/L	20.00	3.17	113	70-130			
1,4-Dioxane	38.5	2.0	ug/L	40.00	1.86	91.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	24.2		ug/L	20.00		121	70-130			

Matrix Spike Dup (V809009-MSD1)

Source: V183802-01

Prepared: 09/17/2018 Analyzed: 09/18/2018 14:18

Tetrachloroethene	20.7	1.0	ug/L	20.00	0.180	102	70-130	16.5	20	
Trichloroethene	263	1.0	ug/L	20.00	294	NR	70-130	47.1	20	M1, E
cis-1,2-Dichloroethene	561	1.0	ug/L	20.00	630	NR	70-130	11.9	20	M1, E
trans-1,2-Dichloroethene	26.0	1.0	ug/L	20.00	12.5	67.6	70-130	15.3	20	M
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	0.460	94.6	70-130	4.05	20	
Vinyl chloride	25.2	1.0	ug/L	20.00	3.17	110	70-130	2.39	20	
1,4-Dioxane	43.5	2.0	ug/L	40.00	1.86	104	70-130	12.4	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	22.1		ug/L	20.00		111	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809010 - EPA 3550B

Blank (V809010-BLK1)

Prepared: 09/17/2018 Analyzed: 09/17/2018 20:49

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>17.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>88.9</i>	<i>60-140</i>			

LCS (V809010-BS1)

Prepared: 09/17/2018 Analyzed: 09/17/2018 17:21

Tetrachloroethene	802	40	ug/kg wet	800.0		100	70-130			
Trichloroethene	799	40	ug/kg wet	800.0		99.9	70-130			
cis-1,2-Dichloroethene	833	40	ug/kg wet	800.0		104	70-130			
trans-1,2-Dichloroethene	884	40	ug/kg wet	800.0		111	70-130			
1,1-Dichloroethene	922	40	ug/kg wet	800.0		115	70-130			
Vinyl chloride	690	40	ug/kg wet	800.0		86.3	70-130			
1,4-Dioxane	1450	80	ug/kg wet	1600		90.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>93.4</i>	<i>70-130</i>			

Matrix Spike (V809010-MS1)

Source: V183801-01

Prepared: 09/17/2018 Analyzed: 09/24/2018 10:59

Tetrachloroethene	918	44	ug/kg dry	888.6	ND	103	70-130			
Trichloroethene	1280	44	ug/kg dry	888.6	317	108	70-130			
cis-1,2-Dichloroethene	968	44	ug/kg dry	888.6	43.5	104	70-130			
trans-1,2-Dichloroethene	911	44	ug/kg dry	888.6	ND	103	70-130			
1,1-Dichloroethene	892	44	ug/kg dry	888.6	ND	100	70-130			
Vinyl chloride	817	44	ug/kg dry	888.6	ND	92.0	70-130			
1,4-Dioxane	1590	89	ug/kg dry	1777	ND	89.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike Dup (V809010-MSD1)

Source: V183801-01

Prepared: 09/17/2018 Analyzed: 09/24/2018 11:14

Tetrachloroethene	965	44	ug/kg dry	888.6	ND	109	70-130	4.95	20	
Trichloroethene	1370	44	ug/kg dry	888.6	317	119	70-130	6.97	20	
cis-1,2-Dichloroethene	1030	44	ug/kg dry	888.6	43.5	111	70-130	6.18	20	
trans-1,2-Dichloroethene	978	44	ug/kg dry	888.6	ND	110	70-130	7.10	20	
1,1-Dichloroethene	964	44	ug/kg dry	888.6	ND	109	70-130	7.75	20	
Vinyl chloride	894	44	ug/kg dry	888.6	ND	101	70-130	9.03	20	
1,4-Dioxane	1610	89	ug/kg dry	1777	ND	90.6	70-130	1.56	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809012 - No Preparation

Blank (V809012-BLK1)

Prepared: 09/18/2018 Analyzed: 09/18/2018 12:21

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	22.3		ug/L	20.00		112	60-140			

LCS (V809012-BS1)

Prepared: 09/18/2018 Analyzed: 09/18/2018 17:25

Tetrachloroethene	19.6	1.0	ug/L	20.00		98.2	70-130			
Trichloroethene	18.2	1.0	ug/L	20.00		91.0	70-130			
cis-1,2-Dichloroethene	16.2	1.0	ug/L	20.00		81.1	70-130			
trans-1,2-Dichloroethene	16.7	1.0	ug/L	20.00		83.4	70-130			
1,1-Dichloroethene	18.1	1.0	ug/L	20.00		90.7	70-130			
Vinyl chloride	25.1	1.0	ug/L	20.00		125	70-130			
1,4-Dioxane	42.5	2.0	ug/L	40.00		106	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	24.1		ug/L	20.00		120	70-130			

Matrix Spike (V809012-MS1)

Source: V183803-01

Prepared: 09/18/2018 Analyzed: 09/18/2018 16:56

Tetrachloroethene	17.0	1.0	ug/L	20.00	ND	85.2	70-130			
Trichloroethene	19.7	1.0	ug/L	20.00	ND	98.6	70-130			
cis-1,2-Dichloroethene	18.5	1.0	ug/L	20.00	ND	92.7	70-130			
trans-1,2-Dichloroethene	17.7	1.0	ug/L	20.00	ND	88.3	70-130			
1,1-Dichloroethene	17.5	1.0	ug/L	20.00	ND	87.6	70-130			
Vinyl chloride	25.0	1.0	ug/L	20.00	ND	125	70-130			
1,4-Dioxane	38.1	2.0	ug/L	40.00	ND	95.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	24.1		ug/L	20.00		121	70-130			

Matrix Spike Dup (V809012-MSD1)

Source: V183803-01

Prepared: 09/18/2018 Analyzed: 09/18/2018 17:11

Tetrachloroethene	18.0	1.0	ug/L	20.00	ND	90.2	70-130	5.65	20	
Trichloroethene	19.6	1.0	ug/L	20.00	ND	98.0	70-130	0.560	20	
cis-1,2-Dichloroethene	18.3	1.0	ug/L	20.00	ND	91.5	70-130	1.30	20	
trans-1,2-Dichloroethene	18.1	1.0	ug/L	20.00	ND	90.7	70-130	2.63	20	
1,1-Dichloroethene	18.3	1.0	ug/L	20.00	ND	91.5	70-130	4.41	20	
Vinyl chloride	24.3	1.0	ug/L	20.00	ND	121	70-130	3.09	20	
1,4-Dioxane	39.3	2.0	ug/L	40.00	ND	98.2	70-130	3.10	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	24.1		ug/L	20.00		121	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809013 - EPA 3550B

Blank (V809013-BLK1)

Prepared: 09/18/2018 Analyzed: 09/24/2018 16:49

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>60-140</i>			

LCS (V809013-BS1)

Prepared: 09/18/2018 Analyzed: 09/24/2018 10:45

Tetrachloroethene	848	40	ug/kg wet	800.0		106	70-130			
Trichloroethene	770	40	ug/kg wet	800.0		96.3	70-130			
cis-1,2-Dichloroethene	760	40	ug/kg wet	800.0		95.1	70-130			
trans-1,2-Dichloroethene	778	40	ug/kg wet	800.0		97.3	70-130			
1,1-Dichloroethene	779	40	ug/kg wet	800.0		97.4	70-130			
Vinyl chloride	680	40	ug/kg wet	800.0		85.0	70-130			
1,4-Dioxane	1450	80	ug/kg wet	1600		90.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike (V809013-MS1)

Source: V183804-01

Prepared: 09/18/2018 Analyzed: 09/24/2018 17:09

Tetrachloroethene	849	47	ug/kg dry	937.0	0.433	90.6	70-130			
Trichloroethene	1060	47	ug/kg dry	937.0	ND	113	70-130			
cis-1,2-Dichloroethene	1200	47	ug/kg dry	937.0	ND	128	70-130			
trans-1,2-Dichloroethene	1110	47	ug/kg dry	937.0	ND	119	70-130			
1,1-Dichloroethene	1010	47	ug/kg dry	937.0	ND	108	70-130			
Vinyl chloride	944	47	ug/kg dry	937.0	ND	101	70-130			
1,4-Dioxane	1730	94	ug/kg dry	1874	117	86.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>108</i>	<i>70-130</i>			

Matrix Spike Dup (V809013-MSD1)

Source: V183804-01

Prepared: 09/18/2018 Analyzed: 09/24/2018 17:24

Tetrachloroethene	933	47	ug/kg dry	937.0	0.433	99.6	70-130	9.41	20	
Trichloroethene	1010	47	ug/kg dry	937.0	ND	108	70-130	4.75	20	
cis-1,2-Dichloroethene	1070	47	ug/kg dry	937.0	ND	114	70-130	11.1	20	
trans-1,2-Dichloroethene	1030	47	ug/kg dry	937.0	ND	110	70-130	8.06	20	
1,1-Dichloroethene	973	47	ug/kg dry	937.0	ND	104	70-130	4.10	20	
Vinyl chloride	881	47	ug/kg dry	937.0	ND	94.0	70-130	6.93	20	
1,4-Dioxane	1400	94	ug/kg dry	1874	117	68.6	70-130	21.0	20	M, X
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809015 - No Preparation

Blank (V809015-BLK1)

Prepared: 09/19/2018 Analyzed: 09/19/2018 21:34

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		103	60-140			

LCS (V809015-BS1)

Prepared: 09/19/2018 Analyzed: 09/19/2018 21:19

Tetrachloroethene	20.9	1.0	ug/L	20.00		105	70-130			
Trichloroethene	18.9	1.0	ug/L	20.00		94.6	70-130			
cis-1,2-Dichloroethene	17.4	1.0	ug/L	20.00		87.1	70-130			
trans-1,2-Dichloroethene	19.3	1.0	ug/L	20.00		96.5	70-130			
1,1-Dichloroethene	20.7	1.0	ug/L	20.00		104	70-130			
Vinyl chloride	19.6	1.0	ug/L	20.00		97.8	70-130			
1,4-Dioxane	37.8	2.0	ug/L	40.00		94.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.6		ug/L	20.00		98.1	70-130			

Matrix Spike (V809015-MS1)

Source: V183805-04

Prepared: 09/19/2018 Analyzed: 09/19/2018 22:47

Tetrachloroethene	17.5	1.0	ug/L	20.00	ND	87.6	70-130			
Trichloroethene	18.7	1.0	ug/L	20.00	ND	93.4	70-130			
cis-1,2-Dichloroethene	18.5	1.0	ug/L	20.00	ND	92.3	70-130			
trans-1,2-Dichloroethene	25.5	1.0	ug/L	20.00	5.28	101	70-130			
1,1-Dichloroethene	18.8	1.0	ug/L	20.00	ND	94.1	70-130			
Vinyl chloride	681	1.0	ug/L	20.00	595	429	70-130			M1, E
1,4-Dioxane	40.6	2.0	ug/L	40.00	1.62	97.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.9		ug/L	20.00		99.7	70-130			

Matrix Spike Dup (V809015-MSD1)

Source: V183805-04

Prepared: 09/19/2018 Analyzed: 09/19/2018 23:01

Tetrachloroethene	18.4	1.0	ug/L	20.00	ND	91.9	70-130	4.79	20	
Trichloroethene	19.8	1.0	ug/L	20.00	ND	99.1	70-130	5.87	20	
cis-1,2-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.1	70-130	7.11	20	
trans-1,2-Dichloroethene	27.8	1.0	ug/L	20.00	5.28	113	70-130	8.55	20	
1,1-Dichloroethene	20.3	1.0	ug/L	20.00	ND	102	70-130	7.62	20	
Vinyl chloride	773	1.0	ug/L	20.00	595	889	70-130	12.6	20	M1, E
1,4-Dioxane	44.6	2.0	ug/L	40.00	1.62	107	70-130	9.36	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.8		ug/L	20.00		104	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809016 - EPA 3550B

Blank (V809016-BLK1)

Prepared: 09/19/2018 Analyzed: 09/19/2018 23:31

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>60-140</i>			

LCS (V809016-BS1)

Prepared: 09/19/2018 Analyzed: 09/19/2018 23:16

Tetrachloroethene	766	40	ug/kg wet	800.0		95.8	70-130			
Trichloroethene	732	40	ug/kg wet	800.0		91.5	70-130			
cis-1,2-Dichloroethene	708	40	ug/kg wet	800.0		88.5	70-130			
trans-1,2-Dichloroethene	751	40	ug/kg wet	800.0		93.9	70-130			
1,1-Dichloroethene	793	40	ug/kg wet	800.0		99.1	70-130			
Vinyl chloride	930	40	ug/kg wet	800.0		116	70-130			
1,4-Dioxane	1400	80	ug/kg wet	1600		87.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.4</i>	<i>70-130</i>			

Matrix Spike (V809016-MS1)

Source: V183806-04

Prepared: 09/19/2018 Analyzed: 09/20/2018 03:09

Tetrachloroethene	972	51	ug/kg dry	1011	0.506	96.1	70-130			
Trichloroethene	1120	51	ug/kg dry	1011	0.506	111	70-130			
cis-1,2-Dichloroethene	1300	51	ug/kg dry	1011	53.1	123	70-130			
trans-1,2-Dichloroethene	1200	51	ug/kg dry	1011	ND	119	70-130			
1,1-Dichloroethene	1180	51	ug/kg dry	1011	ND	116	70-130			
Vinyl chloride	768	51	ug/kg dry	1011	ND	75.9	70-130			
1,4-Dioxane	1870	100	ug/kg dry	2023	ND	92.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>15.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>79.2</i>	<i>70-130</i>			

Matrix Spike Dup (V809016-MSD1)

Source: V183806-04

Prepared: 09/19/2018 Analyzed: 09/20/2018 03:24

Tetrachloroethene	1050	51	ug/kg dry	1011	0.506	104	70-130	7.65	20	
Trichloroethene	1200	51	ug/kg dry	1011	0.506	118	70-130	6.54	20	
cis-1,2-Dichloroethene	1270	51	ug/kg dry	1011	53.1	121	70-130	1.89	20	
trans-1,2-Dichloroethene	1210	51	ug/kg dry	1011	ND	120	70-130	0.670	20	
1,1-Dichloroethene	1170	51	ug/kg dry	1011	ND	116	70-130	0.387	20	
Vinyl chloride	762	51	ug/kg dry	1011	ND	75.3	70-130	0.794	20	
1,4-Dioxane	1850	100	ug/kg dry	2023	ND	91.2	70-130	1.55	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>16.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>82.9</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809018 - No Preparation

Blank (V809018-BLK1)

Prepared: 09/20/2018 Analyzed: 09/20/2018 12:38

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>92.8</i>	<i>60-140</i>			

LCS (V809018-BS1)

Prepared: 09/20/2018 Analyzed: 09/20/2018 14:37

Tetrachloroethene	20.0	1.0	ug/L	20.00		99.9	70-130			
Trichloroethene	19.9	1.0	ug/L	20.00		99.7	70-130			
cis-1,2-Dichloroethene	19.1	1.0	ug/L	20.00		95.5	70-130			
trans-1,2-Dichloroethene	19.9	1.0	ug/L	20.00		99.5	70-130			
1,1-Dichloroethene	19.6	1.0	ug/L	20.00		97.8	70-130			
Vinyl chloride	18.2	1.0	ug/L	20.00		91.2	70-130			
1,4-Dioxane	33.7	2.0	ug/L	40.00		84.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.3</i>	<i>70-130</i>			

Matrix Spike (V809018-MS1)

Source: V183807-03

Prepared: 09/20/2018 Analyzed: 09/20/2018 17:23

Tetrachloroethene	16.8	1.0	ug/L	20.00	ND	83.8	70-130			
Trichloroethene	19.7	1.0	ug/L	20.00	0.220	97.3	70-130			
cis-1,2-Dichloroethene	20.0	1.0	ug/L	20.00	0.150	99.2	70-130			
trans-1,2-Dichloroethene	19.4	1.0	ug/L	20.00	ND	97.2	70-130			
1,1-Dichloroethene	18.3	1.0	ug/L	20.00	ND	91.6	70-130			
Vinyl chloride	19.4	1.0	ug/L	20.00	ND	97.0	70-130			
1,4-Dioxane	37.5	2.0	ug/L	40.00	ND	93.9	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.6</i>	<i>70-130</i>			

Matrix Spike Dup (V809018-MSD1)

Source: V183807-03

Prepared: 09/20/2018 Analyzed: 09/20/2018 17:37

Tetrachloroethene	19.5	1.0	ug/L	20.00	ND	97.4	70-130	15.1	20	
Trichloroethene	19.6	1.0	ug/L	20.00	0.220	97.1	70-130	0.153	20	
cis-1,2-Dichloroethene	18.7	1.0	ug/L	20.00	0.150	92.9	70-130	6.46	20	
trans-1,2-Dichloroethene	19.5	1.0	ug/L	20.00	ND	97.7	70-130	0.513	20	
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	ND	97.2	70-130	5.99	20	
Vinyl chloride	19.8	1.0	ug/L	20.00	ND	99.0	70-130	1.99	20	
1,4-Dioxane	35.0	2.0	ug/L	40.00	ND	87.6	70-130	6.92	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.7</i>	<i>70-130</i>			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809019 - EPA 3550B

Blank (V809019-BLK1)

Prepared: 09/20/2018 Analyzed: 09/20/2018 15:06

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.8</i>	<i>60-140</i>			

LCS (V809019-BS1)

Prepared: 09/20/2018 Analyzed: 09/20/2018 14:51

Tetrachloroethene	967	40	ug/kg wet	800.0		121	70-130			
Trichloroethene	771	40	ug/kg wet	800.0		96.4	70-130			
cis-1,2-Dichloroethene	687	40	ug/kg wet	800.0		85.9	70-130			
trans-1,2-Dichloroethene	749	40	ug/kg wet	800.0		93.7	70-130			
1,1-Dichloroethene	794	40	ug/kg wet	800.0		99.2	70-130			
Vinyl chloride	718	40	ug/kg wet	800.0		89.8	70-130			
1,4-Dioxane	1520	80	ug/kg wet	1600		95.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.9</i>	<i>70-130</i>			

Matrix Spike (V809019-MS1)

Source: V183808-04

Prepared: 09/20/2018 Analyzed: 09/20/2018 20:32

Tetrachloroethene	1340	50	ug/kg dry	1003	ND	133	70-130			M
Trichloroethene	918	50	ug/kg dry	1003	ND	91.6	70-130			
cis-1,2-Dichloroethene	860	50	ug/kg dry	1003	ND	85.8	70-130			
trans-1,2-Dichloroethene	1000	50	ug/kg dry	1003	ND	99.8	70-130			
1,1-Dichloroethene	1110	50	ug/kg dry	1003	ND	111	70-130			
Vinyl chloride	745	50	ug/kg dry	1003	ND	74.3	70-130			
1,4-Dioxane	1530	100	ug/kg dry	2006	ND	76.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>16.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>84.3</i>	<i>70-130</i>			

Matrix Spike Dup (V809019-MSD1)

Source: V183808-04

Prepared: 09/20/2018 Analyzed: 09/20/2018 20:47

Tetrachloroethene	1040	50	ug/kg dry	1003	ND	104	70-130	24.6	20	X
Trichloroethene	1010	50	ug/kg dry	1003	ND	100	70-130	9.22	20	
cis-1,2-Dichloroethene	1130	50	ug/kg dry	1003	ND	112	70-130	26.8	20	X
trans-1,2-Dichloroethene	1180	50	ug/kg dry	1003	ND	118	70-130	16.3	20	
1,1-Dichloroethene	1150	50	ug/kg dry	1003	ND	115	70-130	3.82	20	
Vinyl chloride	804	50	ug/kg dry	1003	ND	80.2	70-130	7.64	20	
1,4-Dioxane	1900	100	ug/kg dry	2006	ND	94.8	70-130	21.3	20	X
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>16.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>83.0</i>	<i>70-130</i>			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809021 - No Preparation

Blank (V809021-BLK1)

Prepared: 09/21/2018 Analyzed: 09/21/2018 15:47

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	22.7		ug/L	20.00		114	60-140			

LCS (V809021-BS1)

Prepared: 09/21/2018 Analyzed: 09/21/2018 15:33

Tetrachloroethene	19.0	1.0	ug/L	20.00		95.0	70-130			
Trichloroethene	20.7	1.0	ug/L	20.00		104	70-130			
cis-1,2-Dichloroethene	21.7	1.0	ug/L	20.00		108	70-130			
trans-1,2-Dichloroethene	21.5	1.0	ug/L	20.00		107	70-130			
1,1-Dichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
Vinyl chloride	20.4	1.0	ug/L	20.00		102	70-130			
1,4-Dioxane	40.5	2.0	ug/L	40.00		101	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	22.4		ug/L	20.00		112	70-130			

Matrix Spike (V809021-MS1)

Source: V183809-02

Prepared: 09/21/2018 Analyzed: 09/24/2018 10:15

Tetrachloroethene	20.8	1.0	ug/L	20.00	ND	104	70-130			
Trichloroethene	22.1	1.0	ug/L	20.00	0.160	110	70-130			
cis-1,2-Dichloroethene	23.2	1.0	ug/L	20.00	0.180	115	70-130			
trans-1,2-Dichloroethene	23.1	1.0	ug/L	20.00	0.170	115	70-130			
1,1-Dichloroethene	22.0	1.0	ug/L	20.00	0.0100	110	70-130			
Vinyl chloride	22.3	1.0	ug/L	20.00	1.41	105	70-130			
1,4-Dioxane	51.0	2.0	ug/L	40.00	ND	128	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	22.2		ug/L	20.00		111	70-130			

Matrix Spike Dup (V809021-MSD1)

Source: V183809-02

Prepared: 09/21/2018 Analyzed: 09/24/2018 10:30

Tetrachloroethene	19.6	1.0	ug/L	20.00	ND	98.0	70-130	5.80	20	
Trichloroethene	21.6	1.0	ug/L	20.00	0.160	107	70-130	2.61	20	
cis-1,2-Dichloroethene	22.7	1.0	ug/L	20.00	0.180	112	70-130	2.35	20	
trans-1,2-Dichloroethene	22.6	1.0	ug/L	20.00	0.170	112	70-130	2.23	20	
1,1-Dichloroethene	21.3	1.0	ug/L	20.00	0.0100	107	70-130	3.09	20	
Vinyl chloride	21.0	1.0	ug/L	20.00	1.41	98.0	70-130	6.05	20	
1,4-Dioxane	47.3	2.0	ug/L	40.00	ND	118	70-130	7.57	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.9		ug/L	20.00		104	70-130			



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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809022 - EPA 3550B

Blank (V809022-BLK1)

Prepared: 09/21/2018 Analyzed: 09/21/2018 16:45

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V809022-BS1)

Prepared: 09/21/2018 Analyzed: 09/21/2018 16:31

Tetrachloroethene	808	40	ug/kg wet	800.0		101	70-130			
Trichloroethene	752	40	ug/kg wet	800.0		94.1	70-130			
cis-1,2-Dichloroethene	726	40	ug/kg wet	800.0		90.8	70-130			
trans-1,2-Dichloroethene	749	40	ug/kg wet	800.0		93.6	70-130			
1,1-Dichloroethene	759	40	ug/kg wet	800.0		94.9	70-130			
Vinyl chloride	714	40	ug/kg wet	800.0		89.3	70-130			
1,4-Dioxane	1680	80	ug/kg wet	1600		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V809022-MS1)

Source: V183810-04

Prepared: 09/21/2018 Analyzed: 09/21/2018 18:13

Tetrachloroethene	1050	51	ug/kg dry	1026	ND	102	70-130			
Trichloroethene	1020	51	ug/kg dry	1026	ND	99.0	70-130			
cis-1,2-Dichloroethene	1070	51	ug/kg dry	1026	ND	104	70-130			
trans-1,2-Dichloroethene	1050	51	ug/kg dry	1026	ND	102	70-130			
1,1-Dichloroethene	1060	51	ug/kg dry	1026	ND	103	70-130			
Vinyl chloride	1070	51	ug/kg dry	1026	ND	104	70-130			
1,4-Dioxane	2160	100	ug/kg dry	2051	ND	105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Matrix Spike Dup (V809022-MSD1)

Source: V183810-04

Prepared: 09/21/2018 Analyzed: 09/21/2018 18:28

Tetrachloroethene	1020	51	ug/kg dry	1026	ND	99.6	70-130	2.43	20	
Trichloroethene	953	51	ug/kg dry	1026	ND	92.9	70-130	6.36	20	
cis-1,2-Dichloroethene	976	51	ug/kg dry	1026	ND	95.2	70-130	9.22	20	
trans-1,2-Dichloroethene	995	51	ug/kg dry	1026	ND	97.0	70-130	5.07	20	
1,1-Dichloroethene	1010	51	ug/kg dry	1026	ND	98.5	70-130	4.56	20	
Vinyl chloride	988	51	ug/kg dry	1026	ND	96.3	70-130	8.02	20	
1,4-Dioxane	1840	100	ug/kg dry	2051	ND	89.6	70-130	16.2	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809025 - EPA 3550B

Blank (V809025-BLK1)

Prepared: 09/24/2018 Analyzed: 09/24/2018 13:03

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							

Surrogate: 4-Bromofluorobenzene 21.5 ug/L 20.00 108 60-140

LCS (V809025-BS1)

Prepared: 09/24/2018 Analyzed: 09/24/2018 12:49

Tetrachloroethene	800	40	ug/kg wet	800.0		100	70-130			
Trichloroethene	788	40	ug/kg wet	800.0		98.5	70-130			
cis-1,2-Dichloroethene	803	40	ug/kg wet	800.0		100	70-130			
trans-1,2-Dichloroethene	806	40	ug/kg wet	800.0		101	70-130			
1,1-Dichloroethene	789	40	ug/kg wet	800.0		98.7	70-130			
Vinyl chloride	689	40	ug/kg wet	800.0		86.2	70-130			
1,4-Dioxane	1410	80	ug/kg wet	1600		87.9	70-130			

Surrogate: 4-Bromofluorobenzene 20.5 ug/L 20.00 102 70-130

Matrix Spike (V809025-MS1)

Source: V183901-04

Prepared: 09/24/2018 Analyzed: 09/24/2018 19:39

Tetrachloroethene	1200	52	ug/kg dry	1036	12.9	114	70-130			
Trichloroethene	1110	52	ug/kg dry	1036	88.5	99.1	70-130			
cis-1,2-Dichloroethene	1000	52	ug/kg dry	1036	ND	96.6	70-130			
trans-1,2-Dichloroethene	1020	52	ug/kg dry	1036	ND	98.9	70-130			
1,1-Dichloroethene	1050	52	ug/kg dry	1036	ND	101	70-130			
Vinyl chloride	911	52	ug/kg dry	1036	ND	88.0	70-130			
1,4-Dioxane	1530	100	ug/kg dry	2071	ND	73.9	70-130			

Surrogate: 4-Bromofluorobenzene 20.5 ug/L 20.00 102 70-130

Matrix Spike Dup (V809025-MSD1)

Source: V183901-04

Prepared: 09/24/2018 Analyzed: 09/24/2018 19:53

Tetrachloroethene	1140	52	ug/kg dry	1036	12.9	109	70-130	4.70	20	
Trichloroethene	1150	52	ug/kg dry	1036	88.5	102	70-130	2.93	20	
cis-1,2-Dichloroethene	1080	52	ug/kg dry	1036	ND	105	70-130	8.10	20	
trans-1,2-Dichloroethene	1070	52	ug/kg dry	1036	ND	103	70-130	4.26	20	
1,1-Dichloroethene	1070	52	ug/kg dry	1036	ND	103	70-130	1.81	20	
Vinyl chloride	958	52	ug/kg dry	1036	ND	92.6	70-130	5.10	20	
1,4-Dioxane	1930	100	ug/kg dry	2071	ND	93.2	70-130	23.1	20	X

Surrogate: 4-Bromofluorobenzene 20.3 ug/L 20.00 102 70-130



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809027 - No Preparation

Blank (V809027-BLK1)

Prepared: 09/25/2018 Analyzed: 09/25/2018 10:32

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V809027-BS1)

Prepared: 09/25/2018 Analyzed: 09/25/2018 10:17

Tetrachloroethene	18.5	1.0	ug/L	20.00		92.7	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	20.9	1.0	ug/L	20.00		105	70-130			
trans-1,2-Dichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
1,1-Dichloroethene	19.7	1.0	ug/L	20.00		98.3	70-130			
Vinyl chloride	18.4	1.0	ug/L	20.00		92.1	70-130			
1,4-Dioxane	38.1	2.0	ug/L	40.00		95.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>70-130</i>			

Matrix Spike (V809027-MS1)

Source: V183902-04

Prepared: 09/25/2018 Analyzed: 09/25/2018 17:01

Tetrachloroethene	23.7	1.0	ug/L	20.00	ND	118	70-130			
Trichloroethene	20.9	1.0	ug/L	20.00	ND	105	70-130			
cis-1,2-Dichloroethene	20.1	1.0	ug/L	20.00	0.0400	100	70-130			
trans-1,2-Dichloroethene	21.0	1.0	ug/L	20.00	ND	105	70-130			
1,1-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130			
Vinyl chloride	20.4	1.0	ug/L	20.00	ND	102	70-130			
1,4-Dioxane	46.5	2.0	ug/L	40.00	ND	116	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>22.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>110</i>	<i>70-130</i>			

Matrix Spike Dup (V809027-MSD1)

Source: V183902-04

Prepared: 09/25/2018 Analyzed: 09/25/2018 17:16

Tetrachloroethene	20.5	1.0	ug/L	20.00	ND	102	70-130	14.6	20	
Trichloroethene	21.7	1.0	ug/L	20.00	ND	109	70-130	3.56	20	
cis-1,2-Dichloroethene	22.5	1.0	ug/L	20.00	0.0400	112	70-130	11.2	20	
trans-1,2-Dichloroethene	22.5	1.0	ug/L	20.00	ND	113	70-130	6.84	20	
1,1-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130	0.278	20	
Vinyl chloride	21.0	1.0	ug/L	20.00	ND	105	70-130	3.24	20	
1,4-Dioxane	44.2	2.0	ug/L	40.00	ND	110	70-130	5.18	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809028 - EPA 3550B

Blank (V809028-BLK1)

Prepared: 09/25/2018 Analyzed: 09/25/2018 09:18

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V809028-BS1)

Prepared: 09/25/2018 Analyzed: 09/25/2018 09:04

Tetrachloroethene	764	40	ug/kg wet	800.0		95.6	70-130			
Trichloroethene	791	40	ug/kg wet	800.0		98.9	70-130			
cis-1,2-Dichloroethene	810	40	ug/kg wet	800.0		101	70-130			
trans-1,2-Dichloroethene	804	40	ug/kg wet	800.0		101	70-130			
1,1-Dichloroethene	771	40	ug/kg wet	800.0		96.4	70-130			
Vinyl chloride	637	40	ug/kg wet	800.0		79.6	70-130			
1,4-Dioxane	1520	80	ug/kg wet	1600		94.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.8</i>	<i>70-130</i>			

Matrix Spike (V809028-MS1)

Source: V183903-04

Prepared: 09/25/2018 Analyzed: 09/25/2018 19:27

Tetrachloroethene	972	46	ug/kg dry	916.9	7.33	105	70-130			
Trichloroethene	925	46	ug/kg dry	916.9	ND	101	70-130			
cis-1,2-Dichloroethene	941	46	ug/kg dry	916.9	ND	103	70-130			
trans-1,2-Dichloroethene	944	46	ug/kg dry	916.9	ND	103	70-130			
1,1-Dichloroethene	963	46	ug/kg dry	916.9	ND	105	70-130			
Vinyl chloride	898	46	ug/kg dry	916.9	ND	97.9	70-130			
1,4-Dioxane	1740	92	ug/kg dry	1834	ND	95.1	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V809028-MSD1)

Source: V183903-04

Prepared: 09/25/2018 Analyzed: 09/25/2018 19:41

Tetrachloroethene	909	46	ug/kg dry	916.9	7.33	98.3	70-130	6.78	20	
Trichloroethene	866	46	ug/kg dry	916.9	ND	94.4	70-130	6.55	20	
cis-1,2-Dichloroethene	869	46	ug/kg dry	916.9	ND	94.8	70-130	7.96	20	
trans-1,2-Dichloroethene	898	46	ug/kg dry	916.9	ND	98.0	70-130	4.98	20	
1,1-Dichloroethene	923	46	ug/kg dry	916.9	ND	101	70-130	4.18	20	
Vinyl chloride	877	46	ug/kg dry	916.9	ND	95.6	70-130	2.38	20	
1,4-Dioxane	1660	92	ug/kg dry	1834	ND	90.4	70-130	5.04	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.3</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809030 - No Preparation

Blank (V809030-BLK1)

Prepared: 09/26/2018 Analyzed: 09/26/2018 09:51

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>109</i>	<i>60-140</i>			

LCS (V809030-BS1)

Prepared: 09/26/2018 Analyzed: 09/26/2018 11:02

Tetrachloroethene	21.1	1.0	ug/L	20.00		105	70-130			
Trichloroethene	20.7	1.0	ug/L	20.00		104	70-130			
cis-1,2-Dichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00		108	70-130			
1,1-Dichloroethene	21.7	1.0	ug/L	20.00		109	70-130			
Vinyl chloride	21.5	1.0	ug/L	20.00		107	70-130			
1,4-Dioxane	35.5	2.0	ug/L	40.00		88.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>109</i>	<i>70-130</i>			

Matrix Spike (V809030-MS1)

Source: V183904-04

Prepared: 09/26/2018 Analyzed: 09/26/2018 22:00

Tetrachloroethene	186	10	ug/L	200.0	0.100	92.7	70-130			D
Trichloroethene	246	10	ug/L	200.0	39.8	103	70-130			D
cis-1,2-Dichloroethene	2970	10	ug/L	200.0	2630	172	70-130			M1, D, E
trans-1,2-Dichloroethene	493	10	ug/L	200.0	269	112	70-130			D
1,1-Dichloroethene	215	10	ug/L	200.0	1.00	107	70-130			D
Vinyl chloride	238	10	ug/L	200.0	41.4	98.4	70-130			D
1,4-Dioxane	345	20	ug/L	400.0	ND	86.3	70-130			D
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike Dup (V809030-MSD1)

Source: V183904-04

Prepared: 09/26/2018 Analyzed: 09/26/2018 22:15

Tetrachloroethene	182	10	ug/L	200.0	0.100	91.0	70-130	1.85	20	D
Trichloroethene	240	10	ug/L	200.0	39.8	99.9	70-130	2.76	20	D
cis-1,2-Dichloroethene	2720	10	ug/L	200.0	2630	47.3	70-130	8.77	20	M1, D, E
trans-1,2-Dichloroethene	459	10	ug/L	200.0	269	95.1	70-130	7.06	20	D
1,1-Dichloroethene	203	10	ug/L	200.0	1.00	101	70-130	6.12	20	D
Vinyl chloride	227	10	ug/L	200.0	41.4	93.0	70-130	4.64	20	D
1,4-Dioxane	351	20	ug/L	400.0	ND	87.7	70-130	1.55	20	D
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809031 - EPA 3550B

Blank (V809031-BLK1)

Prepared: 09/26/2018 Analyzed: 09/26/2018 11:31

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V809031-BS1)

Prepared: 09/26/2018 Analyzed: 09/26/2018 11:16

Tetrachloroethene	791	40	ug/kg wet	800.0		98.9	70-130			
Trichloroethene	713	40	ug/kg wet	800.0		89.2	70-130			
cis-1,2-Dichloroethene	705	40	ug/kg wet	800.0		88.1	70-130			
trans-1,2-Dichloroethene	708	40	ug/kg wet	800.0		88.5	70-130			
1,1-Dichloroethene	706	40	ug/kg wet	800.0		88.3	70-130			
Vinyl chloride	602	40	ug/kg wet	800.0		75.3	70-130			
1,4-Dioxane	1380	80	ug/kg wet	1600		86.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.7</i>	<i>70-130</i>			

Matrix Spike (V809031-MS1)

Source: V183905-04

Prepared: 09/26/2018 Analyzed: 09/26/2018 21:16

Tetrachloroethene	940	51	ug/kg dry	1013	ND	92.8	70-130			
Trichloroethene	1020	51	ug/kg dry	1013	ND	101	70-130			
cis-1,2-Dichloroethene	1150	51	ug/kg dry	1013	ND	114	70-130			
trans-1,2-Dichloroethene	1100	51	ug/kg dry	1013	ND	109	70-130			
1,1-Dichloroethene	1100	51	ug/kg dry	1013	ND	108	70-130			
Vinyl chloride	1030	51	ug/kg dry	1013	ND	102	70-130			
1,4-Dioxane	1710	100	ug/kg dry	2025	ND	84.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>93.4</i>	<i>70-130</i>			

Matrix Spike Dup (V809031-MSD1)

Source: V183905-04

Prepared: 09/26/2018 Analyzed: 09/26/2018 21:31

Tetrachloroethene	896	51	ug/kg dry	1013	ND	88.5	70-130	4.74	20	
Trichloroethene	1110	51	ug/kg dry	1013	ND	109	70-130	8.53	20	
cis-1,2-Dichloroethene	1260	51	ug/kg dry	1013	ND	124	70-130	8.78	20	
trans-1,2-Dichloroethene	1180	51	ug/kg dry	1013	ND	117	70-130	7.08	20	
1,1-Dichloroethene	1110	51	ug/kg dry	1013	ND	110	70-130	1.15	20	
Vinyl chloride	1060	51	ug/kg dry	1013	ND	104	70-130	2.18	20	
1,4-Dioxane	1470	100	ug/kg dry	2025	ND	72.7	70-130	15.2	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809033 - No Preparation

Blank (V809033-BLK1)

Prepared: 09/27/2018 Analyzed: 09/27/2018 12:58

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.9		ug/L	20.00		104	60-140			

LCS (V809033-BS1)

Prepared: 09/27/2018 Analyzed: 09/27/2018 12:44

Tetrachloroethene	19.2	1.0	ug/L	20.00		96.1	70-130			
Trichloroethene	22.0	1.0	ug/L	20.00		110	70-130			
cis-1,2-Dichloroethene	23.5	1.0	ug/L	20.00		118	70-130			
trans-1,2-Dichloroethene	22.0	1.0	ug/L	20.00		110	70-130			
1,1-Dichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
Vinyl chloride	18.5	1.0	ug/L	20.00		92.7	70-130			
1,4-Dioxane	38.1	2.0	ug/L	40.00		95.3	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.7		ug/L	20.00		108	70-130			

Matrix Spike (V809033-MS1)

Source: V183906-03

Prepared: 09/27/2018 Analyzed: 09/27/2018 18:37

Tetrachloroethene	230	10	ug/L	200.0	ND	115	70-130			D
Trichloroethene	1090	10	ug/L	200.0	988	51.6	70-130			M, D
cis-1,2-Dichloroethene	2760	10	ug/L	200.0	2620	67.3	70-130			M1, D, E
trans-1,2-Dichloroethene	327	10	ug/L	200.0	124	102	70-130			D
1,1-Dichloroethene	222	10	ug/L	200.0	4.20	109	70-130			D
Vinyl chloride	362	10	ug/L	200.0	184	89.2	70-130			D
1,4-Dioxane	375	20	ug/L	400.0	ND	93.8	70-130			D
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		102	70-130			

Matrix Spike Dup (V809033-MSD1)

Source: V183906-03

Prepared: 09/27/2018 Analyzed: 09/27/2018 18:51

Tetrachloroethene	222	10	ug/L	200.0	ND	111	70-130	3.14	20	D
Trichloroethene	1100	10	ug/L	200.0	988	56.6	70-130	0.912	20	M, D
cis-1,2-Dichloroethene	2710	10	ug/L	200.0	2620	41.7	70-130	1.88	20	M1, D, E
trans-1,2-Dichloroethene	319	10	ug/L	200.0	124	97.8	70-130	2.60	20	D
1,1-Dichloroethene	214	10	ug/L	200.0	4.20	105	70-130	3.35	20	D
Vinyl chloride	354	10	ug/L	200.0	184	85.3	70-130	2.18	20	D
1,4-Dioxane	334	20	ug/L	400.0	ND	83.5	70-130	11.6	20	D
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809034 - EPA 3550B

Blank (V809034-BLK1)

Prepared: 09/27/2018 Analyzed: 09/27/2018 12:14

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>60-140</i>			

LCS (V809034-BS1)

Prepared: 09/27/2018 Analyzed: 09/27/2018 12:00

Tetrachloroethene	897	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	746	40	ug/kg wet	800.0		93.3	70-130			
cis-1,2-Dichloroethene	718	40	ug/kg wet	800.0		89.7	70-130			
trans-1,2-Dichloroethene	745	40	ug/kg wet	800.0		93.2	70-130			
1,1-Dichloroethene	764	40	ug/kg wet	800.0		95.6	70-130			
Vinyl chloride	617	40	ug/kg wet	800.0		77.2	70-130			
1,4-Dioxane	1480	80	ug/kg wet	1600		92.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike (V809034-MS1)

Source: V183907-04

Prepared: 09/27/2018 Analyzed: 09/27/2018 19:05

Tetrachloroethene	1160	54	ug/kg dry	1074	ND	108	70-130			
Trichloroethene	2350	54	ug/kg dry	1074	1110	115	70-130			
cis-1,2-Dichloroethene	1300	54	ug/kg dry	1074	64.5	115	70-130			
trans-1,2-Dichloroethene	1220	54	ug/kg dry	1074	ND	114	70-130			
1,1-Dichloroethene	1170	54	ug/kg dry	1074	ND	109	70-130			
Vinyl chloride	1140	54	ug/kg dry	1074	ND	106	70-130			
1,4-Dioxane	2390	110	ug/kg dry	2149	ND	111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike Dup (V809034-MSD1)

Source: V183907-04

Prepared: 09/27/2018 Analyzed: 09/27/2018 19:20

Tetrachloroethene	1220	54	ug/kg dry	1074	ND	113	70-130	4.69	20	
Trichloroethene	2320	54	ug/kg dry	1074	1110	113	70-130	1.19	20	
cis-1,2-Dichloroethene	1260	54	ug/kg dry	1074	64.5	111	70-130	3.07	20	
trans-1,2-Dichloroethene	1200	54	ug/kg dry	1074	ND	112	70-130	1.69	20	
1,1-Dichloroethene	1170	54	ug/kg dry	1074	ND	109	70-130	0.0920	20	
Vinyl chloride	1130	54	ug/kg dry	1074	ND	106	70-130	0.284	20	
1,4-Dioxane	2100	110	ug/kg dry	2149	ND	97.8	70-130	12.8	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809036 - No Preparation

Blank (V809036-BLK1)

Prepared: 09/28/2018 Analyzed: 09/28/2018 10:18

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>60-140</i>			

LCS (V809036-BS1)

Prepared: 09/28/2018 Analyzed: 09/28/2018 10:04

Tetrachloroethene	22.1	1.0	ug/L	20.00		110	70-130			
Trichloroethene	21.4	1.0	ug/L	20.00		107	70-130			
cis-1,2-Dichloroethene	22.3	1.0	ug/L	20.00		112	70-130			
trans-1,2-Dichloroethene	22.1	1.0	ug/L	20.00		111	70-130			
1,1-Dichloroethene	21.8	1.0	ug/L	20.00		109	70-130			
Vinyl chloride	19.8	1.0	ug/L	20.00		99.0	70-130			
1,4-Dioxane	34.0	2.0	ug/L	40.00		84.9	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V809036-MS1)

Source: V183908-01

Prepared: 09/28/2018 Analyzed: 09/28/2018 19:32

Tetrachloroethene	20.3	1.0	ug/L	20.00	ND	102	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00	ND	102	70-130			
cis-1,2-Dichloroethene	21.3	1.0	ug/L	20.00	0.0500	106	70-130			
trans-1,2-Dichloroethene	20.8	1.0	ug/L	20.00	ND	104	70-130			
1,1-Dichloroethene	20.7	1.0	ug/L	20.00	ND	104	70-130			
Vinyl chloride	18.8	1.0	ug/L	20.00	ND	93.9	70-130			
1,4-Dioxane	44.9	2.0	ug/L	40.00	ND	112	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>94.9</i>	<i>70-130</i>			

Matrix Spike Dup (V809036-MSD1)

Source: V183908-01

Prepared: 09/28/2018 Analyzed: 09/28/2018 19:46

Tetrachloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130	0.543	20	
Trichloroethene	20.7	1.0	ug/L	20.00	ND	103	70-130	1.85	20	
cis-1,2-Dichloroethene	22.3	1.0	ug/L	20.00	0.0500	111	70-130	4.45	20	
trans-1,2-Dichloroethene	21.7	1.0	ug/L	20.00	ND	109	70-130	4.14	20	
1,1-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130	4.21	20	
Vinyl chloride	20.0	1.0	ug/L	20.00	ND	100	70-130	6.30	20	
1,4-Dioxane	37.2	2.0	ug/L	40.00	ND	93.1	70-130	18.8	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.0</i>	<i>70-130</i>			

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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809037 - EPA 3550B

Blank (V809037-BLK1)

Prepared: 09/28/2018 Analyzed: 09/28/2018 11:31

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V809037-BS1)

Prepared: 09/28/2018 Analyzed: 09/28/2018 13:42

Tetrachloroethene	897	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	834	40	ug/kg wet	800.0		104	70-130			
cis-1,2-Dichloroethene	856	40	ug/kg wet	800.0		107	70-130			
trans-1,2-Dichloroethene	852	40	ug/kg wet	800.0		107	70-130			
1,1-Dichloroethene	852	40	ug/kg wet	800.0		106	70-130			
Vinyl chloride	784	40	ug/kg wet	800.0		98.0	70-130			
1,4-Dioxane	1580	80	ug/kg wet	1600		98.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	70-130			

Matrix Spike (V809037-MS1)

Source: V183910-01

Prepared: 09/28/2018 Analyzed: 09/28/2018 20:01

Tetrachloroethene	1110	49	ug/kg dry	980.1	ND	113	70-130			
Trichloroethene	1010	49	ug/kg dry	980.1	7.22	102	70-130			
cis-1,2-Dichloroethene	1030	49	ug/kg dry	980.1	ND	105	70-130			
trans-1,2-Dichloroethene	1050	49	ug/kg dry	980.1	ND	107	70-130			
1,1-Dichloroethene	1080	49	ug/kg dry	980.1	ND	110	70-130			
Vinyl chloride	1060	49	ug/kg dry	980.1	ND	108	70-130			
1,4-Dioxane	1980	98	ug/kg dry	1960	ND	101	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		100	70-130			

Matrix Spike Dup (V809037-MSD1)

Source: V183910-01

Prepared: 09/28/2018 Analyzed: 09/28/2018 20:16

Tetrachloroethene	987	49	ug/kg dry	980.1	ND	101	70-130	11.6	20	
Trichloroethene	1050	49	ug/kg dry	980.1	7.22	106	70-130	3.72	20	
cis-1,2-Dichloroethene	1130	49	ug/kg dry	980.1	ND	116	70-130	9.23	20	
trans-1,2-Dichloroethene	1110	49	ug/kg dry	980.1	ND	113	70-130	5.08	20	
1,1-Dichloroethene	1110	49	ug/kg dry	980.1	ND	113	70-130	2.59	20	
Vinyl chloride	1050	49	ug/kg dry	980.1	ND	108	70-130	0.649	20	
1,4-Dioxane	1970	98	ug/kg dry	1960	ND	100	70-130	0.572	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	70-130			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810001 - No Preparation

Blank (V810001-BLK1)

Prepared: 10/01/2018 Analyzed: 10/01/2018 13:36

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	24.0		ug/L	20.00		120	60-140			

LCS (V810001-BS1)

Prepared: 10/01/2018 Analyzed: 10/01/2018 13:21

Tetrachloroethene	25.1	1.0	ug/L	20.00		126	70-130			
Trichloroethene	21.6	1.0	ug/L	20.00		108	70-130			
cis-1,2-Dichloroethene	23.3	1.0	ug/L	20.00		116	70-130			
trans-1,2-Dichloroethene	22.1	1.0	ug/L	20.00		110	70-130			
1,1-Dichloroethene	21.2	1.0	ug/L	20.00		106	70-130			
Vinyl chloride	20.2	1.0	ug/L	20.00		101	70-130			
1,4-Dioxane	40.3	2.0	ug/L	40.00		101	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	23.9		ug/L	20.00		119	70-130			

Batch V810002 - EPA 3550B

Blank (V810002-BLK1)

Prepared: 10/01/2018 Analyzed: 10/01/2018 12:38

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	21.7		ug/L	20.00		109	60-140			

LCS (V810002-BS1)

Prepared: 10/01/2018 Analyzed: 10/01/2018 12:23

Tetrachloroethene	918	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	816	40	ug/kg wet	800.0		102	70-130			
cis-1,2-Dichloroethene	776	40	ug/kg wet	800.0		97.0	70-130			
trans-1,2-Dichloroethene	812	40	ug/kg wet	800.0		102	70-130			
1,1-Dichloroethene	845	40	ug/kg wet	800.0		106	70-130			
Vinyl chloride	777	40	ug/kg wet	800.0		97.2	70-130			
1,4-Dioxane	1510	80	ug/kg wet	1600		94.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.6		ug/L	20.00		103	70-130			

Matrix Spike (V810002-MS1)

Source: V184001-03

Prepared: 10/01/2018 Analyzed: 10/02/2018 01:02

Tetrachloroethene	812	44	ug/kg dry	876.8	ND	92.7	70-130			
Trichloroethene	995	44	ug/kg dry	876.8	ND	114	70-130			



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Project: Ford Livonia 2018 Site Investigation
Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810002 - EPA 3550B

Matrix Spike (V810002-MS1)		Source: V184001-03		Prepared: 10/01/2018 Analyzed: 10/02/2018 01:02						
cis-1,2-Dichloroethene	1120	44	ug/kg dry	876.8	ND	127	70-130			
trans-1,2-Dichloroethene	1070	44	ug/kg dry	876.8	ND	122	70-130			
1,1-Dichloroethene	1080	44	ug/kg dry	876.8	ND	123	70-130			
Vinyl chloride	1070	44	ug/kg dry	876.8	ND	123	70-130			
1,4-Dioxane	1960	88	ug/kg dry	1754	ND	112	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.3</i>	<i>70-130</i>			

Matrix Spike Dup (V810002-MSD1)		Source: V184001-03		Prepared: 10/01/2018 Analyzed: 10/02/2018 01:16						
Tetrachloroethene	766	44	ug/kg dry	876.8	ND	87.4	70-130	5.89	20	
Trichloroethene	961	44	ug/kg dry	876.8	ND	110	70-130	3.54	20	
cis-1,2-Dichloroethene	1120	44	ug/kg dry	876.8	ND	127	70-130	0.157	20	
trans-1,2-Dichloroethene	1060	44	ug/kg dry	876.8	ND	121	70-130	1.11	20	
1,1-Dichloroethene	1060	44	ug/kg dry	876.8	ND	121	70-130	1.19	20	
Vinyl chloride	1100	44	ug/kg dry	876.8	ND	125	70-130	2.18	20	
1,4-Dioxane	2070	88	ug/kg dry	1754	ND	118	70-130	5.66	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.0</i>	<i>70-130</i>			

Batch V810004 - EPA 3550B

Blank (V810004-BLK1)		Prepared: 10/01/2018 Analyzed: 10/01/2018 20:54								
Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V810004-BS1)		Prepared: 10/01/2018 Analyzed: 10/01/2018 20:39								
Tetrachloroethene	931	40	ug/kg wet	800.0		116	70-130			
Trichloroethene	798	40	ug/kg wet	800.0		99.8	70-130			
cis-1,2-Dichloroethene	786	40	ug/kg wet	800.0		98.2	70-130			
trans-1,2-Dichloroethene	806	40	ug/kg wet	800.0		101	70-130			
1,1-Dichloroethene	859	40	ug/kg wet	800.0		107	70-130			
Vinyl chloride	806	40	ug/kg wet	800.0		101	70-130			
1,4-Dioxane	1720	80	ug/kg wet	1600		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike (V810004-MS1)		Source: V184001-17		Prepared: 10/01/2018 Analyzed: 10/02/2018 16:27						
Tetrachloroethene	694	42	ug/kg dry	841.7	0.461	82.4	70-130			
Trichloroethene	918	42	ug/kg dry	841.7	5.07	108	70-130			
cis-1,2-Dichloroethene	1030	42	ug/kg dry	841.7	3.23	121	70-130			
trans-1,2-Dichloroethene	1010	42	ug/kg dry	841.7	1.84	120	70-130			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810004 - EPA 3550B

Matrix Spike (V810004-MS1)		Source: V184001-17		Prepared: 10/01/2018 Analyzed: 10/02/2018 16:27						
1,1-Dichloroethene	959	42	ug/kg dry	841.7	ND	114	70-130			
Vinyl chloride	930	42	ug/kg dry	841.7	ND	111	70-130			
1,4-Dioxane	1750	84	ug/kg dry	1683	ND	104	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.4</i>	<i>70-130</i>			

Matrix Spike Dup (V810004-MSD1)		Source: V184001-17		Prepared: 10/01/2018 Analyzed: 10/02/2018 16:41						
Tetrachloroethene	709	42	ug/kg dry	841.7	0.461	84.1	70-130	2.04	20	
Trichloroethene	925	42	ug/kg dry	841.7	5.07	109	70-130	0.731	20	
cis-1,2-Dichloroethene	1020	42	ug/kg dry	841.7	3.23	120	70-130	0.990	20	
trans-1,2-Dichloroethene	1010	42	ug/kg dry	841.7	1.84	120	70-130	0.375	20	
1,1-Dichloroethene	971	42	ug/kg dry	841.7	ND	115	70-130	1.31	20	
Vinyl chloride	946	42	ug/kg dry	841.7	ND	112	70-130	1.75	20	
1,4-Dioxane	1790	84	ug/kg dry	1683	ND	106	70-130	2.21	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>93.5</i>	<i>70-130</i>			

Batch V810006 - No Preparation

Blank (V810006-BLK1)		Prepared: 10/02/2018 Analyzed: 10/02/2018 09:12								
Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V810006-BS1)		Prepared: 10/02/2018 Analyzed: 10/02/2018 08:58								
Tetrachloroethene	24.2	1.0	ug/L	20.00		121	70-130			
Trichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
cis-1,2-Dichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
trans-1,2-Dichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
1,1-Dichloroethene	21.6	1.0	ug/L	20.00		108	70-130			
Vinyl chloride	19.3	1.0	ug/L	20.00		96.4	70-130			
1,4-Dioxane	40.1	2.0	ug/L	40.00		100	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Matrix Spike (V810006-MS1)		Source: V184004-02		Prepared: 10/02/2018 Analyzed: 10/02/2018 15:22						
Tetrachloroethene	17.1	1.0	ug/L	20.00	0.0100	85.2	70-130			
Trichloroethene	37.1	1.0	ug/L	20.00	14.7	112	70-130			
cis-1,2-Dichloroethene	41.9	1.0	ug/L	20.00	17.4	123	70-130			
trans-1,2-Dichloroethene	24.6	1.0	ug/L	20.00	0.950	118	70-130			
1,1-Dichloroethene	22.7	1.0	ug/L	20.00	0.0300	113	70-130			
Vinyl chloride	24.7	1.0	ug/L	20.00	3.90	104	70-130			



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Batch V810006 - No Preparation

Matrix Spike (V810006-MS1)		Source: V184004-02		Prepared: 10/02/2018 Analyzed: 10/02/2018 15:22						
1,4-Dioxane	46.6	2.0	ug/L	40.00	2.22	111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Matrix Spike Dup (V810006-MSD1)		Source: V184004-02		Prepared: 10/02/2018 Analyzed: 10/02/2018 15:37						
Tetrachloroethene	19.1	1.0	ug/L	20.00	0.0100	95.5	70-130	11.3	20	
Trichloroethene	37.6	1.0	ug/L	20.00	14.7	114	70-130	1.23	20	
cis-1,2-Dichloroethene	43.3	1.0	ug/L	20.00	17.4	130	70-130	3.36	20	
trans-1,2-Dichloroethene	25.1	1.0	ug/L	20.00	0.950	121	70-130	2.09	20	
1,1-Dichloroethene	22.5	1.0	ug/L	20.00	0.0300	112	70-130	1.02	20	
Vinyl chloride	23.8	1.0	ug/L	20.00	3.90	99.6	70-130	3.79	20	
1,4-Dioxane	47.0	2.0	ug/L	40.00	2.22	112	70-130	0.940	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>70-130</i>			

Batch V810007 - EPA 3550B

Blank (V810007-BLK1)		Prepared: 10/02/2018 Analyzed: 10/02/2018 11:09								
Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>60-140</i>			

LCS (V810007-BS1)		Prepared: 10/02/2018 Analyzed: 10/02/2018 10:54								
Tetrachloroethene	969	40	ug/kg wet	800.0		121	70-130			
Trichloroethene	828	40	ug/kg wet	800.0		104	70-130			
cis-1,2-Dichloroethene	810	40	ug/kg wet	800.0		101	70-130			
trans-1,2-Dichloroethene	843	40	ug/kg wet	800.0		105	70-130			
1,1-Dichloroethene	873	40	ug/kg wet	800.0		109	70-130			
Vinyl chloride	858	40	ug/kg wet	800.0		107	70-130			
1,4-Dioxane	1630	80	ug/kg wet	1600		102	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>70-130</i>			

Matrix Spike (V810007-MS1)		Source: V184005-03		Prepared: 10/02/2018 Analyzed: 10/02/2018 15:51						
Tetrachloroethene	925	43	ug/kg dry	855.4	ND	108	70-130			
Trichloroethene	915	43	ug/kg dry	855.4	ND	107	70-130			
cis-1,2-Dichloroethene	942	43	ug/kg dry	855.4	ND	110	70-130			
trans-1,2-Dichloroethene	941	43	ug/kg dry	855.4	ND	110	70-130			
1,1-Dichloroethene	942	43	ug/kg dry	855.4	ND	110	70-130			
Vinyl chloride	843	43	ug/kg dry	855.4	ND	98.6	70-130			
1,4-Dioxane	1910	86	ug/kg dry	1711	ND	112	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810007 - EPA 3550B

Matrix Spike Dup (V810007-MSD1)

Source: V184005-03

Prepared: 10/02/2018 Analyzed: 10/02/2018 16:06

Tetrachloroethene	964	43	ug/kg dry	855.4	ND	113	70-130	4.08	20	
Trichloroethene	928	43	ug/kg dry	855.4	ND	109	70-130	1.44	20	
cis-1,2-Dichloroethene	940	43	ug/kg dry	855.4	ND	110	70-130	0.182	20	
trans-1,2-Dichloroethene	953	43	ug/kg dry	855.4	ND	111	70-130	1.26	20	
1,1-Dichloroethene	958	43	ug/kg dry	855.4	ND	112	70-130	1.76	20	
Vinyl chloride	884	43	ug/kg dry	855.4	ND	103	70-130	4.71	20	
1,4-Dioxane	1980	86	ug/kg dry	1711	ND	116	70-130	3.61	20	
Surrogate: 4-Bromofluorobenzene	21.1		ug/L	20.00		105	70-130			

Batch V810009 - No Preparation

Blank (V810009-BLK1)

Prepared: 10/03/2018 Analyzed: 10/03/2018 09:34

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
Surrogate: 4-Bromofluorobenzene	21.4		ug/L	20.00		107	60-140			

LCS (V810009-BS1)

Prepared: 10/03/2018 Analyzed: 10/03/2018 09:19

Tetrachloroethene	23.5	1.0	ug/L	20.00		117	70-130			
Trichloroethene	21.7	1.0	ug/L	20.00		108	70-130			
cis-1,2-Dichloroethene	21.1	1.0	ug/L	20.00		106	70-130			
trans-1,2-Dichloroethene	21.9	1.0	ug/L	20.00		110	70-130			
1,1-Dichloroethene	22.7	1.0	ug/L	20.00		114	70-130			
Vinyl chloride	20.6	1.0	ug/L	20.00		103	70-130			
1,4-Dioxane	36.7	2.0	ug/L	40.00		91.7	70-130			
Surrogate: 4-Bromofluorobenzene	21.8		ug/L	20.00		109	70-130			

Matrix Spike (V810009-MS1)

Source: V184007-03

Prepared: 10/04/2018 Analyzed: 10/04/2018 09:42

Tetrachloroethene	21.6	1.0	ug/L	20.00	0.0700	108	70-130			
Trichloroethene	22.9	1.0	ug/L	20.00	0.180	113	70-130			
cis-1,2-Dichloroethene	26.3	1.0	ug/L	20.00	3.32	115	70-130			
trans-1,2-Dichloroethene	23.2	1.0	ug/L	20.00	0.100	116	70-130			
1,1-Dichloroethene	22.9	1.0	ug/L	20.00	0.0600	114	70-130			
Vinyl chloride	26.7	1.0	ug/L	20.00	6.16	103	70-130			
1,4-Dioxane	52.7	2.0	ug/L	40.00	7.34	113	70-130			
Surrogate: 4-Bromofluorobenzene	22.0		ug/L	20.00		110	70-130			

Matrix Spike Dup (V810009-MSD1)

Source: V184007-03

Prepared: 10/04/2018 Analyzed: 10/04/2018 09:56

Tetrachloroethene	20.4	1.0	ug/L	20.00	0.0700	102	70-130	5.85	20	
Trichloroethene	22.8	1.0	ug/L	20.00	0.180	113	70-130	0.263	20	



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810009 - No Preparation

Matrix Spike Dup (V810009-MSD1)		Source: V184007-03		Prepared: 10/04/2018 Analyzed: 10/04/2018 09:56						
cis-1,2-Dichloroethene	26.4	1.0	ug/L	20.00	3.32	116	70-130	0.379	20	
trans-1,2-Dichloroethene	23.0	1.0	ug/L	20.00	0.100	115	70-130	0.778	20	
1,1-Dichloroethene	22.3	1.0	ug/L	20.00	0.0600	111	70-130	2.39	20	
Vinyl chloride	26.1	1.0	ug/L	20.00	6.16	99.7	70-130	2.27	20	
1,4-Dioxane	51.0	2.0	ug/L	40.00	7.34	109	70-130	3.26	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Batch V810010 - EPA 3550B

Blank (V810010-BLK1)		Prepared: 10/03/2018 Analyzed: 10/03/2018 10:03								
Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V810010-BS1)		Prepared: 10/03/2018 Analyzed: 10/03/2018 09:48								
Tetrachloroethene	23.3		ug/L	20.00		117	70-130			
Trichloroethene	21.5		ug/L	20.00		108	70-130			
cis-1,2-Dichloroethene	21.5		ug/L	20.00		108	70-130			
trans-1,2-Dichloroethene	22.0		ug/L	20.00		110	70-130			
1,1-Dichloroethene	22.3		ug/L	20.00		112	70-130			
Vinyl chloride	20.2		ug/L	20.00		101	70-130			
1,4-Dioxane	41.1		ug/L	40.00		103	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>108</i>	<i>70-130</i>			

Matrix Spike (V810010-MS1)		Source: V184006-02		Prepared: 10/03/2018 Analyzed: 10/03/2018 15:56						
Tetrachloroethene	24.7		ug/L	20.00	0.230	122	70-130			
Trichloroethene	20.4		ug/L	20.00	0.00	102	70-130			
cis-1,2-Dichloroethene	19.7		ug/L	20.00	0.0800	97.9	70-130			
trans-1,2-Dichloroethene	20.4		ug/L	20.00	0.00	102	70-130			
1,1-Dichloroethene	21.5		ug/L	20.00	0.00	107	70-130			
Vinyl chloride	20.2		ug/L	20.00	0.00	101	70-130			
1,4-Dioxane	38.5		ug/L	40.00	0.00	96.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.2</i>	<i>70-130</i>			

Matrix Spike Dup (V810010-MSD1)		Source: V184006-02		Prepared: 10/03/2018 Analyzed: 10/03/2018 16:11						
Tetrachloroethene	24.5		ug/L	20.00	0.230	122	70-130	0.528	20	
Trichloroethene	20.6		ug/L	20.00	0.00	103	70-130	0.585	20	
cis-1,2-Dichloroethene	19.7		ug/L	20.00	0.0800	98.1	70-130	0.203	20	
trans-1,2-Dichloroethene	20.5		ug/L	20.00	0.00	102	70-130	0.441	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810010 - EPA 3550B

Matrix Spike Dup (V810010-MSD1)

Source: V184006-02

Prepared: 10/03/2018 Analyzed: 10/03/2018 16:11

1,1-Dichloroethene	21.7		ug/L	20.00	0.00	108	70-130	1.11	20	
Vinyl chloride	20.0		ug/L	20.00	0.00	100	70-130	1.14	20	
1,4-Dioxane	39.9		ug/L	40.00	0.00	99.7	70-130	3.44	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Batch V810012 - No Preparation

Blank (V810012-BLK1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 09:23

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V810012-BS1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 09:08

Tetrachloroethene	20.2	1.0	ug/L	20.00		101	70-130			
Trichloroethene	23.0	1.0	ug/L	20.00		115	70-130			
cis-1,2-Dichloroethene	24.2	1.0	ug/L	20.00		121	70-130			
trans-1,2-Dichloroethene	23.2	1.0	ug/L	20.00		116	70-130			
1,1-Dichloroethene	22.3	1.0	ug/L	20.00		111	70-130			
Vinyl chloride	20.1	1.0	ug/L	20.00		101	70-130			
1,4-Dioxane	43.0	2.0	ug/L	40.00		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>22.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>110</i>	<i>70-130</i>			

LCS Dup (V810012-BSD1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 19:41

Tetrachloroethene	21.8	1.0	ug/L	20.00		109	70-130	7.57	20	
Trichloroethene	21.2	1.0	ug/L	20.00		106	70-130	8.18	20	
cis-1,2-Dichloroethene	21.8	1.0	ug/L	20.00		109	70-130	10.6	20	
trans-1,2-Dichloroethene	21.9	1.0	ug/L	20.00		109	70-130	5.78	20	
1,1-Dichloroethene	22.5	1.0	ug/L	20.00		113	70-130	1.16	20	
Vinyl chloride	20.8	1.0	ug/L	20.00		104	70-130	3.37	20	
1,4-Dioxane	44.8	2.0	ug/L	40.00		112	70-130	4.03	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			



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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810013 - EPA 3550B

Blank (V810013-BLK1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 10:25

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V810013-BS1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 10:11

Tetrachloroethene	963	40	ug/kg wet	800.0		120	70-130			
Trichloroethene	828	40	ug/kg wet	800.0		104	70-130			
cis-1,2-Dichloroethene	795	40	ug/kg wet	800.0		99.4	70-130			
trans-1,2-Dichloroethene	838	40	ug/kg wet	800.0		105	70-130			
1,1-Dichloroethene	880	40	ug/kg wet	800.0		110	70-130			
Vinyl chloride	800	40	ug/kg wet	800.0		100	70-130			
1,4-Dioxane	1760	80	ug/kg wet	1600		110	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike (V810013-MS1)

Source: V184008-02

Prepared: 10/04/2018 Analyzed: 10/04/2018 19:12

Tetrachloroethene	967	51	ug/kg dry	1022	1.84	94.5	70-130			
Trichloroethene	1460	51	ug/kg dry	1022	4.59	143	70-130			M
cis-1,2-Dichloroethene	1290	51	ug/kg dry	1022	ND	127	70-130			
trans-1,2-Dichloroethene	1260	51	ug/kg dry	1022	ND	123	70-130			
1,1-Dichloroethene	1260	51	ug/kg dry	1022	ND	124	70-130			
Vinyl chloride	1260	51	ug/kg dry	1022	ND	123	70-130			
1,4-Dioxane	1870	100	ug/kg dry	2043	ND	91.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.1</i>	<i>70-130</i>			

Matrix Spike Dup (V810013-MSD1)

Source: V184008-02

Prepared: 10/04/2018 Analyzed: 10/04/2018 19:27

Tetrachloroethene	928	51	ug/kg dry	1022	1.84	90.6	70-130	4.20	20	
Trichloroethene	1110	51	ug/kg dry	1022	4.59	109	70-130	27.1	20	X
cis-1,2-Dichloroethene	1210	51	ug/kg dry	1022	ND	119	70-130	6.40	20	
trans-1,2-Dichloroethene	1210	51	ug/kg dry	1022	ND	118	70-130	4.22	20	
1,1-Dichloroethene	1210	51	ug/kg dry	1022	ND	119	70-130	4.13	20	
Vinyl chloride	1220	51	ug/kg dry	1022	ND	119	70-130	3.01	20	
1,4-Dioxane	2140	100	ug/kg dry	2043	ND	105	70-130	13.2	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.5</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810015 - No Preparation

Blank (V810015-BLK1)

Prepared: 10/05/2018 Analyzed: 10/05/2018 09:56

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V810015-BS1)

Prepared: 10/05/2018 Analyzed: 10/05/2018 09:41

Tetrachloroethene	25.6	1.0	ug/L	20.00		128	70-130			
Trichloroethene	19.6	1.0	ug/L	20.00		98.1	70-130			
cis-1,2-Dichloroethene	18.0	1.0	ug/L	20.00		90.0	70-130			
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
1,1-Dichloroethene	22.2	1.0	ug/L	20.00		111	70-130			
Vinyl chloride	20.8	1.0	ug/L	20.00		104	70-130			
1,4-Dioxane	41.5	2.0	ug/L	40.00		104	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

LCS Dup (V810015-BSD1)

Prepared: 10/05/2018 Analyzed: 10/05/2018 16:33

Tetrachloroethene	21.1	1.0	ug/L	20.00		105	70-130	19.3	20	
Trichloroethene	21.5	1.0	ug/L	20.00		108	70-130	9.19	20	
cis-1,2-Dichloroethene	21.3	1.0	ug/L	20.00		106	70-130	16.6	20	
trans-1,2-Dichloroethene	21.3	1.0	ug/L	20.00		106	70-130	5.66	20	
1,1-Dichloroethene	21.9	1.0	ug/L	20.00		109	70-130	1.23	20	
Vinyl chloride	20.1	1.0	ug/L	20.00		101	70-130	3.13	20	
1,4-Dioxane	45.0	2.0	ug/L	40.00		112	70-130	7.96	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike (V810015-MS1)

Source: V184011-01

Prepared: 10/05/2018 Analyzed: 10/05/2018 16:04

Tetrachloroethene	395	20	ug/L	400.0	0.400	98.6	70-130			D
Trichloroethene	2510	20	ug/L	400.0	2030	120	70-130			D
cis-1,2-Dichloroethene	1710	20	ug/L	400.0	1120	147	70-130			M, D
trans-1,2-Dichloroethene	454	20	ug/L	400.0	6.40	112	70-130			D
1,1-Dichloroethene	458	20	ug/L	400.0	1.00	114	70-130			D
Vinyl chloride	535	20	ug/L	400.0	90.0	111	70-130			D
1,4-Dioxane	861	40	ug/L	800.0	65.4	99.4	70-130			D
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike Dup (V810015-MSD1)

Source: V184011-01

Prepared: 10/05/2018 Analyzed: 10/05/2018 16:19

Tetrachloroethene	413	20	ug/L	400.0	0.400	103	70-130	4.51	20	D
Trichloroethene	2530	20	ug/L	400.0	2030	125	70-130	0.763	20	D
cis-1,2-Dichloroethene	1680	20	ug/L	400.0	1120	140	70-130	1.69	20	M, D
trans-1,2-Dichloroethene	456	20	ug/L	400.0	6.40	113	70-130	0.527	20	D



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810015 - No Preparation

Matrix Spike Dup (V810015-MSD1)	Source: V184011-01		Prepared: 10/05/2018 Analyzed: 10/05/2018 16:19							
1,1-Dichloroethene	463	20	ug/L	400.0	1.00	115	70-130	1.04	20	D
Vinyl chloride	536	20	ug/L	400.0	90.0	112	70-130	0.224	20	D
1,4-Dioxane	916	40	ug/L	800.0	65.4	106	70-130	6.21	20	D
Surrogate: 4-Bromofluorobenzene	21.0		ug/L	20.00		105	70-130			

Batch V810016 - EPA 3550B

Blank (V810016-BLK1)	Prepared: 10/05/2018 Analyzed: 10/05/2018 09:27									
Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
Surrogate: 4-Bromofluorobenzene	21.4		ug/L	20.00		107	60-140			

LCS (V810016-BS1)	Prepared: 10/05/2018 Analyzed: 10/05/2018 09:12									
Tetrachloroethene	1140	40	ug/kg wet	800.0		143	70-130			
Trichloroethene	812	40	ug/kg wet	800.0		102	70-130			
cis-1,2-Dichloroethene	754	40	ug/kg wet	800.0		94.3	70-130			
trans-1,2-Dichloroethene	837	40	ug/kg wet	800.0		105	70-130			
1,1-Dichloroethene	927	40	ug/kg wet	800.0		116	70-130			
Vinyl chloride	919	40	ug/kg wet	800.0		115	70-130			
1,4-Dioxane	1610	80	ug/kg wet	1600		101	70-130			
Surrogate: 4-Bromofluorobenzene	21.9		ug/L	20.00		110	70-130			

Matrix Spike (V810016-MS1)	Source: V184010-01		Prepared: 10/05/2018 Analyzed: 10/05/2018 15:35							
Tetrachloroethene	1160	51	ug/kg dry	1014	ND	114	70-130			
Trichloroethene	998	51	ug/kg dry	1014	10.1	97.5	70-130			
cis-1,2-Dichloroethene	978	51	ug/kg dry	1014	ND	96.5	70-130			
trans-1,2-Dichloroethene	1030	51	ug/kg dry	1014	ND	102	70-130			
1,1-Dichloroethene	1110	51	ug/kg dry	1014	ND	109	70-130			
Vinyl chloride	1040	51	ug/kg dry	1014	ND	102	70-130			
1,4-Dioxane	2090	100	ug/kg dry	2028	ND	103	70-130			
Surrogate: 4-Bromofluorobenzene	19.7		ug/L	20.00		98.6	70-130			

Matrix Spike Dup (V810016-MSD1)	Source: V184010-01		Prepared: 10/05/2018 Analyzed: 10/05/2018 15:49							
Tetrachloroethene	944	51	ug/kg dry	1014	ND	93.1	70-130	20.5	20	X
Trichloroethene	1090	51	ug/kg dry	1014	10.1	107	70-130	9.21	20	
cis-1,2-Dichloroethene	1160	51	ug/kg dry	1014	ND	115	70-130	17.2	20	
trans-1,2-Dichloroethene	1140	51	ug/kg dry	1014	ND	112	70-130	9.83	20	
1,1-Dichloroethene	1150	51	ug/kg dry	1014	ND	114	70-130	4.22	20	
Vinyl chloride	1110	51	ug/kg dry	1014	ND	109	70-130	6.49	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810016 - EPA 3550B

Matrix Spike Dup (V810016-MSD1)		Source: V184010-01		Prepared: 10/05/2018 Analyzed: 10/05/2018 15:49						
1,4-Dioxane	2260	100	ug/kg dry	2028	ND	111	70-130	8.01	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Batch V810018 - No Preparation

Blank (V810018-BLK1)		Prepared: 10/08/2018 Analyzed: 10/08/2018 14:14								
Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>60-140</i>			

LCS (V810018-BS1)		Prepared: 10/08/2018 Analyzed: 10/08/2018 14:00								
Tetrachloroethene	20.6	1.0	ug/L	20.00		103	70-130			
Trichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
cis-1,2-Dichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
trans-1,2-Dichloroethene	20.9	1.0	ug/L	20.00		105	70-130			
1,1-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
Vinyl chloride	20.0	1.0	ug/L	20.00		99.8	70-130			
1,4-Dioxane	45.1	2.0	ug/L	40.00		113	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>70-130</i>			

Matrix Spike (V810018-MS1)		Source: V184102-02		Prepared: 10/08/2018 Analyzed: 10/09/2018 10:36						
Tetrachloroethene	20.8	1.0	ug/L	20.00	ND	104	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00	0.0100	99.8	70-130			
cis-1,2-Dichloroethene	19.5	1.0	ug/L	20.00	ND	97.6	70-130			
trans-1,2-Dichloroethene	19.6	1.0	ug/L	20.00	ND	97.9	70-130			
1,1-Dichloroethene	19.6	1.0	ug/L	20.00	ND	97.9	70-130			
Vinyl chloride	41.9	1.0	ug/L	20.00	23.1	94.3	70-130			
1,4-Dioxane	51.1	2.0	ug/L	40.00	4.07	118	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V810018-MSD1)		Source: V184102-02		Prepared: 10/08/2018 Analyzed: 10/09/2018 10:51						
Tetrachloroethene	20.9	1.0	ug/L	20.00	ND	104	70-130	0.480	30	
Trichloroethene	20.2	1.0	ug/L	20.00	0.0100	101	70-130	1.15	30	
cis-1,2-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.1	70-130	1.58	30	
trans-1,2-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.2	70-130	1.27	30	
1,1-Dichloroethene	19.9	1.0	ug/L	20.00	ND	99.7	70-130	1.77	30	
Vinyl chloride	43.9	1.0	ug/L	20.00	23.1	104	70-130	4.66	30	
1,4-Dioxane	52.0	2.0	ug/L	40.00	4.07	120	70-130	1.71	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810019 - EPA 3550B

Blank (V810019-BLK1)

Prepared: 10/08/2018 Analyzed: 10/08/2018 15:00

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		103	60-140			

LCS (V810019-BS1)

Prepared: 10/08/2018 Analyzed: 10/08/2018 14:46

Tetrachloroethene	985	40	ug/kg wet	800.0		123	70-130			
Trichloroethene	769	40	ug/kg wet	800.0		96.2	70-130			
cis-1,2-Dichloroethene	723	40	ug/kg wet	800.0		90.4	70-130			
trans-1,2-Dichloroethene	764	40	ug/kg wet	800.0		95.5	70-130			
1,1-Dichloroethene	831	40	ug/kg wet	800.0		104	70-130			
Vinyl chloride	798	40	ug/kg wet	800.0		99.8	70-130			
1,4-Dioxane	1880	80	ug/kg wet	1600		117	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.8		ug/L	20.00		104	70-130			

Matrix Spike (V810019-MS1)

Source: V184101-01

Prepared: 10/08/2018 Analyzed: 10/08/2018 17:38

Tetrachloroethene	896	46	ug/kg dry	912.1	5.47	97.7	70-130			
Trichloroethene	896	46	ug/kg dry	912.1	14.1	96.6	70-130			
cis-1,2-Dichloroethene	902	46	ug/kg dry	912.1	4.10	98.5	70-130			
trans-1,2-Dichloroethene	918	46	ug/kg dry	912.1	3.65	100	70-130			
1,1-Dichloroethene	934	46	ug/kg dry	912.1	2.74	102	70-130			
Vinyl chloride	914	46	ug/kg dry	912.1	6.38	99.5	70-130			
1,4-Dioxane	2010	91	ug/kg dry	1824	ND	110	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	18.7		ug/L	20.00		93.5	70-130			

Matrix Spike Dup (V810019-MSD1)

Source: V184101-01

Prepared: 10/08/2018 Analyzed: 10/08/2018 17:53

Tetrachloroethene	877	46	ug/kg dry	912.1	5.47	95.5	70-130	2.21	50	
Trichloroethene	873	46	ug/kg dry	912.1	14.1	94.2	70-130	2.53	50	
cis-1,2-Dichloroethene	861	46	ug/kg dry	912.1	4.10	93.9	70-130	4.71	50	
trans-1,2-Dichloroethene	888	46	ug/kg dry	912.1	3.65	97.0	70-130	3.33	50	
1,1-Dichloroethene	913	46	ug/kg dry	912.1	2.74	99.7	70-130	2.27	50	
Vinyl chloride	879	46	ug/kg dry	912.1	6.38	95.7	70-130	3.92	50	
1,4-Dioxane	1780	91	ug/kg dry	1824	ND	97.8	70-130	12.0	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	18.0		ug/L	20.00		90.2	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810021 - No Preparation

Blank (V810021-BLK1)

Prepared: 10/09/2018 Analyzed: 10/09/2018 10:06

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V810021-BS1)

Prepared: 10/09/2018 Analyzed: 10/09/2018 09:52

Tetrachloroethene	21.5	1.0	ug/L	20.00		107	70-130			
Trichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
cis-1,2-Dichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
1,1-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
Vinyl chloride	18.2	1.0	ug/L	20.00		91.1	70-130			
1,4-Dioxane	44.2	2.0	ug/L	40.00		111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			

Matrix Spike (V810021-MS1)

Source: V184103-01

Prepared: 10/09/2018 Analyzed: 10/09/2018 16:04

Tetrachloroethene	21.7	1.0	ug/L	20.00	ND	109	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00	0.160	99.0	70-130			
cis-1,2-Dichloroethene	19.4	1.0	ug/L	20.00	0.160	96.1	70-130			
trans-1,2-Dichloroethene	19.4	1.0	ug/L	20.00	ND	96.9	70-130			
1,1-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.2	70-130			
Vinyl chloride	18.6	1.0	ug/L	20.00	0.420	90.7	70-130			
1,4-Dioxane	41.7	2.0	ug/L	40.00	ND	104	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	70-130			

Matrix Spike Dup (V810021-MSD1)

Source: V184103-01

Prepared: 10/09/2018 Analyzed: 10/09/2018 16:18

Tetrachloroethene	19.9	1.0	ug/L	20.00	ND	99.4	70-130	8.85	30	
Trichloroethene	18.5	1.0	ug/L	20.00	0.160	91.7	70-130	7.59	30	
cis-1,2-Dichloroethene	18.4	1.0	ug/L	20.00	0.160	91.0	70-130	5.41	30	
trans-1,2-Dichloroethene	18.3	1.0	ug/L	20.00	ND	91.5	70-130	5.73	30	
1,1-Dichloroethene	18.7	1.0	ug/L	20.00	ND	93.7	70-130	5.65	30	
Vinyl chloride	16.9	1.0	ug/L	20.00	0.420	82.6	70-130	9.19	30	
1,4-Dioxane	38.5	2.0	ug/L	40.00	ND	96.3	70-130	7.90	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	18.7		ug/L	20.00		93.5	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810022 - EPA 3550B

Blank (V810022-BLK1)

Prepared: 10/09/2018 Analyzed: 10/09/2018 12:09

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V810022-BS1)

Prepared: 10/09/2018 Analyzed: 10/09/2018 11:54

Tetrachloroethene	923	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	770	40	ug/kg wet	800.0		96.2	70-130			
cis-1,2-Dichloroethene	744	40	ug/kg wet	800.0		93.0	70-130			
trans-1,2-Dichloroethene	776	40	ug/kg wet	800.0		97.1	70-130			
1,1-Dichloroethene	812	40	ug/kg wet	800.0		101	70-130			
Vinyl chloride	773	40	ug/kg wet	800.0		96.6	70-130			
1,4-Dioxane	1590	80	ug/kg wet	1600		99.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	70-130			

Matrix Spike (V810022-MS1)

Source: V184104-03

Prepared: 10/09/2018 Analyzed: 10/09/2018 16:33

Tetrachloroethene	1110	46	ug/kg dry	923.1	0.923	120	70-130			
Trichloroethene	897	46	ug/kg dry	923.1	0.462	97.2	70-130			
cis-1,2-Dichloroethene	825	46	ug/kg dry	923.1	6.46	88.7	70-130			
trans-1,2-Dichloroethene	866	46	ug/kg dry	923.1	ND	93.8	70-130			
1,1-Dichloroethene	928	46	ug/kg dry	923.1	ND	101	70-130			
Vinyl chloride	826	46	ug/kg dry	923.1	ND	89.5	70-130			
1,4-Dioxane	1800	92	ug/kg dry	1846	ND	97.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		102	70-130			

Matrix Spike Dup (V810022-MSD1)

Source: V184104-03

Prepared: 10/09/2018 Analyzed: 10/09/2018 16:48

Tetrachloroethene	1010	46	ug/kg dry	923.1	0.923	109	70-130	9.32	50	
Trichloroethene	902	46	ug/kg dry	923.1	0.462	97.7	70-130	0.564	50	
cis-1,2-Dichloroethene	857	46	ug/kg dry	923.1	6.46	92.1	70-130	3.79	50	
trans-1,2-Dichloroethene	871	46	ug/kg dry	923.1	ND	94.4	70-130	0.585	50	
1,1-Dichloroethene	895	46	ug/kg dry	923.1	ND	97.0	70-130	3.65	50	
Vinyl chloride	778	46	ug/kg dry	923.1	ND	84.3	70-130	5.99	50	
1,4-Dioxane	1950	92	ug/kg dry	1846	ND	105	70-130	7.68	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.9		ug/L	20.00		99.7	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810024 - No Preparation

Blank (V810024-BLK1)

Prepared: 10/10/2018 Analyzed: 10/10/2018 09:35

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>60-140</i>			

LCS (V810024-BS1)

Prepared: 10/10/2018 Analyzed: 10/10/2018 09:20

Tetrachloroethene	22.5	1.0	ug/L	20.00		112	70-130			
Trichloroethene	21.2	1.0	ug/L	20.00		106	70-130			
cis-1,2-Dichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
trans-1,2-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
1,1-Dichloroethene	21.3	1.0	ug/L	20.00		106	70-130			
Vinyl chloride	19.2	1.0	ug/L	20.00		96.2	70-130			
1,4-Dioxane	49.6	2.0	ug/L	40.00		124	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Matrix Spike (V810024-MS1)

Source: V184106-03

Prepared: 10/10/2018 Analyzed: 10/10/2018 20:15

Tetrachloroethene	20.0	1.0	ug/L	20.00	1.99	90.2	70-130			
Trichloroethene	20.9	1.0	ug/L	20.00	0.0900	104	70-130			
cis-1,2-Dichloroethene	28.1	1.0	ug/L	20.00	4.71	117	70-130			
trans-1,2-Dichloroethene	21.8	1.0	ug/L	20.00	0.0600	109	70-130			
1,1-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130			
Vinyl chloride	31.7	1.0	ug/L	20.00	9.69	110	70-130			
1,4-Dioxane	47.3	2.0	ug/L	40.00	2.08	113	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.9</i>	<i>70-130</i>			

Matrix Spike Dup (V810024-MSD1)

Source: V184106-03

Prepared: 10/10/2018 Analyzed: 10/10/2018 20:30

Tetrachloroethene	17.5	1.0	ug/L	20.00	1.99	77.5	70-130	13.6	30	
Trichloroethene	21.1	1.0	ug/L	20.00	0.0900	105	70-130	1.05	30	
cis-1,2-Dichloroethene	29.3	1.0	ug/L	20.00	4.71	123	70-130	3.97	30	
trans-1,2-Dichloroethene	22.5	1.0	ug/L	20.00	0.0600	112	70-130	3.21	30	
1,1-Dichloroethene	22.5	1.0	ug/L	20.00	ND	113	70-130	4.22	30	
Vinyl chloride	32.4	1.0	ug/L	20.00	9.69	113	70-130	2.00	30	
1,4-Dioxane	50.3	2.0	ug/L	40.00	2.08	121	70-130	6.21	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>70-130</i>			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810025 - EPA 3550B

Blank (V810025-BLK1)

Prepared: 10/10/2018 Analyzed: 10/10/2018 10:50

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.6		ug/L	20.00		103	60-140			

LCS (V810025-BS1)

Prepared: 10/10/2018 Analyzed: 10/10/2018 10:35

Tetrachloroethene	994	40	ug/kg wet	800.0		124	70-130			
Trichloroethene	746	40	ug/kg wet	800.0		93.3	70-130			
cis-1,2-Dichloroethene	684	40	ug/kg wet	800.0		85.6	70-130			
trans-1,2-Dichloroethene	733	40	ug/kg wet	800.0		91.7	70-130			
1,1-Dichloroethene	785	40	ug/kg wet	800.0		98.2	70-130			
Vinyl chloride	671	40	ug/kg wet	800.0		83.9	70-130			
1,4-Dioxane	1540	80	ug/kg wet	1600		96.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		101	70-130			

Matrix Spike (V810025-MS1)

Source: V184105-01

Prepared: 10/10/2018 Analyzed: 10/10/2018 19:46

Tetrachloroethene	868	45	ug/kg dry	905.1	2.26	95.6	70-130			
Trichloroethene	892	45	ug/kg dry	905.1	ND	98.5	70-130			
cis-1,2-Dichloroethene	933	45	ug/kg dry	905.1	ND	103	70-130			
trans-1,2-Dichloroethene	940	45	ug/kg dry	905.1	ND	104	70-130			
1,1-Dichloroethene	1040	45	ug/kg dry	905.1	ND	115	70-130			
Vinyl chloride	970	45	ug/kg dry	905.1	ND	107	70-130			
1,4-Dioxane	2350	91	ug/kg dry	1810	ND	130	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			

Matrix Spike Dup (V810025-MSD1)

Source: V184105-01

Prepared: 10/10/2018 Analyzed: 10/10/2018 20:01

Tetrachloroethene	926	45	ug/kg dry	905.1	2.26	102	70-130	6.46	50	
Trichloroethene	868	45	ug/kg dry	905.1	ND	96.0	70-130	2.62	50	
cis-1,2-Dichloroethene	885	45	ug/kg dry	905.1	ND	97.7	70-130	5.33	50	
trans-1,2-Dichloroethene	880	45	ug/kg dry	905.1	ND	97.3	70-130	6.61	50	
1,1-Dichloroethene	931	45	ug/kg dry	905.1	ND	103	70-130	10.9	50	
Vinyl chloride	857	45	ug/kg dry	905.1	ND	94.7	70-130	12.4	50	
1,4-Dioxane	2390	91	ug/kg dry	1810	ND	132	70-130	1.81	50	M
<i>Surrogate: 4-Bromofluorobenzene</i>	19.2		ug/L	20.00		95.9	70-130			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810027 - No Preparation

Blank (V810027-BLK1)

Prepared: 10/11/2018 Analyzed: 10/11/2018 10:43

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>60-140</i>			

LCS (V810027-BS1)

Prepared: 10/11/2018 Analyzed: 10/11/2018 10:28

Tetrachloroethene	22.4	1.0	ug/L	20.00		112	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		99.8	70-130			
cis-1,2-Dichloroethene	19.1	1.0	ug/L	20.00		95.3	70-130			
trans-1,2-Dichloroethene	19.8	1.0	ug/L	20.00		98.9	70-130			
1,1-Dichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
Vinyl chloride	18.6	1.0	ug/L	20.00		92.9	70-130			
1,4-Dioxane	44.3	2.0	ug/L	40.00		111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike (V810027-MS1)

Source: V184108-02

Prepared: 10/11/2018 Analyzed: 10/11/2018 15:55

Tetrachloroethene	16.6	1.0	ug/L	20.00	0.0100	83.1	70-130			
Trichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130			
cis-1,2-Dichloroethene	22.9	1.0	ug/L	20.00	0.0600	114	70-130			
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130			
1,1-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130			
Vinyl chloride	18.6	1.0	ug/L	20.00	0.260	91.7	70-130			
1,4-Dioxane	42.2	2.0	ug/L	40.00	11.5	76.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>94.8</i>	<i>70-130</i>			

Matrix Spike Dup (V810027-MSD1)

Source: V184108-02

Prepared: 10/11/2018 Analyzed: 10/11/2018 16:09

Tetrachloroethene	18.5	1.0	ug/L	20.00	0.0100	92.3	70-130	10.5	30	
Trichloroethene	22.3	1.0	ug/L	20.00	ND	111	70-130	2.92	30	
cis-1,2-Dichloroethene	24.2	1.0	ug/L	20.00	0.0600	121	70-130	5.57	30	
trans-1,2-Dichloroethene	22.0	1.0	ug/L	20.00	ND	110	70-130	2.02	30	
1,1-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130	0.0494	30	
Vinyl chloride	18.9	1.0	ug/L	20.00	0.260	93.0	70-130	1.39	30	
1,4-Dioxane	50.1	2.0	ug/L	40.00	11.5	96.6	70-130	17.1	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.4</i>	<i>70-130</i>			

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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810028 - EPA 3550B

Blank (V810028-BLK1)

Prepared: 10/11/2018 Analyzed: 10/11/2018 11:30

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V810028-BS1)

Prepared: 10/11/2018 Analyzed: 10/11/2018 11:15

Tetrachloroethene	884	40	ug/kg wet	800.0		111	70-130			
Trichloroethene	732	40	ug/kg wet	800.0		91.5	70-130			
cis-1,2-Dichloroethene	690	40	ug/kg wet	800.0		86.3	70-130			
trans-1,2-Dichloroethene	717	40	ug/kg wet	800.0		89.7	70-130			
1,1-Dichloroethene	735	40	ug/kg wet	800.0		91.9	70-130			
Vinyl chloride	617	40	ug/kg wet	800.0		77.1	70-130			
1,4-Dioxane	1770	80	ug/kg wet	1600		111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.5		ug/L	20.00		97.4	70-130			

Matrix Spike (V810028-MS1)

Source: V184109-01

Prepared: 10/11/2018 Analyzed: 10/11/2018 16:24

Tetrachloroethene	920	47	ug/kg dry	943.3	2.83	97.2	70-130			
Trichloroethene	859	47	ug/kg dry	943.3	ND	91.0	70-130			
cis-1,2-Dichloroethene	835	47	ug/kg dry	943.3	ND	88.5	70-130			
trans-1,2-Dichloroethene	861	47	ug/kg dry	943.3	ND	91.3	70-130			
1,1-Dichloroethene	900	47	ug/kg dry	943.3	ND	95.4	70-130			
Vinyl chloride	817	47	ug/kg dry	943.3	ND	86.7	70-130			
1,4-Dioxane	1830	94	ug/kg dry	1887	ND	96.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	17.0		ug/L	20.00		85.1	70-130			

Matrix Spike Dup (V810028-MSD1)

Source: V184109-01

Prepared: 10/11/2018 Analyzed: 10/11/2018 16:39

Tetrachloroethene	859	47	ug/kg dry	943.3	2.83	90.7	70-130	6.84	50	
Trichloroethene	964	47	ug/kg dry	943.3	ND	102	70-130	11.5	50	
cis-1,2-Dichloroethene	1000	47	ug/kg dry	943.3	ND	107	70-130	18.5	50	
trans-1,2-Dichloroethene	989	47	ug/kg dry	943.3	ND	105	70-130	13.8	50	
1,1-Dichloroethene	965	47	ug/kg dry	943.3	ND	102	70-130	7.03	50	
Vinyl chloride	865	47	ug/kg dry	943.3	ND	91.8	70-130	5.72	50	
1,4-Dioxane	2040	94	ug/kg dry	1887	ND	108	70-130	11.0	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	18.3		ug/L	20.00		91.3	70-130			



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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810030 - No Preparation

Blank (V810030-BLK1)

Prepared: 10/12/2018 Analyzed: 10/12/2018 10:09

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.8</i>	<i>60-140</i>			

LCS (V810030-BS1)

Prepared: 10/12/2018 Analyzed: 10/12/2018 09:55

Tetrachloroethene	23.3	1.0	ug/L	20.00		117	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	19.0	1.0	ug/L	20.00		95.1	70-130			
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
1,1-Dichloroethene	20.9	1.0	ug/L	20.00		105	70-130			
Vinyl chloride	19.0	1.0	ug/L	20.00		95.2	70-130			
1,4-Dioxane	43.4	2.0	ug/L	40.00		109	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike (V810030-MS1)

Source: V184110-01

Prepared: 10/12/2018 Analyzed: 10/12/2018 16:07

Tetrachloroethene	21.1	1.0	ug/L	20.00	0.0200	106	70-130			
Trichloroethene	19.1	1.0	ug/L	20.00	ND	95.7	70-130			
cis-1,2-Dichloroethene	18.3	1.0	ug/L	20.00	0.0200	91.3	70-130			
trans-1,2-Dichloroethene	18.6	1.0	ug/L	20.00	ND	93.0	70-130			
1,1-Dichloroethene	18.8	1.0	ug/L	20.00	ND	93.9	70-130			
Vinyl chloride	16.9	1.0	ug/L	20.00	3.19	68.3	70-130			M
1,4-Dioxane	76.1	2.0	ug/L	40.00	27.6	121	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.4</i>	<i>70-130</i>			

Matrix Spike Dup (V810030-MSD1)

Source: V184110-01

Prepared: 10/12/2018 Analyzed: 10/12/2018 16:21

Tetrachloroethene	19.3	1.0	ug/L	20.00	0.0200	96.2	70-130	9.31	30	
Trichloroethene	20.1	1.0	ug/L	20.00	ND	101	70-130	4.94	30	
cis-1,2-Dichloroethene	20.6	1.0	ug/L	20.00	0.0200	103	70-130	11.7	30	
trans-1,2-Dichloroethene	20.0	1.0	ug/L	20.00	ND	100	70-130	7.26	30	
1,1-Dichloroethene	19.2	1.0	ug/L	20.00	ND	96.0	70-130	2.26	30	
Vinyl chloride	19.9	1.0	ug/L	20.00	3.19	83.6	70-130	16.6	30	
1,4-Dioxane	68.8	2.0	ug/L	40.00	27.6	103	70-130	9.98	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.6</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810031 - EPA 3550B

Blank (V810031-BLK1)

Prepared: 10/12/2018 Analyzed: 10/12/2018 10:53

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>60-140</i>			

LCS (V810031-BS1)

Prepared: 10/12/2018 Analyzed: 10/12/2018 10:39

Tetrachloroethene	963	40	ug/kg wet	800.0		120	70-130			
Trichloroethene	742	40	ug/kg wet	800.0		92.8	70-130			
cis-1,2-Dichloroethene	688	40	ug/kg wet	800.0		86.1	70-130			
trans-1,2-Dichloroethene	724	40	ug/kg wet	800.0		90.5	70-130			
1,1-Dichloroethene	759	40	ug/kg wet	800.0		94.9	70-130			
Vinyl chloride	612	40	ug/kg wet	800.0		76.5	70-130			
1,4-Dioxane	1900	80	ug/kg wet	1600		119	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V810031-MS1)

Source: V184111-07

Prepared: 10/12/2018 Analyzed: 10/12/2018 16:36

Tetrachloroethene	971	43	ug/kg dry	855.9	ND	113	70-130			
Trichloroethene	825	43	ug/kg dry	855.9	ND	96.4	70-130			
cis-1,2-Dichloroethene	791	43	ug/kg dry	855.9	ND	92.5	70-130			
trans-1,2-Dichloroethene	816	43	ug/kg dry	855.9	ND	95.3	70-130			
1,1-Dichloroethene	840	43	ug/kg dry	855.9	ND	98.1	70-130			
Vinyl chloride	796	43	ug/kg dry	855.9	37.7	88.7	70-130			
1,4-Dioxane	1830	86	ug/kg dry	1712	ND	107	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.1</i>	<i>70-130</i>			

Matrix Spike Dup (V810031-MSD1)

Source: V184111-07

Prepared: 10/12/2018 Analyzed: 10/12/2018 16:50

Tetrachloroethene	980	43	ug/kg dry	855.9	ND	115	70-130	1.01	50	
Trichloroethene	804	43	ug/kg dry	855.9	ND	93.9	70-130	2.58	50	
cis-1,2-Dichloroethene	760	43	ug/kg dry	855.9	ND	88.8	70-130	4.03	50	
trans-1,2-Dichloroethene	791	43	ug/kg dry	855.9	ND	92.5	70-130	3.04	50	
1,1-Dichloroethene	825	43	ug/kg dry	855.9	ND	96.4	70-130	1.85	50	
Vinyl chloride	787	43	ug/kg dry	855.9	37.7	87.6	70-130	1.13	50	
1,4-Dioxane	1700	86	ug/kg dry	1712	ND	99.4	70-130	7.29	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.3</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810033 - No Preparation

Blank (V810033-BLK1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 09:53

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.7</i>	<i>60-140</i>			

LCS (V810033-BS1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 09:39

Tetrachloroethene	22.2	1.0	ug/L	20.00		111	70-130			
Trichloroethene	19.8	1.0	ug/L	20.00		99.0	70-130			
cis-1,2-Dichloroethene	19.1	1.0	ug/L	20.00		95.5	70-130			
trans-1,2-Dichloroethene	19.6	1.0	ug/L	20.00		97.9	70-130			
1,1-Dichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
Vinyl chloride	17.7	1.0	ug/L	20.00		88.7	70-130			
1,4-Dioxane	48.3	2.0	ug/L	40.00		121	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V810033-MS1)

Source: V184201-01

Prepared: 10/14/2018 Analyzed: 10/15/2018 00:13

Tetrachloroethene	17.4	1.0	ug/L	20.00	0.0100	86.8	70-130			
Trichloroethene	20.1	1.0	ug/L	20.00	ND	100	70-130			
cis-1,2-Dichloroethene	23.6	1.0	ug/L	20.00	ND	118	70-130			
trans-1,2-Dichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130			
1,1-Dichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130			
Vinyl chloride	22.2	1.0	ug/L	20.00	1.27	105	70-130			
1,4-Dioxane	142	2.0	ug/L	40.00	91.8	125	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.6</i>	<i>70-130</i>			

Matrix Spike Dup (V810033-MSD1)

Source: V184201-01

Prepared: 10/14/2018 Analyzed: 10/15/2018 00:28

Tetrachloroethene	21.7	1.0	ug/L	20.00	0.0100	109	70-130	22.3	30	
Trichloroethene	20.1	1.0	ug/L	20.00	ND	101	70-130	0.398	30	
cis-1,2-Dichloroethene	19.7	1.0	ug/L	20.00	ND	98.6	70-130	18.1	30	
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130	6.05	30	
1,1-Dichloroethene	21.1	1.0	ug/L	20.00	ND	106	70-130	1.32	30	
Vinyl chloride	20.7	1.0	ug/L	20.00	1.27	97.0	70-130	7.23	30	
1,4-Dioxane	151	2.0	ug/L	40.00	91.8	148	70-130	6.25	30	M
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.9</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810034 - EPA 3550B

Blank (V810034-BLK1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 12:34

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.9</i>	<i>60-140</i>			

LCS (V810034-BS1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 12:19

Tetrachloroethene	965	40	ug/kg wet	800.0		121	70-130			
Trichloroethene	762	40	ug/kg wet	800.0		95.2	70-130			
cis-1,2-Dichloroethene	717	40	ug/kg wet	800.0		89.7	70-130			
trans-1,2-Dichloroethene	751	40	ug/kg wet	800.0		93.9	70-130			
1,1-Dichloroethene	762	40	ug/kg wet	800.0		95.3	70-130			
Vinyl chloride	638	40	ug/kg wet	800.0		79.8	70-130			
1,4-Dioxane	1720	80	ug/kg wet	1600		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V810034-MS1)

Source: V184202-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 01:12

Tetrachloroethene	941	46	ug/kg dry	924.6	ND	102	70-130			
Trichloroethene	932	46	ug/kg dry	924.6	ND	101	70-130			
cis-1,2-Dichloroethene	991	46	ug/kg dry	924.6	ND	107	70-130			
trans-1,2-Dichloroethene	968	46	ug/kg dry	924.6	ND	105	70-130			
1,1-Dichloroethene	984	46	ug/kg dry	924.6	ND	106	70-130			
Vinyl chloride	922	46	ug/kg dry	924.6	ND	99.8	70-130			
1,4-Dioxane	1940	92	ug/kg dry	1849	ND	105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike Dup (V810034-MSD1)

Source: V184202-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 01:26

Tetrachloroethene	1040	46	ug/kg dry	924.6	ND	113	70-130	10.3	50	
Trichloroethene	840	46	ug/kg dry	924.6	ND	90.8	70-130	10.5	50	
cis-1,2-Dichloroethene	852	46	ug/kg dry	924.6	ND	92.2	70-130	15.1	50	
trans-1,2-Dichloroethene	881	46	ug/kg dry	924.6	ND	95.3	70-130	9.35	50	
1,1-Dichloroethene	977	46	ug/kg dry	924.6	ND	106	70-130	0.707	50	
Vinyl chloride	944	46	ug/kg dry	924.6	ND	102	70-130	2.33	50	
1,4-Dioxane	2020	92	ug/kg dry	1849	ND	109	70-130	4.16	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.7</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810035 - No Preparation

Blank (V810035-BLK1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 18:38

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.9</i>	<i>60-140</i>			

LCS (V810035-BS1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 18:23

Tetrachloroethene	21.5	1.0	ug/L	20.00		108	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	19.4	1.0	ug/L	20.00		97.1	70-130			
trans-1,2-Dichloroethene	19.8	1.0	ug/L	20.00		98.9	70-130			
1,1-Dichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
Vinyl chloride	18.1	1.0	ug/L	20.00		90.7	70-130			
1,4-Dioxane	43.4	2.0	ug/L	40.00		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V810035-MS1)

Source: V184203-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 00:43

Tetrachloroethene	20.5	1.0	ug/L	20.00	ND	102	70-130			
Trichloroethene	19.5	1.0	ug/L	20.00	0.0300	97.2	70-130			
cis-1,2-Dichloroethene	19.9	1.0	ug/L	20.00	0.0900	99.0	70-130			
trans-1,2-Dichloroethene	19.9	1.0	ug/L	20.00	ND	99.5	70-130			
1,1-Dichloroethene	20.5	1.0	ug/L	20.00	ND	103	70-130			
Vinyl chloride	20.1	1.0	ug/L	20.00	0.500	97.8	70-130			
1,4-Dioxane	97.8	2.0	ug/L	40.00	46.9	127	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.8</i>	<i>70-130</i>			

Matrix Spike Dup (V810035-MSD1)

Source: V184203-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 00:57

Tetrachloroethene	17.1	1.0	ug/L	20.00	ND	85.4	70-130	18.1	30	
Trichloroethene	20.6	1.0	ug/L	20.00	0.0300	103	70-130	5.40	30	
cis-1,2-Dichloroethene	23.5	1.0	ug/L	20.00	0.0900	117	70-130	16.5	30	
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130	8.01	30	
1,1-Dichloroethene	20.9	1.0	ug/L	20.00	ND	104	70-130	1.59	30	
Vinyl chloride	20.3	1.0	ug/L	20.00	0.500	98.9	70-130	1.09	30	
1,4-Dioxane	97.6	2.0	ug/L	40.00	46.9	127	70-130	0.276	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.9</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810036 - EPA 3550B

Blank (V810036-BLK1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 20:49

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.5</i>	<i>60-140</i>			

LCS (V810036-BS1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 20:35

Tetrachloroethene	917	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	760	40	ug/kg wet	800.0		95.1	70-130			
cis-1,2-Dichloroethene	717	40	ug/kg wet	800.0		89.7	70-130			
trans-1,2-Dichloroethene	749	40	ug/kg wet	800.0		93.6	70-130			
1,1-Dichloroethene	764	40	ug/kg wet	800.0		95.5	70-130			
Vinyl chloride	613	40	ug/kg wet	800.0		76.6	70-130			
1,4-Dioxane	1960	80	ug/kg wet	1600		122	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>70-130</i>			

Matrix Spike (V810036-MS1)

Source: V184204-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 01:41

Tetrachloroethene	964	47	ug/kg dry	937.3	0.469	103	70-130			
Trichloroethene	866	47	ug/kg dry	937.3	22.5	90.0	70-130			
cis-1,2-Dichloroethene	915	47	ug/kg dry	937.3	ND	97.6	70-130			
trans-1,2-Dichloroethene	923	47	ug/kg dry	937.3	ND	98.5	70-130			
1,1-Dichloroethene	1020	47	ug/kg dry	937.3	ND	109	70-130			
Vinyl chloride	991	47	ug/kg dry	937.3	ND	106	70-130			
1,4-Dioxane	1710	94	ug/kg dry	1875	ND	91.0	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.0</i>	<i>70-130</i>			

Matrix Spike Dup (V810036-MSD1)

Source: V184204-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 01:55

Tetrachloroethene	891	47	ug/kg dry	937.3	0.469	95.1	70-130	7.78	50	
Trichloroethene	908	47	ug/kg dry	937.3	22.5	94.5	70-130	4.81	50	
cis-1,2-Dichloroethene	957	47	ug/kg dry	937.3	ND	102	70-130	4.56	50	
trans-1,2-Dichloroethene	932	47	ug/kg dry	937.3	ND	99.5	70-130	1.01	50	
1,1-Dichloroethene	964	47	ug/kg dry	937.3	ND	103	70-130	5.53	50	
Vinyl chloride	925	47	ug/kg dry	937.3	ND	98.7	70-130	6.85	50	
1,4-Dioxane	2070	94	ug/kg dry	1875	ND	110	70-130	19.1	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.7</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810038 - No Preparation

Blank (V810038-BLK1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 09:46

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V810038-BS1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 11:10

Tetrachloroethene	23.1	1.0	ug/L	20.00		115	70-130			
Trichloroethene	19.6	1.0	ug/L	20.00		98.0	70-130			
cis-1,2-Dichloroethene	18.7	1.0	ug/L	20.00		93.6	70-130			
trans-1,2-Dichloroethene	19.9	1.0	ug/L	20.00		99.7	70-130			
1,1-Dichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
Vinyl chloride	18.2	1.0	ug/L	20.00		91.2	70-130			
1,4-Dioxane	48.5	2.0	ug/L	40.00		121	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.3		ug/L	20.00		107	70-130			

Matrix Spike (V810038-MS1)

Source: V184205-01

Prepared: 10/16/2018 Analyzed: 10/16/2018 13:02

Tetrachloroethene	18.0	1.0	ug/L	20.00	0.0100	90.1	70-130			
Trichloroethene	21.9	1.0	ug/L	20.00	0.500	107	70-130			
cis-1,2-Dichloroethene	24.6	1.0	ug/L	20.00	0.910	118	70-130			
trans-1,2-Dichloroethene	21.9	1.0	ug/L	20.00	ND	110	70-130			
1,1-Dichloroethene	19.7	1.0	ug/L	20.00	ND	98.3	70-130			
Vinyl chloride	19.9	1.0	ug/L	20.00	2.39	87.6	70-130			
1,4-Dioxane	43.3	2.0	ug/L	40.00	ND	108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.2		ug/L	20.00		106	70-130			

Matrix Spike Dup (V810038-MSD1)

Source: V184205-01

Prepared: 10/16/2018 Analyzed: 10/16/2018 13:17

Tetrachloroethene	19.6	1.0	ug/L	20.00	0.0100	97.7	70-130	8.14	30	
Trichloroethene	21.0	1.0	ug/L	20.00	0.500	103	70-130	4.33	30	
cis-1,2-Dichloroethene	21.5	1.0	ug/L	20.00	0.910	103	70-130	13.4	30	
trans-1,2-Dichloroethene	20.3	1.0	ug/L	20.00	ND	101	70-130	7.68	30	
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	ND	97.2	70-130	1.07	30	
Vinyl chloride	18.8	1.0	ug/L	20.00	2.39	82.2	70-130	5.58	30	
1,4-Dioxane	47.9	2.0	ug/L	40.00	ND	120	70-130	10.1	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.9		ug/L	20.00		104	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810039 - EPA 3550B

Blank (V810039-BLK1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 10:30

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							

Surrogate: 4-Bromofluorobenzene 20.1 ug/L 20.00 101 60-140

LCS (V810039-BS1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 10:16

Tetrachloroethene	919	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	695	40	ug/kg wet	800.0		86.9	70-130			
cis-1,2-Dichloroethene	656	40	ug/kg wet	800.0		82.1	70-130			
trans-1,2-Dichloroethene	702	40	ug/kg wet	800.0		87.8	70-130			
1,1-Dichloroethene	724	40	ug/kg wet	800.0		90.6	70-130			
Vinyl chloride	585	40	ug/kg wet	800.0		73.2	70-130			
1,4-Dioxane	1720	80	ug/kg wet	1600		107	70-130			

Surrogate: 4-Bromofluorobenzene 19.2 ug/L 20.00 96.2 70-130

Matrix Spike (V810039-MS1)

Source: V184206-03

Prepared: 10/16/2018 Analyzed: 10/16/2018 14:45

Tetrachloroethene	1330	54	ug/kg dry	1078	ND	123	70-130			
Trichloroethene	1020	54	ug/kg dry	1078	ND	95.0	70-130			
cis-1,2-Dichloroethene	939	54	ug/kg dry	1078	ND	87.1	70-130			
trans-1,2-Dichloroethene	973	54	ug/kg dry	1078	ND	90.2	70-130			
1,1-Dichloroethene	1010	54	ug/kg dry	1078	ND	94.0	70-130			
Vinyl chloride	873	54	ug/kg dry	1078	ND	81.0	70-130			
1,4-Dioxane	2060	110	ug/kg dry	2156	ND	95.7	70-130			

Surrogate: 4-Bromofluorobenzene 21.2 ug/L 20.00 106 70-130

Matrix Spike Dup (V810039-MSD1)

Source: V184206-03

Prepared: 10/16/2018 Analyzed: 10/16/2018 15:00

Tetrachloroethene	1130	54	ug/kg dry	1078	ND	105	70-130	16.5	50	
Trichloroethene	1080	54	ug/kg dry	1078	ND	100	70-130	5.03	50	
cis-1,2-Dichloroethene	1050	54	ug/kg dry	1078	ND	97.3	70-130	11.1	50	
trans-1,2-Dichloroethene	1060	54	ug/kg dry	1078	ND	98.7	70-130	8.94	50	
1,1-Dichloroethene	1050	54	ug/kg dry	1078	ND	97.7	70-130	3.86	50	
Vinyl chloride	925	54	ug/kg dry	1078	ND	85.8	70-130	5.81	50	
1,4-Dioxane	2460	110	ug/kg dry	2156	ND	114	70-130	17.5	50	

Surrogate: 4-Bromofluorobenzene 20.7 ug/L 20.00 104 70-130



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810040 - EPA 3550B

Blank (V810040-BLK1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 21:32

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							

Surrogate: 4-Bromofluorobenzene 19.6 ug/L 20.00 98.0 60-140

LCS (V810040-BS1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 21:17

Tetrachloroethene	895	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	765	40	ug/kg wet	800.0		95.6	70-130			
cis-1,2-Dichloroethene	738	40	ug/kg wet	800.0		92.3	70-130			
trans-1,2-Dichloroethene	751	40	ug/kg wet	800.0		93.9	70-130			
1,1-Dichloroethene	751	40	ug/kg wet	800.0		93.9	70-130			
Vinyl chloride	600	40	ug/kg wet	800.0		75.0	70-130			
1,4-Dioxane	1380	80	ug/kg wet	1600		86.5	70-130			

Surrogate: 4-Bromofluorobenzene 19.9 ug/L 20.00 99.7 70-130

Matrix Spike (V810040-MS1)

Source: V184206-21

Prepared: 10/16/2018 Analyzed: 10/16/2018 23:14

Tetrachloroethene	1070	44	ug/kg dry	888.8	ND	120	70-130			
Trichloroethene	896	44	ug/kg dry	888.8	ND	101	70-130			
cis-1,2-Dichloroethene	905	44	ug/kg dry	888.8	ND	102	70-130			
trans-1,2-Dichloroethene	909	44	ug/kg dry	888.8	ND	102	70-130			
1,1-Dichloroethene	969	44	ug/kg dry	888.8	ND	109	70-130			
Vinyl chloride	851	44	ug/kg dry	888.8	ND	95.7	70-130			
1,4-Dioxane	2220	89	ug/kg dry	1778	ND	125	70-130			

Surrogate: 4-Bromofluorobenzene 22.0 ug/L 20.00 110 70-130

Matrix Spike Dup (V810040-MSD1)

Source: V184206-21

Prepared: 10/16/2018 Analyzed: 10/16/2018 23:28

Tetrachloroethene	955	44	ug/kg dry	888.8	ND	107	70-130	11.3	50	
Trichloroethene	850	44	ug/kg dry	888.8	ND	95.6	70-130	5.34	50	
cis-1,2-Dichloroethene	865	44	ug/kg dry	888.8	ND	97.3	70-130	4.47	50	
trans-1,2-Dichloroethene	865	44	ug/kg dry	888.8	ND	97.3	70-130	4.96	50	
1,1-Dichloroethene	893	44	ug/kg dry	888.8	ND	100	70-130	8.16	50	
Vinyl chloride	808	44	ug/kg dry	888.8	ND	90.9	70-130	5.20	50	
1,4-Dioxane	1800	89	ug/kg dry	1778	ND	101	70-130	20.8	50	

Surrogate: 4-Bromofluorobenzene 20.3 ug/L 20.00 102 70-130



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810042 - No Preparation

Blank (V810042-BLK1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 10:20

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>60-140</i>			

LCS (V810042-BS1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 10:05

Tetrachloroethene	20.7	1.0	ug/L	20.00		104	70-130			
Trichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
cis-1,2-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
trans-1,2-Dichloroethene	20.7	1.0	ug/L	20.00		103	70-130			
1,1-Dichloroethene	20.3	1.0	ug/L	20.00		101	70-130			
Vinyl chloride	17.9	1.0	ug/L	20.00		89.3	70-130			
1,4-Dioxane	47.0	2.0	ug/L	40.00		118	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>108</i>	<i>70-130</i>			

Matrix Spike (V810042-MS1)

Source: V184207-01

Prepared: 10/17/2018 Analyzed: 10/17/2018 13:50

Tetrachloroethene	18.6	1.0	ug/L	20.00	ND	93.0	70-130			
Trichloroethene	21.2	1.0	ug/L	20.00	0.440	104	70-130			
cis-1,2-Dichloroethene	22.0	1.0	ug/L	20.00	ND	110	70-130			
trans-1,2-Dichloroethene	21.2	1.0	ug/L	20.00	ND	106	70-130			
1,1-Dichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130			
Vinyl chloride	18.3	1.0	ug/L	20.00	ND	91.7	70-130			
1,4-Dioxane	44.5	2.0	ug/L	40.00	ND	111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike Dup (V810042-MSD1)

Source: V184207-01

Prepared: 10/17/2018 Analyzed: 10/17/2018 14:05

Tetrachloroethene	18.3	1.0	ug/L	20.00	ND	91.4	70-130	1.79	30	
Trichloroethene	20.9	1.0	ug/L	20.00	0.440	102	70-130	1.19	30	
cis-1,2-Dichloroethene	21.9	1.0	ug/L	20.00	ND	110	70-130	0.137	30	
trans-1,2-Dichloroethene	21.2	1.0	ug/L	20.00	ND	106	70-130	0.189	30	
1,1-Dichloroethene	20.6	1.0	ug/L	20.00	ND	103	70-130	0.928	30	
Vinyl chloride	18.6	1.0	ug/L	20.00	ND	93.1	70-130	1.57	30	
1,4-Dioxane	46.0	2.0	ug/L	40.00	ND	115	70-130	3.27	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810043 - EPA 3550B

Blank (V810043-BLK1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 11:03

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.9</i>	<i>60-140</i>			

LCS (V810043-BS1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 12:23

Tetrachloroethene	938	40	ug/kg wet	800.0		117	70-130			
Trichloroethene	759	40	ug/kg wet	800.0	2.54	94.9	70-130			
cis-1,2-Dichloroethene	703	40	ug/kg wet	800.0		87.9	70-130			
trans-1,2-Dichloroethene	744	40	ug/kg wet	800.0		93.0	70-130			
1,1-Dichloroethene	784	40	ug/kg wet	800.0		98.1	70-130			
Vinyl chloride	664	40	ug/kg wet	800.0		83.1	70-130			
1,4-Dioxane	1810	80	ug/kg wet	1600		113	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike (V810043-MS1)

Source: V184208-03

Prepared: 10/17/2018 Analyzed: 10/17/2018 22:10

Tetrachloroethene	1070	51	ug/kg dry	1017	ND	105	70-130			
Trichloroethene	971	51	ug/kg dry	1017	2.54	95.2	70-130			
cis-1,2-Dichloroethene	975	51	ug/kg dry	1017	ND	95.8	70-130			
trans-1,2-Dichloroethene	990	51	ug/kg dry	1017	ND	97.3	70-130			
1,1-Dichloroethene	1030	51	ug/kg dry	1017	ND	101	70-130			
Vinyl chloride	929	51	ug/kg dry	1017	ND	91.3	70-130			
1,4-Dioxane	2520	100	ug/kg dry	2034	ND	124	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike Dup (V810043-MSD1)

Source: V184208-03

Prepared: 10/17/2018 Analyzed: 10/17/2018 22:25

Tetrachloroethene	1030	51	ug/kg dry	1017	ND	101	70-130	4.03	50	
Trichloroethene	970	51	ug/kg dry	1017	2.54	95.1	70-130	0.0524	50	
cis-1,2-Dichloroethene	1010	51	ug/kg dry	1017	ND	99.7	70-130	3.99	50	
trans-1,2-Dichloroethene	995	51	ug/kg dry	1017	ND	97.8	70-130	0.461	50	
1,1-Dichloroethene	1020	51	ug/kg dry	1017	ND	101	70-130	0.692	50	
Vinyl chloride	925	51	ug/kg dry	1017	ND	90.9	70-130	0.494	50	
1,4-Dioxane	2280	100	ug/kg dry	2034	ND	112	70-130	10.1	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810044 - EPA 3550B

Blank (V810044-BLK1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 19:15

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.1		ug/L	20.00		100	60-140			

LCS (V810044-BS1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 19:01

Tetrachloroethene	875	40	ug/kg wet	800.0		109	70-130			
Trichloroethene	776	40	ug/kg wet	800.0	2.42	97.0	70-130			
cis-1,2-Dichloroethene	745	40	ug/kg wet	800.0		93.1	70-130			
trans-1,2-Dichloroethene	766	40	ug/kg wet	800.0		95.8	70-130			
1,1-Dichloroethene	785	40	ug/kg wet	800.0		98.1	70-130			
Vinyl chloride	700	40	ug/kg wet	800.0		87.6	70-130			
1,4-Dioxane	1730	80	ug/kg wet	1600		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.8		ug/L	20.00		104	70-130			

Matrix Spike (V810044-MS1)

Source: V184208-26

Prepared: 10/17/2018 Analyzed: 10/17/2018 22:39

Tetrachloroethene	955	48	ug/kg dry	968.4	ND	98.6	70-130			
Trichloroethene	951	48	ug/kg dry	968.4	2.42	98.0	70-130			
cis-1,2-Dichloroethene	1000	48	ug/kg dry	968.4	ND	103	70-130			
trans-1,2-Dichloroethene	993	48	ug/kg dry	968.4	ND	103	70-130			
1,1-Dichloroethene	1030	48	ug/kg dry	968.4	ND	106	70-130			
Vinyl chloride	943	48	ug/kg dry	968.4	ND	97.4	70-130			
1,4-Dioxane	2230	97	ug/kg dry	1937	ND	115	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			

Matrix Spike Dup (V810044-MSD1)

Source: V184208-26

Prepared: 10/17/2018 Analyzed: 10/17/2018 22:54

Tetrachloroethene	964	48	ug/kg dry	968.4	ND	99.6	70-130	0.959	50	
Trichloroethene	952	48	ug/kg dry	968.4	2.42	98.1	70-130	0.102	50	
cis-1,2-Dichloroethene	1020	48	ug/kg dry	968.4	ND	105	70-130	1.44	50	
trans-1,2-Dichloroethene	1010	48	ug/kg dry	968.4	ND	104	70-130	1.26	50	
1,1-Dichloroethene	1020	48	ug/kg dry	968.4	ND	106	70-130	0.236	50	
Vinyl chloride	965	48	ug/kg dry	968.4	ND	99.6	70-130	2.23	50	
1,4-Dioxane	2490	97	ug/kg dry	1937	ND	129	70-130	11.3	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810046 - No Preparation

Blank (V810046-BLK1)

Prepared: 10/18/2018 Analyzed: 10/18/2018 09:46

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V810046-BS1)

Prepared: 10/18/2018 Analyzed: 10/18/2018 09:31

Tetrachloroethene	22.4	1.0	ug/L	20.00		112	70-130			
Trichloroethene	19.3	1.0	ug/L	20.00		96.7	70-130			
cis-1,2-Dichloroethene	18.4	1.0	ug/L	20.00		91.8	70-130			
trans-1,2-Dichloroethene	19.1	1.0	ug/L	20.00		95.4	70-130			
1,1-Dichloroethene	19.1	1.0	ug/L	20.00		95.3	70-130			
Vinyl chloride	16.2	1.0	ug/L	20.00		80.9	70-130			
1,4-Dioxane	46.1	2.0	ug/L	40.00		115	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.0		ug/L	20.00		105	70-130			

Matrix Spike (V810046-MS1)

Source: V184209-01

Prepared: 10/18/2018 Analyzed: 10/18/2018 12:11

Tetrachloroethene	21.8	1.0	ug/L	20.00	ND	109	70-130			
Trichloroethene	20.2	1.0	ug/L	20.00	0.210	99.8	70-130			
cis-1,2-Dichloroethene	19.0	1.0	ug/L	20.00	0.0600	94.7	70-130			
trans-1,2-Dichloroethene	19.2	1.0	ug/L	20.00	ND	95.8	70-130			
1,1-Dichloroethene	19.1	1.0	ug/L	20.00	ND	95.5	70-130			
Vinyl chloride	16.4	1.0	ug/L	20.00	ND	82.0	70-130			
1,4-Dioxane	47.0	2.0	ug/L	40.00	ND	118	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.3		ug/L	20.00		107	70-130			

Matrix Spike Dup (V810046-MSD1)

Source: V184209-01

Prepared: 10/18/2018 Analyzed: 10/18/2018 12:26

Tetrachloroethene	19.2	1.0	ug/L	20.00	ND	95.9	70-130	12.9	30	
Trichloroethene	20.9	1.0	ug/L	20.00	0.210	104	70-130	3.75	30	
cis-1,2-Dichloroethene	21.1	1.0	ug/L	20.00	0.0600	105	70-130	10.7	30	
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130	5.14	30	
1,1-Dichloroethene	19.1	1.0	ug/L	20.00	ND	95.6	70-130	0.157	30	
Vinyl chloride	16.6	1.0	ug/L	20.00	ND	83.0	70-130	1.21	30	
1,4-Dioxane	45.7	2.0	ug/L	40.00	ND	114	70-130	2.91	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	21.1		ug/L	20.00		105	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810047 - EPA 3550B

Blank (V810047-BLK1)

Prepared: 10/18/2018 Analyzed: 10/18/2018 10:29

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>60-140</i>			

LCS (V810047-BS1)

Prepared: 10/18/2018 Analyzed: 10/18/2018 10:15

Tetrachloroethene	921	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	765	40	ug/kg wet	800.0		95.7	70-130			
cis-1,2-Dichloroethene	734	40	ug/kg wet	800.0		91.8	70-130			
trans-1,2-Dichloroethene	777	40	ug/kg wet	800.0		97.1	70-130			
1,1-Dichloroethene	787	40	ug/kg wet	800.0		98.4	70-130			
Vinyl chloride	713	40	ug/kg wet	800.0		89.2	70-130			
1,4-Dioxane	1790	80	ug/kg wet	1600		112	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike (V810047-MS1)

Source: V184210-04

Prepared: 10/18/2018 Analyzed: 10/18/2018 12:51

Tetrachloroethene	1100	48	ug/kg dry	955.7	ND	115	70-130			
Trichloroethene	916	48	ug/kg dry	955.7	ND	95.9	70-130			
cis-1,2-Dichloroethene	867	48	ug/kg dry	955.7	ND	90.7	70-130			
trans-1,2-Dichloroethene	907	48	ug/kg dry	955.7	ND	94.9	70-130			
1,1-Dichloroethene	932	48	ug/kg dry	955.7	ND	97.5	70-130			
Vinyl chloride	845	48	ug/kg dry	955.7	ND	88.4	70-130			
1,4-Dioxane	2010	96	ug/kg dry	1911	ND	105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike Dup (V810047-MSD1)

Source: V184210-04

Prepared: 10/18/2018 Analyzed: 10/18/2018 13:06

Tetrachloroethene	1100	48	ug/kg dry	955.7	ND	115	70-130	0.174	50	
Trichloroethene	935	48	ug/kg dry	955.7	ND	97.8	70-130	1.96	50	
cis-1,2-Dichloroethene	884	48	ug/kg dry	955.7	ND	92.5	70-130	1.97	50	
trans-1,2-Dichloroethene	918	48	ug/kg dry	955.7	ND	96.0	70-130	1.20	50	
1,1-Dichloroethene	935	48	ug/kg dry	955.7	ND	97.9	70-130	0.358	50	
Vinyl chloride	825	48	ug/kg dry	955.7	ND	86.4	70-130	2.35	50	
1,4-Dioxane	2380	96	ug/kg dry	1911	ND	124	70-130	16.5	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810048 - EPA 3550B

Blank (V810048-BLK1)

Prepared: 10/18/2018 Analyzed: 10/22/2018 22:04

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.0</i>	<i>60-140</i>			

LCS (V810048-BS1)

Prepared: 10/18/2018 Analyzed: 10/22/2018 21:50

Tetrachloroethene	900	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	778	40	ug/kg wet	800.0		97.3	70-130			
cis-1,2-Dichloroethene	740	40	ug/kg wet	800.0		92.6	70-130			
trans-1,2-Dichloroethene	771	40	ug/kg wet	800.0		96.4	70-130			
1,1-Dichloroethene	802	40	ug/kg wet	800.0		100	70-130			
Vinyl chloride	717	40	ug/kg wet	800.0		89.7	70-130			
1,4-Dioxane	1610	80	ug/kg wet	1600		101	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V810048-MS1)

Source: V184210-18

Prepared: 10/18/2018 Analyzed: 10/19/2018 00:17

Tetrachloroethene	1150	58	ug/kg dry	1151	1.15	99.5	70-130			
Trichloroethene	1130	58	ug/kg dry	1151	25.3	95.8	70-130			
cis-1,2-Dichloroethene	1210	58	ug/kg dry	1151	2.88	105	70-130			
trans-1,2-Dichloroethene	1180	58	ug/kg dry	1151	ND	103	70-130			
1,1-Dichloroethene	1200	58	ug/kg dry	1151	ND	104	70-130			
Vinyl chloride	1140	58	ug/kg dry	1151	21.3	96.9	70-130			
1,4-Dioxane	2810	120	ug/kg dry	2303	ND	122	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike Dup (V810048-MSD1)

Source: V184210-18

Prepared: 10/18/2018 Analyzed: 10/19/2018 00:32

Tetrachloroethene	1130	58	ug/kg dry	1151	1.15	98.4	70-130	1.11	50	
Trichloroethene	1140	58	ug/kg dry	1151	25.3	97.1	70-130	1.27	50	
cis-1,2-Dichloroethene	1220	58	ug/kg dry	1151	2.88	106	70-130	0.756	50	
trans-1,2-Dichloroethene	1200	58	ug/kg dry	1151	ND	104	70-130	1.26	50	
1,1-Dichloroethene	1230	58	ug/kg dry	1151	ND	107	70-130	2.80	50	
Vinyl chloride	1130	58	ug/kg dry	1151	21.3	96.1	70-130	0.763	50	
1,4-Dioxane	2390	120	ug/kg dry	2303	ND	104	70-130	16.2	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810050 - No Preparation

Blank (V810050-BLK1)

Prepared: 10/22/2018 Analyzed: 10/22/2018 17:11

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.3</i>	<i>60-140</i>			

LCS (V810050-BS1)

Prepared: 10/22/2018 Analyzed: 10/22/2018 16:56

Tetrachloroethene	19.4	1.0	ug/L	20.00		97.1	70-130			
Trichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
cis-1,2-Dichloroethene	21.2	1.0	ug/L	20.00		106	70-130			
trans-1,2-Dichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
1,1-Dichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
Vinyl chloride	18.1	1.0	ug/L	20.00		90.3	70-130			
1,4-Dioxane	46.4	2.0	ug/L	40.00		116	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike (V810050-MS1)

Source: V184301-01

Prepared: 10/22/2018 Analyzed: 10/22/2018 21:20

Tetrachloroethene	19.7	1.0	ug/L	20.00	ND	98.7	70-130			
Trichloroethene	21.0	1.0	ug/L	20.00	1.10	99.6	70-130			
cis-1,2-Dichloroethene	20.5	1.0	ug/L	20.00	0.490	100	70-130			
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00	0.200	99.5	70-130			
1,1-Dichloroethene	19.5	1.0	ug/L	20.00	ND	97.3	70-130			
Vinyl chloride	17.4	1.0	ug/L	20.00	0.370	85.0	70-130			
1,4-Dioxane	45.9	2.0	ug/L	40.00	ND	115	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike Dup (V810050-MSD1)

Source: V184301-01

Prepared: 10/22/2018 Analyzed: 10/22/2018 21:35

Tetrachloroethene	19.3	1.0	ug/L	20.00	ND	96.4	70-130	2.36	30	
Trichloroethene	20.7	1.0	ug/L	20.00	1.10	98.0	70-130	1.58	30	
cis-1,2-Dichloroethene	20.8	1.0	ug/L	20.00	0.490	102	70-130	1.45	30	
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00	0.200	99.4	70-130	0.149	30	
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	ND	97.2	70-130	0.103	30	
Vinyl chloride	17.5	1.0	ug/L	20.00	0.370	85.5	70-130	0.574	30	
1,4-Dioxane	46.4	2.0	ug/L	40.00	ND	116	70-130	1.13	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810051 - EPA 3550B

Blank (V810051-BLK1)

Prepared: 10/22/2018 Analyzed: 10/23/2018 00:44

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.3</i>	<i>60-140</i>			

Blank (V810051-BLK2)

Prepared: 10/22/2018 Analyzed: 10/23/2018 14:19

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>23.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>117</i>	<i>60-140</i>			

LCS (V810051-BS1)

Prepared: 10/22/2018 Analyzed: 10/23/2018 00:30

Tetrachloroethene	851	40	ug/kg wet	800.0		106	70-130			
Trichloroethene	745	40	ug/kg wet	800.0		93.1	70-130			
cis-1,2-Dichloroethene	765	40	ug/kg wet	800.0		95.7	70-130			
trans-1,2-Dichloroethene	775	40	ug/kg wet	800.0		96.9	70-130			
1,1-Dichloroethene	809	40	ug/kg wet	800.0		101	70-130			
Vinyl chloride	776	40	ug/kg wet	800.0		97.0	70-130			
1,4-Dioxane	1770	80	ug/kg wet	1600		111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>70-130</i>			

LCS (V810051-BS2)

Prepared: 10/22/2018 Analyzed: 10/23/2018 15:18

Tetrachloroethene	924	40	ug/kg wet	800.0		116	70-130			
Trichloroethene	766	40	ug/kg wet	800.0		95.8	70-130			
cis-1,2-Dichloroethene	714	40	ug/kg wet	800.0		89.2	70-130			
trans-1,2-Dichloroethene	730	40	ug/kg wet	800.0		91.2	70-130			
1,1-Dichloroethene	750	40	ug/kg wet	800.0		93.7	70-130			
Vinyl chloride	662	40	ug/kg wet	800.0		82.8	70-130			
1,4-Dioxane	1730	80	ug/kg wet	1600		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V810051-MS1)

Source: V184302-01

Prepared: 10/22/2018 Analyzed: 10/23/2018 23:29

Tetrachloroethene	927	48	ug/kg dry	959.4	ND	96.6	70-130			
Trichloroethene	912	48	ug/kg dry	959.4	ND	95.1	70-130			
cis-1,2-Dichloroethene	985	48	ug/kg dry	959.4	ND	103	70-130			
trans-1,2-Dichloroethene	943	48	ug/kg dry	959.4	ND	98.3	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810051 - EPA 3550B

Matrix Spike (V810051-MS1)		Source: V184302-01		Prepared: 10/22/2018 Analyzed: 10/23/2018 23:29						
1,1-Dichloroethene	956	48	ug/kg dry	959.4	ND	99.6	70-130			
Vinyl chloride	918	48	ug/kg dry	959.4	ND	95.7	70-130			
1,4-Dioxane	2250	96	ug/kg dry	1919	ND	117	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.6</i>	<i>70-130</i>			

Matrix Spike (V810051-MS2)		Source: V184302-23		Prepared: 10/22/2018 Analyzed: 10/23/2018 23:58						
Tetrachloroethene	1020	50	ug/kg dry	1004	ND	102	70-130			
Trichloroethene	939	50	ug/kg dry	1004	ND	93.6	70-130			
cis-1,2-Dichloroethene	965	50	ug/kg dry	1004	ND	96.2	70-130			
trans-1,2-Dichloroethene	953	50	ug/kg dry	1004	ND	94.9	70-130			
1,1-Dichloroethene	975	50	ug/kg dry	1004	ND	97.1	70-130			
Vinyl chloride	941	50	ug/kg dry	1004	ND	93.8	70-130			
1,4-Dioxane	2010	100	ug/kg dry	2007	ND	100	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.8</i>	<i>70-130</i>			

Matrix Spike Dup (V810051-MSD1)		Source: V184302-01		Prepared: 10/22/2018 Analyzed: 10/23/2018 23:44						
Tetrachloroethene	941	48	ug/kg dry	959.4	ND	98.1	70-130	1.49	50	
Trichloroethene	925	48	ug/kg dry	959.4	ND	96.4	70-130	1.41	50	
cis-1,2-Dichloroethene	973	48	ug/kg dry	959.4	ND	101	70-130	1.22	50	
trans-1,2-Dichloroethene	940	48	ug/kg dry	959.4	ND	98.0	70-130	0.306	50	
1,1-Dichloroethene	942	48	ug/kg dry	959.4	ND	98.2	70-130	1.42	50	
Vinyl chloride	881	48	ug/kg dry	959.4	ND	91.9	70-130	4.05	50	
1,4-Dioxane	1980	96	ug/kg dry	1919	ND	103	70-130	12.9	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V810051-MSD2)		Source: V184302-23		Prepared: 10/22/2018 Analyzed: 10/24/2018 00:13						
Tetrachloroethene	869	50	ug/kg dry	1004	ND	86.6	70-130	15.9	50	
Trichloroethene	939	50	ug/kg dry	1004	ND	93.5	70-130	0.0534	50	
cis-1,2-Dichloroethene	987	50	ug/kg dry	1004	ND	98.3	70-130	2.21	50	
trans-1,2-Dichloroethene	969	50	ug/kg dry	1004	ND	96.6	70-130	1.72	50	
1,1-Dichloroethene	1010	50	ug/kg dry	1004	ND	100	70-130	3.34	50	
Vinyl chloride	930	50	ug/kg dry	1004	ND	92.6	70-130	1.23	50	
1,4-Dioxane	1910	100	ug/kg dry	2007	ND	95.0	70-130	5.50	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.4</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810053 - No Preparation

Blank (V810053-BLK1)

Prepared: 10/23/2018 Analyzed: 10/23/2018 17:06

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	22.2		ug/L	20.00		111	60-140			

LCS (V810053-BS1)

Prepared: 10/23/2018 Analyzed: 10/23/2018 16:20

Tetrachloroethene	20.1	1.0	ug/L	20.00		100	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
cis-1,2-Dichloroethene	20.7	1.0	ug/L	20.00		104	70-130			
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
1,1-Dichloroethene	19.9	1.0	ug/L	20.00		99.3	70-130			
Vinyl chloride	17.8	1.0	ug/L	20.00		89.2	70-130			
1,4-Dioxane	48.0	2.0	ug/L	40.00		120	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		102	70-130			

Matrix Spike (V810053-MS1)

Source: V184303-01

Prepared: 10/23/2018 Analyzed: 10/23/2018 23:00

Tetrachloroethene	19.4	1.0	ug/L	20.00	ND	96.9	70-130			
Trichloroethene	19.7	1.0	ug/L	20.00	ND	98.7	70-130			
cis-1,2-Dichloroethene	20.7	1.0	ug/L	20.00	0.0200	103	70-130			
trans-1,2-Dichloroethene	19.6	1.0	ug/L	20.00	0.0600	97.5	70-130			
1,1-Dichloroethene	19.2	1.0	ug/L	20.00	ND	95.8	70-130			
Vinyl chloride	19.1	1.0	ug/L	20.00	0.410	93.3	70-130			
1,4-Dioxane	46.4	2.0	ug/L	40.00	ND	116	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.1		ug/L	20.00		100	70-130			

Matrix Spike Dup (V810053-MSD1)

Source: V184303-01

Prepared: 10/23/2018 Analyzed: 10/23/2018 23:14

Tetrachloroethene	18.6	1.0	ug/L	20.00	ND	93.2	70-130	3.95	30	
Trichloroethene	18.7	1.0	ug/L	20.00	ND	93.5	70-130	5.41	30	
cis-1,2-Dichloroethene	21.3	1.0	ug/L	20.00	0.0200	106	70-130	2.72	30	
trans-1,2-Dichloroethene	20.0	1.0	ug/L	20.00	0.0600	99.6	70-130	2.18	30	
1,1-Dichloroethene	19.9	1.0	ug/L	20.00	ND	99.4	70-130	3.74	30	
Vinyl chloride	19.6	1.0	ug/L	20.00	0.410	95.8	70-130	2.64	30	
1,4-Dioxane	46.8	2.0	ug/L	40.00	ND	117	70-130	0.815	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	18.9		ug/L	20.00		94.4	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810054 - EPA 3550B

Blank (V810054-BLK1)

Prepared: 10/23/2018 Analyzed: 10/23/2018 18:23

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.8</i>	<i>60-140</i>			

LCS (V810054-BS1)

Prepared: 10/23/2018 Analyzed: 10/23/2018 18:08

Tetrachloroethene	900	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	769	40	ug/kg wet	800.0		96.2	70-130			
cis-1,2-Dichloroethene	738	40	ug/kg wet	800.0		92.2	70-130			
trans-1,2-Dichloroethene	754	40	ug/kg wet	800.0		94.3	70-130			
1,1-Dichloroethene	756	40	ug/kg wet	800.0		94.6	70-130			
Vinyl chloride	686	40	ug/kg wet	800.0		85.7	70-130			
1,4-Dioxane	1570	80	ug/kg wet	1600		98.1	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike (V810054-MS1)

Source: V184304-06

Prepared: 10/23/2018 Analyzed: 10/24/2018 11:44

Tetrachloroethene	1280	48	ug/kg dry	968.3	ND	132	70-130			M
Trichloroethene	954	48	ug/kg dry	968.3	ND	98.5	70-130			
cis-1,2-Dichloroethene	938	48	ug/kg dry	968.3	ND	96.9	70-130			
trans-1,2-Dichloroethene	952	48	ug/kg dry	968.3	ND	98.3	70-130			
1,1-Dichloroethene	953	48	ug/kg dry	968.3	ND	98.5	70-130			
Vinyl chloride	896	48	ug/kg dry	968.3	ND	92.5	70-130			
1,4-Dioxane	1680	97	ug/kg dry	1937	ND	86.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>23.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>117</i>	<i>70-130</i>			

Matrix Spike Dup (V810054-MSD1)

Source: V184304-06

Prepared: 10/23/2018 Analyzed: 10/24/2018 11:58

Tetrachloroethene	1020	48	ug/kg dry	968.3	ND	106	70-130	22.6	50	
Trichloroethene	946	48	ug/kg dry	968.3	ND	97.7	70-130	0.866	50	
cis-1,2-Dichloroethene	924	48	ug/kg dry	968.3	ND	95.5	70-130	1.46	50	
trans-1,2-Dichloroethene	930	48	ug/kg dry	968.3	ND	96.1	70-130	2.37	50	
1,1-Dichloroethene	941	48	ug/kg dry	968.3	ND	97.2	70-130	1.33	50	
Vinyl chloride	891	48	ug/kg dry	968.3	ND	92.0	70-130	0.542	50	
1,4-Dioxane	1890	97	ug/kg dry	1937	ND	97.5	70-130	11.5	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>94.3</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810056 - No Preparation

Blank (V810056-BLK1)

Prepared: 10/24/2018 Analyzed: 10/24/2018 10:31

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.2</i>	<i>60-140</i>			

LCS (V810056-BS1)

Prepared: 10/24/2018 Analyzed: 10/24/2018 10:16

Tetrachloroethene	21.9	1.0	ug/L	20.00		109	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		99.9	70-130			
cis-1,2-Dichloroethene	19.3	1.0	ug/L	20.00		96.6	70-130			
trans-1,2-Dichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
1,1-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
Vinyl chloride	18.9	1.0	ug/L	20.00		94.5	70-130			
1,4-Dioxane	44.7	2.0	ug/L	40.00		112	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V810056-MS1)

Source: V184305-02

Prepared: 10/24/2018 Analyzed: 10/24/2018 15:25

Tetrachloroethene	20.5	1.0	ug/L	20.00	ND	102	70-130			
Trichloroethene	20.5	1.0	ug/L	20.00	0.0200	103	70-130			
cis-1,2-Dichloroethene	21.8	1.0	ug/L	20.00	0.840	105	70-130			
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00	1.36	101	70-130			
1,1-Dichloroethene	21.3	1.0	ug/L	20.00	1.59	98.5	70-130			
Vinyl chloride	61.3	1.0	ug/L	20.00	39.4	110	70-130			
1,4-Dioxane	47.2	2.0	ug/L	40.00	3.55	109	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.4</i>	<i>70-130</i>			

Matrix Spike Dup (V810056-MSD1)

Source: V184305-02

Prepared: 10/24/2018 Analyzed: 10/24/2018 15:39

Tetrachloroethene	20.9	1.0	ug/L	20.00	ND	104	70-130	1.89	30	
Trichloroethene	19.9	1.0	ug/L	20.00	0.0200	99.4	70-130	3.07	30	
cis-1,2-Dichloroethene	20.3	1.0	ug/L	20.00	0.840	97.2	70-130	7.14	30	
trans-1,2-Dichloroethene	20.6	1.0	ug/L	20.00	1.36	96.4	70-130	4.73	30	
1,1-Dichloroethene	20.7	1.0	ug/L	20.00	1.59	95.5	70-130	2.86	30	
Vinyl chloride	60.5	1.0	ug/L	20.00	39.4	106	70-130	1.40	30	
1,4-Dioxane	45.0	2.0	ug/L	40.00	3.55	104	70-130	4.58	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.6</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810057 - EPA 3550B

Blank (V810057-BLK1)

Prepared: 10/24/2018 Analyzed: 10/24/2018 11:14

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							

Surrogate: 4-Bromofluorobenzene 20.0 ug/L 20.00 99.9 60-140

LCS (V810057-BS1)

Prepared: 10/24/2018 Analyzed: 10/24/2018 11:00

Tetrachloroethene	953	40	ug/kg wet	800.0		119	70-130			
Trichloroethene	753	40	ug/kg wet	800.0	1.86	94.1	70-130			
cis-1,2-Dichloroethene	702	40	ug/kg wet	800.0		87.7	70-130			
trans-1,2-Dichloroethene	747	40	ug/kg wet	800.0		93.4	70-130			
1,1-Dichloroethene	783	40	ug/kg wet	800.0		97.9	70-130			
Vinyl chloride	722	40	ug/kg wet	800.0		90.3	70-130			
1,4-Dioxane	1870	80	ug/kg wet	1600		117	70-130			

Surrogate: 4-Bromofluorobenzene 20.4 ug/L 20.00 102 70-130

Matrix Spike (V810057-MS1)

Source: V184306-02

Prepared: 10/24/2018 Analyzed: 10/24/2018 15:54

Tetrachloroethene	1080	46	ug/kg dry	928.0	ND	116	70-130			
Trichloroethene	860	46	ug/kg dry	928.0	1.86	92.5	70-130			
cis-1,2-Dichloroethene	794	46	ug/kg dry	928.0	ND	85.6	70-130			
trans-1,2-Dichloroethene	819	46	ug/kg dry	928.0	ND	88.3	70-130			
1,1-Dichloroethene	854	46	ug/kg dry	928.0	ND	92.0	70-130			
Vinyl chloride	796	46	ug/kg dry	928.0	ND	85.8	70-130			
1,4-Dioxane	1810	93	ug/kg dry	1856	ND	97.6	70-130			

Surrogate: 4-Bromofluorobenzene 19.2 ug/L 20.00 95.8 70-130

Matrix Spike Dup (V810057-MSD1)

Source: V184306-02

Prepared: 10/24/2018 Analyzed: 10/24/2018 16:09

Tetrachloroethene	1100	46	ug/kg dry	928.0	ND	119	70-130	2.55	50	
Trichloroethene	902	46	ug/kg dry	928.0	1.86	97.1	70-130	4.79	50	
cis-1,2-Dichloroethene	833	46	ug/kg dry	928.0	ND	89.8	70-130	4.73	50	
trans-1,2-Dichloroethene	864	46	ug/kg dry	928.0	ND	93.1	70-130	5.29	50	
1,1-Dichloroethene	895	46	ug/kg dry	928.0	ND	96.5	70-130	4.77	50	
Vinyl chloride	825	46	ug/kg dry	928.0	ND	89.0	70-130	3.66	50	
1,4-Dioxane	1860	93	ug/kg dry	1856	ND	100	70-130	2.55	50	

Surrogate: 4-Bromofluorobenzene 19.9 ug/L 20.00 99.6 70-130



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810059 - No Preparation

Blank (V810059-BLK1)

Prepared: 10/25/2018 Analyzed: 10/25/2018 10:41

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.7		ug/L	20.00		104	60-140			

LCS (V810059-BS1)

Prepared: 10/25/2018 Analyzed: 10/25/2018 10:26

Tetrachloroethene	22.5	1.0	ug/L	20.00		112	70-130			
Trichloroethene	19.5	1.0	ug/L	20.00		97.3	70-130			
cis-1,2-Dichloroethene	18.5	1.0	ug/L	20.00		92.6	70-130			
trans-1,2-Dichloroethene	19.4	1.0	ug/L	20.00		96.9	70-130			
1,1-Dichloroethene	19.9	1.0	ug/L	20.00		99.6	70-130			
Vinyl chloride	19.2	1.0	ug/L	20.00		96.0	70-130			
1,4-Dioxane	41.3	2.0	ug/L	40.00		103	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			

Matrix Spike (V810059-MS1)

Source: V184307-01

Prepared: 10/25/2018 Analyzed: 10/25/2018 16:17

Tetrachloroethene	20.7	1.0	ug/L	20.00	ND	104	70-130			
Trichloroethene	20.1	1.0	ug/L	20.00	ND	100	70-130			
cis-1,2-Dichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130			
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130			
1,1-Dichloroethene	20.1	1.0	ug/L	20.00	ND	100	70-130			
Vinyl chloride	60.3	1.0	ug/L	20.00	34.6	128	70-130			
1,4-Dioxane	44.7	2.0	ug/L	40.00	2.11	106	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		101	70-130			

Matrix Spike Dup (V810059-MSD1)

Source: V184307-01

Prepared: 10/25/2018 Analyzed: 10/25/2018 16:31

Tetrachloroethene	20.8	1.0	ug/L	20.00	ND	104	70-130	0.289	30	
Trichloroethene	19.1	1.0	ug/L	20.00	ND	95.6	70-130	4.95	30	
cis-1,2-Dichloroethene	18.8	1.0	ug/L	20.00	ND	94.2	70-130	7.90	30	
trans-1,2-Dichloroethene	19.1	1.0	ug/L	20.00	ND	95.5	70-130	5.85	30	
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	ND	96.9	70-130	3.50	30	
Vinyl chloride	58.2	1.0	ug/L	20.00	34.6	118	70-130	3.58	30	
1,4-Dioxane	48.4	2.0	ug/L	40.00	2.11	116	70-130	8.03	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.8		ug/L	20.00		98.9	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810060 - EPA 3550B

Blank (V810060-BLK1)

Prepared: 10/25/2018 Analyzed: 10/25/2018 11:54

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	60-140			

LCS (V810060-BS1)

Prepared: 10/25/2018 Analyzed: 10/25/2018 11:39

Tetrachloroethene	879	40	ug/kg wet	800.0		110	70-130			
Trichloroethene	792	40	ug/kg wet	800.0		99.0	70-130			
cis-1,2-Dichloroethene	759	40	ug/kg wet	800.0		94.9	70-130			
trans-1,2-Dichloroethene	778	40	ug/kg wet	800.0		97.2	70-130			
1,1-Dichloroethene	792	40	ug/kg wet	800.0		99.1	70-130			
Vinyl chloride	745	40	ug/kg wet	800.0		93.1	70-130			
1,4-Dioxane	1910	80	ug/kg wet	1600		119	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	70-130			

Matrix Spike (V810060-MS1)

Source: V184308-01

Prepared: 10/25/2018 Analyzed: 10/25/2018 16:46

Tetrachloroethene	942	49	ug/kg dry	982.4	5.89	95.3	70-130			
Trichloroethene	941	49	ug/kg dry	982.4	6.39	95.1	70-130			
cis-1,2-Dichloroethene	977	49	ug/kg dry	982.4	36.8	95.7	70-130			
trans-1,2-Dichloroethene	966	49	ug/kg dry	982.4	ND	98.3	70-130			
1,1-Dichloroethene	985	49	ug/kg dry	982.4	ND	100	70-130			
Vinyl chloride	951	49	ug/kg dry	982.4	ND	96.8	70-130			
1,4-Dioxane	1970	98	ug/kg dry	1965	ND	100	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	18.4		ug/L	20.00		92.2	70-130			

Matrix Spike Dup (V810060-MSD1)

Source: V184308-01

Prepared: 10/25/2018 Analyzed: 10/25/2018 17:01

Tetrachloroethene	1030	49	ug/kg dry	982.4	5.89	105	70-130	9.25	50	
Trichloroethene	945	49	ug/kg dry	982.4	6.39	95.5	70-130	0.417	50	
cis-1,2-Dichloroethene	947	49	ug/kg dry	982.4	36.8	92.6	70-130	3.17	50	
trans-1,2-Dichloroethene	965	49	ug/kg dry	982.4	ND	98.2	70-130	0.153	50	
1,1-Dichloroethene	1020	49	ug/kg dry	982.4	ND	103	70-130	3.04	50	
Vinyl chloride	1000	49	ug/kg dry	982.4	ND	102	70-130	5.14	50	
1,4-Dioxane	2050	98	ug/kg dry	1965	ND	104	70-130	3.64	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	18.9		ug/L	20.00		94.5	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810062 - No Preparation

Blank (V810062-BLK1)

Prepared: 10/26/2018 Analyzed: 10/26/2018 09:49

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.7		ug/L	20.00		103	60-140			

LCS (V810062-BS1)

Prepared: 10/26/2018 Analyzed: 10/26/2018 09:34

Tetrachloroethene	20.8	1.0	ug/L	20.00		104	70-130			
Trichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	19.9	1.0	ug/L	20.00		99.3	70-130			
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
1,1-Dichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
Vinyl chloride	19.0	1.0	ug/L	20.00		95.2	70-130			
1,4-Dioxane	42.1	2.0	ug/L	40.00		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	70-130			

Matrix Spike (V810062-MS1)

Source: V184309-03

Prepared: 10/26/2018 Analyzed: 10/26/2018 13:55

Tetrachloroethene	20.7	1.0	ug/L	20.00	ND	104	70-130			
Trichloroethene	121	1.0	ug/L	20.00	148	NR	70-130			M
cis-1,2-Dichloroethene	135	1.0	ug/L	20.00	136	NR	70-130			M
trans-1,2-Dichloroethene	41.7	1.0	ug/L	20.00	25.8	79.1	70-130			
1,1-Dichloroethene	20.3	1.0	ug/L	20.00	0.170	101	70-130			
Vinyl chloride	35.8	1.0	ug/L	20.00	14.8	105	70-130			
1,4-Dioxane	47.2	2.0	ug/L	40.00	ND	118	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.4		ug/L	20.00		97.2	70-130			

Matrix Spike Dup (V810062-MSD1)

Source: V184309-03

Prepared: 10/26/2018 Analyzed: 10/26/2018 14:09

Tetrachloroethene	19.7	1.0	ug/L	20.00	ND	98.7	70-130	4.75	30	
Trichloroethene	123	1.0	ug/L	20.00	148	NR	70-130	1.85	30	M
cis-1,2-Dichloroethene	141	1.0	ug/L	20.00	136	22.2	70-130	3.94	30	M
trans-1,2-Dichloroethene	42.1	1.0	ug/L	20.00	25.8	81.1	70-130	0.932	30	
1,1-Dichloroethene	20.1	1.0	ug/L	20.00	0.170	99.6	70-130	0.942	30	
Vinyl chloride	33.9	1.0	ug/L	20.00	14.8	95.3	70-130	5.43	30	
1,4-Dioxane	43.2	2.0	ug/L	40.00	ND	108	70-130	8.69	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		99.8	70-130			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810063 - EPA 3550B

Blank (V810063-BLK1)

Prepared: 10/26/2018 Analyzed: 10/26/2018 10:18

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		103	60-140			

LCS (V810063-BS1)

Prepared: 10/26/2018 Analyzed: 10/26/2018 10:03

Tetrachloroethene	958	40	ug/kg wet	800.0		120	70-130			
Trichloroethene	774	40	ug/kg wet	800.0		96.7	70-130			
cis-1,2-Dichloroethene	723	40	ug/kg wet	800.0		90.4	70-130			
trans-1,2-Dichloroethene	764	40	ug/kg wet	800.0		95.5	70-130			
1,1-Dichloroethene	803	40	ug/kg wet	800.0		100	70-130			
Vinyl chloride	749	40	ug/kg wet	800.0		93.7	70-130			
1,4-Dioxane	1750	80	ug/kg wet	1600		109	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.7		ug/L	20.00		104	70-130			

Matrix Spike (V810063-MS1)

Source: V184310-02

Prepared: 10/26/2018 Analyzed: 10/26/2018 16:50

Tetrachloroethene	1220	48	ug/kg dry	964.8	ND	127	70-130			
Trichloroethene	873	48	ug/kg dry	964.8	ND	90.5	70-130			
cis-1,2-Dichloroethene	785	48	ug/kg dry	964.8	ND	81.4	70-130			
trans-1,2-Dichloroethene	855	48	ug/kg dry	964.8	ND	88.6	70-130			
1,1-Dichloroethene	944	48	ug/kg dry	964.8	ND	97.9	70-130			
Vinyl chloride	868	48	ug/kg dry	964.8	ND	89.9	70-130			
1,4-Dioxane	2330	96	ug/kg dry	1930	ND	121	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		99.9	70-130			

Matrix Spike Dup (V810063-MSD1)

Source: V184310-02

Prepared: 10/26/2018 Analyzed: 10/26/2018 17:04

Tetrachloroethene	1020	48	ug/kg dry	964.8	ND	105	70-130	18.2	50	
Trichloroethene	947	48	ug/kg dry	964.8	ND	98.2	70-130	8.22	50	
cis-1,2-Dichloroethene	937	48	ug/kg dry	964.8	ND	97.2	70-130	17.7	50	
trans-1,2-Dichloroethene	959	48	ug/kg dry	964.8	ND	99.4	70-130	11.4	50	
1,1-Dichloroethene	963	48	ug/kg dry	964.8	ND	99.8	70-130	1.97	50	
Vinyl chloride	913	48	ug/kg dry	964.8	ND	94.6	70-130	5.09	50	
1,4-Dioxane	2310	96	ug/kg dry	1930	ND	120	70-130	0.977	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.8		ug/L	20.00		99.0	70-130			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810065 - No Preparation

Blank (V810065-BLK1)

Prepared: 10/29/2018 Analyzed: 10/29/2018 15:14

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V810065-BS1)

Prepared: 10/29/2018 Analyzed: 10/29/2018 14:45

Tetrachloroethene	19.7	1.0	ug/L	20.00		98.5	70-130			
Trichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
cis-1,2-Dichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
trans-1,2-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
1,1-Dichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
Vinyl chloride	20.3	1.0	ug/L	20.00		101	70-130			
1,4-Dioxane	45.4	2.0	ug/L	40.00		114	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.7		ug/L	20.00		103	70-130			

Matrix Spike (V810065-MS1)

Source: V184401-02

Prepared: 10/29/2018 Analyzed: 10/29/2018 20:12

Tetrachloroethene	17.1	1.0	ug/L	20.00	ND	85.6	70-130			
Trichloroethene	33.1	1.0	ug/L	20.00	10.3	114	70-130			
cis-1,2-Dichloroethene	27.7	1.0	ug/L	20.00	2.81	124	70-130			
trans-1,2-Dichloroethene	29.5	1.0	ug/L	20.00	6.38	116	70-130			
1,1-Dichloroethene	20.5	1.0	ug/L	20.00	0.0300	102	70-130			
Vinyl chloride	20.1	1.0	ug/L	20.00	ND	100	70-130			
1,4-Dioxane	41.8	2.0	ug/L	40.00	ND	105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		103	70-130			

Matrix Spike Dup (V810065-MSD1)

Source: V184401-02

Prepared: 10/29/2018 Analyzed: 10/29/2018 20:27

Tetrachloroethene	18.9	1.0	ug/L	20.00	ND	94.6	70-130	10.0	30	
Trichloroethene	31.5	1.0	ug/L	20.00	10.3	106	70-130	5.17	30	
cis-1,2-Dichloroethene	24.5	1.0	ug/L	20.00	2.81	109	70-130	12.2	30	
trans-1,2-Dichloroethene	27.8	1.0	ug/L	20.00	6.38	107	70-130	6.18	30	
1,1-Dichloroethene	20.0	1.0	ug/L	20.00	0.0300	100	70-130	2.22	30	
Vinyl chloride	19.4	1.0	ug/L	20.00	ND	97.1	70-130	3.34	30	
1,4-Dioxane	41.3	2.0	ug/L	40.00	ND	103	70-130	1.35	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		100	70-130			



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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810066 - EPA 3550B

Blank (V810066-BLK1)

Prepared: 10/29/2018 Analyzed: 10/29/2018 15:29

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.9</i>	<i>60-140</i>			

LCS (V810066-BS1)

Prepared: 10/29/2018 Analyzed: 10/29/2018 15:00

Tetrachloroethene	690	40	ug/kg wet	800.0		86.2	70-130			
Trichloroethene	662	40	ug/kg wet	800.0		82.8	70-130			
cis-1,2-Dichloroethene	651	40	ug/kg wet	800.0		81.4	70-130			
trans-1,2-Dichloroethene	662	40	ug/kg wet	800.0		82.7	70-130			
1,1-Dichloroethene	655	40	ug/kg wet	800.0		81.9	70-130			
Vinyl chloride	615	40	ug/kg wet	800.0		76.9	70-130			
1,4-Dioxane	1330	80	ug/kg wet	1600		83.1	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>17.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>85.8</i>	<i>70-130</i>			

Matrix Spike (V810066-MS1)

Source: V184402-01

Prepared: 10/29/2018 Analyzed: 10/29/2018 19:43

Tetrachloroethene	934	45	ug/kg dry	905.5	ND	103	70-130			
Trichloroethene	924	45	ug/kg dry	905.5	19.0	100	70-130			
cis-1,2-Dichloroethene	920	45	ug/kg dry	905.5	ND	102	70-130			
trans-1,2-Dichloroethene	931	45	ug/kg dry	905.5	1.03	103	70-130			
1,1-Dichloroethene	925	45	ug/kg dry	905.5	ND	102	70-130			
Vinyl chloride	899	45	ug/kg dry	905.5	ND	99.3	70-130			
1,4-Dioxane	1850	91	ug/kg dry	1811	ND	102	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike Dup (V810066-MSD1)

Source: V184402-01

Prepared: 10/29/2018 Analyzed: 10/29/2018 19:58

Tetrachloroethene	980	45	ug/kg dry	905.5	ND	108	70-130	4.73	50	
Trichloroethene	905	45	ug/kg dry	905.5	19.0	97.9	70-130	2.13	50	
cis-1,2-Dichloroethene	866	45	ug/kg dry	905.5	ND	95.6	70-130	5.98	50	
trans-1,2-Dichloroethene	896	45	ug/kg dry	905.5	1.03	98.9	70-130	3.77	50	
1,1-Dichloroethene	931	45	ug/kg dry	905.5	ND	103	70-130	0.634	50	
Vinyl chloride	909	45	ug/kg dry	905.5	ND	100	70-130	1.15	50	
1,4-Dioxane	2060	91	ug/kg dry	1811	ND	114	70-130	10.6	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810068 - No Preparation

Blank (V810068-BLK1)

Prepared: 10/30/2018 Analyzed: 10/30/2018 11:49

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>60-140</i>			

LCS (V810068-BS1)

Prepared: 10/30/2018 Analyzed: 10/30/2018 12:35

Tetrachloroethene	18.5	1.0	ug/L	20.00		92.3	70-130			
Trichloroethene	21.2	1.0	ug/L	20.00		106	70-130			
cis-1,2-Dichloroethene	22.1	1.0	ug/L	20.00		110	70-130			
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00		108	70-130			
1,1-Dichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
Vinyl chloride	20.2	1.0	ug/L	20.00		101	70-130			
1,4-Dioxane	42.0	2.0	ug/L	40.00		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V810068-MS1)

Source: V184403-02

Prepared: 10/30/2018 Analyzed: 10/30/2018 15:46

Tetrachloroethene	21.0	1.0	ug/L	20.00	ND	105	70-130			
Trichloroethene	19.3	1.0	ug/L	20.00	ND	96.7	70-130			
cis-1,2-Dichloroethene	18.9	1.0	ug/L	20.00	0.0600	94.0	70-130			
trans-1,2-Dichloroethene	19.3	1.0	ug/L	20.00	ND	96.4	70-130			
1,1-Dichloroethene	19.6	1.0	ug/L	20.00	ND	97.9	70-130			
Vinyl chloride	19.0	1.0	ug/L	20.00	ND	95.0	70-130			
1,4-Dioxane	37.6	2.0	ug/L	40.00	ND	94.0	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>92.2</i>	<i>70-130</i>			

Matrix Spike Dup (V810068-MSD1)

Source: V184403-02

Prepared: 10/30/2018 Analyzed: 10/30/2018 16:00

Tetrachloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130	1.79	30	
Trichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130	10.3	30	
cis-1,2-Dichloroethene	21.6	1.0	ug/L	20.00	0.0600	108	70-130	13.6	30	
trans-1,2-Dichloroethene	21.8	1.0	ug/L	20.00	ND	109	70-130	12.2	30	
1,1-Dichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130	8.79	30	
Vinyl chloride	21.3	1.0	ug/L	20.00	ND	107	70-130	11.6	30	
1,4-Dioxane	43.5	2.0	ug/L	40.00	ND	109	70-130	14.6	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.6</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810069 - EPA 3550B

Blank (V810069-BLK1)

Prepared: 10/30/2018 Analyzed: 10/30/2018 12:04

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.5</i>	<i>60-140</i>			

LCS (V810069-BS1)

Prepared: 10/30/2018 Analyzed: 10/30/2018 11:20

Tetrachloroethene	805	40	ug/kg wet	800.0		101	70-130			
Trichloroethene	714	40	ug/kg wet	800.0		89.3	70-130			
cis-1,2-Dichloroethene	685	40	ug/kg wet	800.0		85.7	70-130			
trans-1,2-Dichloroethene	722	40	ug/kg wet	800.0		90.3	70-130			
1,1-Dichloroethene	732	40	ug/kg wet	800.0		91.6	70-130			
Vinyl chloride	671	40	ug/kg wet	800.0		83.9	70-130			
1,4-Dioxane	1550	80	ug/kg wet	1600		96.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>93.0</i>	<i>70-130</i>			

Matrix Spike (V810069-MS1)

Source: V184404-06

Prepared: 10/30/2018 Analyzed: 10/30/2018 16:29

Tetrachloroethene	1090	53	ug/kg dry	1053	ND	103	70-130			
Trichloroethene	1050	53	ug/kg dry	1053	ND	99.7	70-130			
cis-1,2-Dichloroethene	1030	53	ug/kg dry	1053	ND	97.8	70-130			
trans-1,2-Dichloroethene	1060	53	ug/kg dry	1053	ND	100	70-130			
1,1-Dichloroethene	1060	53	ug/kg dry	1053	ND	101	70-130			
Vinyl chloride	1030	53	ug/kg dry	1053	ND	98.1	70-130			
1,4-Dioxane	2140	110	ug/kg dry	2106	ND	102	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V810069-MSD1)

Source: V184404-06

Prepared: 10/30/2018 Analyzed: 10/30/2018 16:44

Tetrachloroethene	1090	53	ug/kg dry	1053	ND	103	70-130	0.194	50	
Trichloroethene	1060	53	ug/kg dry	1053	ND	101	70-130	1.25	50	
cis-1,2-Dichloroethene	1060	53	ug/kg dry	1053	ND	101	70-130	2.92	50	
trans-1,2-Dichloroethene	1080	53	ug/kg dry	1053	ND	103	70-130	2.46	50	
1,1-Dichloroethene	1080	53	ug/kg dry	1053	ND	102	70-130	1.58	50	
Vinyl chloride	1070	53	ug/kg dry	1053	ND	101	70-130	3.26	50	
1,4-Dioxane	1990	110	ug/kg dry	2106	ND	94.5	70-130	7.39	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810071 - No Preparation

Blank (V810071-BLK1)

Prepared: 10/31/2018 Analyzed: 10/31/2018 11:43

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V810071-BS1)

Prepared: 10/31/2018 Analyzed: 10/31/2018 11:04

Tetrachloroethene	20.4	1.0	ug/L	20.00		102	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00		101	70-130			
cis-1,2-Dichloroethene	19.9	1.0	ug/L	20.00		99.7	70-130			
trans-1,2-Dichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
1,1-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
Vinyl chloride	19.2	1.0	ug/L	20.00		95.8	70-130			
1,4-Dioxane	39.5	2.0	ug/L	40.00		98.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	70-130			

Matrix Spike (V810071-MS1)

Source: V184405-03

Prepared: 10/31/2018 Analyzed: 10/31/2018 15:45

Tetrachloroethene	20.1	1.0	ug/L	20.00	ND	101	70-130			
Trichloroethene	57.1	1.0	ug/L	20.00	42.7	71.9	70-130			
cis-1,2-Dichloroethene	54.0	1.0	ug/L	20.00	40.4	68.5	70-130			M
trans-1,2-Dichloroethene	29.8	1.0	ug/L	20.00	9.94	99.5	70-130			
1,1-Dichloroethene	20.7	1.0	ug/L	20.00	0.250	102	70-130			
Vinyl chloride	66.8	1.0	ug/L	20.00	47.2	98.0	70-130			
1,4-Dioxane	44.2	2.0	ug/L	40.00	ND	111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		101	70-130			

Matrix Spike Dup (V810071-MSD1)

Source: V184405-03

Prepared: 10/31/2018 Analyzed: 10/31/2018 16:00

Tetrachloroethene	19.1	1.0	ug/L	20.00	ND	95.5	70-130	5.25	30	
Trichloroethene	52.8	1.0	ug/L	20.00	42.7	50.1	70-130	7.92	30	M
cis-1,2-Dichloroethene	53.0	1.0	ug/L	20.00	40.4	63.2	70-130	1.96	30	M
trans-1,2-Dichloroethene	29.6	1.0	ug/L	20.00	9.94	98.2	70-130	0.909	30	
1,1-Dichloroethene	20.9	1.0	ug/L	20.00	0.250	103	70-130	1.10	30	
Vinyl chloride	60.8	1.0	ug/L	20.00	47.2	67.8	70-130	9.48	30	M
1,4-Dioxane	41.4	2.0	ug/L	40.00	ND	104	70-130	6.56	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810072 - EPA 3550B

Blank (V810072-BLK1)

Prepared: 10/31/2018 Analyzed: 10/31/2018 12:50

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V810072-BS1)

Prepared: 10/31/2018 Analyzed: 10/31/2018 12:04

Tetrachloroethene	853	40	ug/kg wet	800.0		107	70-130			
Trichloroethene	792	40	ug/kg wet	800.0		99.1	70-130			
cis-1,2-Dichloroethene	781	40	ug/kg wet	800.0		97.7	70-130			
trans-1,2-Dichloroethene	799	40	ug/kg wet	800.0		99.9	70-130			
1,1-Dichloroethene	793	40	ug/kg wet	800.0		99.2	70-130			
Vinyl chloride	724	40	ug/kg wet	800.0		90.5	70-130			
1,4-Dioxane	1680	80	ug/kg wet	1600		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		101	70-130			

Matrix Spike (V810072-MS1)

Source: V184406-06

Prepared: 10/31/2018 Analyzed: 10/31/2018 16:14

Tetrachloroethene	1140	54	ug/kg dry	1071	ND	106	70-130			
Trichloroethene	1070	54	ug/kg dry	1071	12.3	98.7	70-130			
cis-1,2-Dichloroethene	1020	54	ug/kg dry	1071	ND	94.8	70-130			
trans-1,2-Dichloroethene	1050	54	ug/kg dry	1071	ND	98.5	70-130			
1,1-Dichloroethene	1070	54	ug/kg dry	1071	ND	99.9	70-130			
Vinyl chloride	1000	54	ug/kg dry	1071	ND	93.5	70-130			
1,4-Dioxane	2090	110	ug/kg dry	2142	ND	97.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		100	70-130			

Matrix Spike Dup (V810072-MSD1)

Source: V184406-06

Prepared: 10/31/2018 Analyzed: 10/31/2018 16:31

Tetrachloroethene	1120	54	ug/kg dry	1071	ND	104	70-130	1.62	50	
Trichloroethene	1060	54	ug/kg dry	1071	12.3	98.2	70-130	0.502	50	
cis-1,2-Dichloroethene	1040	54	ug/kg dry	1071	ND	97.4	70-130	2.76	50	
trans-1,2-Dichloroethene	1080	54	ug/kg dry	1071	ND	100	70-130	1.96	50	
1,1-Dichloroethene	1080	54	ug/kg dry	1071	ND	101	70-130	0.798	50	
Vinyl chloride	1070	54	ug/kg dry	1071	ND	99.5	70-130	6.21	50	
1,4-Dioxane	2290	110	ug/kg dry	2142	ND	107	70-130	8.68	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.7		ug/L	20.00		98.5	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V811001 - No Preparation

Blank (V811001-BLK1)

Prepared: 11/01/2018 Analyzed: 11/01/2018 11:58

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>60-140</i>			

LCS (V811001-BS1)

Prepared: 11/01/2018 Analyzed: 11/01/2018 11:29

Tetrachloroethene	18.5	1.0	ug/L	20.00		92.3	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00	1.33	102	70-130			
cis-1,2-Dichloroethene	20.9	1.0	ug/L	20.00	0.810	104	70-130			
trans-1,2-Dichloroethene	20.4	1.0	ug/L	20.00	2.07	102	70-130			
1,1-Dichloroethene	19.6	1.0	ug/L	20.00	ND	97.8	70-130			
Vinyl chloride	18.4	1.0	ug/L	20.00	ND	92.1	70-130			
1,4-Dioxane	41.0	2.0	ug/L	40.00	ND	103	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.6</i>	<i>70-130</i>			

Matrix Spike (V811001-MS1)

Source: V184407-01

Prepared: 11/01/2018 Analyzed: 11/01/2018 15:28

Tetrachloroethene	19.4	1.0	ug/L	20.00	ND	96.9	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00	1.33	94.9	70-130			
cis-1,2-Dichloroethene	19.2	1.0	ug/L	20.00	0.810	92.1	70-130			
trans-1,2-Dichloroethene	21.0	1.0	ug/L	20.00	2.07	94.4	70-130			
1,1-Dichloroethene	19.2	1.0	ug/L	20.00	ND	96.0	70-130			
Vinyl chloride	18.1	1.0	ug/L	20.00	ND	90.3	70-130			
1,4-Dioxane	38.5	2.0	ug/L	40.00	ND	96.3	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.5</i>	<i>70-130</i>			

Matrix Spike Dup (V811001-MSD1)

Source: V184407-01

Prepared: 11/01/2018 Analyzed: 11/01/2018 15:43

Tetrachloroethene	18.4	1.0	ug/L	20.00	ND	92.2	70-130	5.03	30	
Trichloroethene	21.7	1.0	ug/L	20.00	1.33	102	70-130	6.53	30	
cis-1,2-Dichloroethene	21.9	1.0	ug/L	20.00	0.810	105	70-130	12.8	30	
trans-1,2-Dichloroethene	22.8	1.0	ug/L	20.00	2.07	103	70-130	8.28	30	
1,1-Dichloroethene	20.1	1.0	ug/L	20.00	ND	100	70-130	4.53	30	
Vinyl chloride	18.9	1.0	ug/L	20.00	ND	94.4	70-130	4.39	30	
1,4-Dioxane	41.7	2.0	ug/L	40.00	ND	104	70-130	7.93	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.4</i>	<i>70-130</i>			

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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V811002 - EPA 3550B

Blank (V811002-BLK1)

Prepared: 11/01/2018 Analyzed: 11/01/2018 19:36

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.0</i>	<i>60-140</i>			

LCS (V811002-BS1)

Prepared: 11/01/2018 Analyzed: 11/01/2018 19:51

Tetrachloroethene	842	40	ug/kg wet	800.0		105	70-130			
Trichloroethene	802	40	ug/kg wet	800.0		100	70-130			
cis-1,2-Dichloroethene	778	40	ug/kg wet	800.0		97.2	70-130			
trans-1,2-Dichloroethene	790	40	ug/kg wet	800.0		98.7	70-130			
1,1-Dichloroethene	790	40	ug/kg wet	800.0		98.7	70-130			
Vinyl chloride	710	40	ug/kg wet	800.0		88.8	70-130			
1,4-Dioxane	1690	80	ug/kg wet	1600		106	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V811002-MS1)

Source: V184408-06

Prepared: 11/01/2018 Analyzed: 11/01/2018 15:58

Tetrachloroethene	1010	52	ug/kg dry	1038	0.519	97.0	70-130			
Trichloroethene	1070	52	ug/kg dry	1038	ND	103	70-130			
cis-1,2-Dichloroethene	1060	52	ug/kg dry	1038	ND	103	70-130			
trans-1,2-Dichloroethene	1070	52	ug/kg dry	1038	ND	104	70-130			
1,1-Dichloroethene	1040	52	ug/kg dry	1038	ND	100	70-130			
Vinyl chloride	1000	52	ug/kg dry	1038	ND	96.6	70-130			
1,4-Dioxane	2120	100	ug/kg dry	2076	ND	102	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V811002-MSD1)

Source: V184408-06

Prepared: 11/01/2018 Analyzed: 11/01/2018 20:05

Tetrachloroethene	1010	52	ug/kg dry	1038	0.519	97.6	70-130	0.616	50	
Trichloroethene	1060	52	ug/kg dry	1038	ND	102	70-130	1.36	50	
cis-1,2-Dichloroethene	1070	52	ug/kg dry	1038	ND	103	70-130	0.874	50	
trans-1,2-Dichloroethene	1080	52	ug/kg dry	1038	ND	104	70-130	0.386	50	
1,1-Dichloroethene	1070	52	ug/kg dry	1038	ND	103	70-130	2.80	50	
Vinyl chloride	1030	52	ug/kg dry	1038	ND	98.9	70-130	2.40	50	
1,4-Dioxane	2170	100	ug/kg dry	2076	ND	105	70-130	2.52	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.3</i>	<i>70-130</i>			

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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V811004 - No Preparation

Blank (V811004-BLK1)

Prepared: 11/02/2018 Analyzed: 11/02/2018 11:59

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>60-140</i>			

LCS (V811004-BS1)

Prepared: 11/02/2018 Analyzed: 11/02/2018 11:30

Tetrachloroethene	19.9	1.0	ug/L	20.00		99.5	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	19.8	1.0	ug/L	20.00		98.8	70-130			
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00		101	70-130			
1,1-Dichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
Vinyl chloride	19.6	1.0	ug/L	20.00		98.2	70-130			
1,4-Dioxane	39.8	2.0	ug/L	40.00		99.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike (V811004-MS1)

Source: V184409-01

Prepared: 11/02/2018 Analyzed: 11/02/2018 17:28

Tetrachloroethene	18.8	1.0	ug/L	20.00	ND	93.9	70-130			
Trichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130			
cis-1,2-Dichloroethene	20.7	1.0	ug/L	20.00	ND	104	70-130			
trans-1,2-Dichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130			
1,1-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.2	70-130			
Vinyl chloride	19.6	1.0	ug/L	20.00	ND	97.9	70-130			
1,4-Dioxane	39.9	2.0	ug/L	40.00	ND	99.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.4</i>	<i>70-130</i>			

Matrix Spike Dup (V811004-MSD1)

Source: V184409-01

Prepared: 11/02/2018 Analyzed: 11/02/2018 17:43

Tetrachloroethene	18.5	1.0	ug/L	20.00	ND	92.3	70-130	1.72	30	
Trichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130	0.0981	30	
cis-1,2-Dichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130	3.32	30	
trans-1,2-Dichloroethene	21.0	1.0	ug/L	20.00	ND	105	70-130	2.94	30	
1,1-Dichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130	2.69	30	
Vinyl chloride	20.2	1.0	ug/L	20.00	ND	101	70-130	3.12	30	
1,4-Dioxane	43.5	2.0	ug/L	40.00	ND	109	70-130	8.76	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.0</i>	<i>70-130</i>			

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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V811005 - EPA 3550B

Blank (V811005-BLK1)

Prepared: 11/02/2018 Analyzed: 11/02/2018 19:10

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.0</i>	<i>60-140</i>			

LCS (V811005-BS1)

Prepared: 11/02/2018 Analyzed: 11/02/2018 18:26

Tetrachloroethene	796	40	ug/kg wet	800.0		99.6	70-130			
Trichloroethene	804	40	ug/kg wet	800.0		101	70-130			
cis-1,2-Dichloroethene	811	40	ug/kg wet	800.0		101	70-130			
trans-1,2-Dichloroethene	811	40	ug/kg wet	800.0		101	70-130			
1,1-Dichloroethene	799	40	ug/kg wet	800.0		99.9	70-130			
Vinyl chloride	750	40	ug/kg wet	800.0		93.8	70-130			
1,4-Dioxane	1590	80	ug/kg wet	1600		99.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>70-130</i>			

Matrix Spike (V811005-MS1)

Source: V184410-07

Prepared: 11/02/2018 Analyzed: 11/02/2018 17:57

Tetrachloroethene	964	49	ug/kg dry	978.0	ND	98.6	70-130			
Trichloroethene	985	49	ug/kg dry	978.0	ND	101	70-130			
cis-1,2-Dichloroethene	1020	49	ug/kg dry	978.0	ND	104	70-130			
trans-1,2-Dichloroethene	1010	49	ug/kg dry	978.0	ND	103	70-130			
1,1-Dichloroethene	985	49	ug/kg dry	978.0	ND	101	70-130			
Vinyl chloride	983	49	ug/kg dry	978.0	ND	101	70-130			
1,4-Dioxane	2080	98	ug/kg dry	1956	ND	106	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.3</i>	<i>70-130</i>			

Matrix Spike Dup (V811005-MSD1)

Source: V184410-07

Prepared: 11/02/2018 Analyzed: 11/02/2018 18:12

Tetrachloroethene	1000	49	ug/kg dry	978.0	ND	102	70-130	3.64	50	
Trichloroethene	952	49	ug/kg dry	978.0	ND	97.4	70-130	3.43	50	
cis-1,2-Dichloroethene	939	49	ug/kg dry	978.0	ND	96.1	70-130	7.80	50	
trans-1,2-Dichloroethene	963	49	ug/kg dry	978.0	ND	98.5	70-130	4.42	50	
1,1-Dichloroethene	989	49	ug/kg dry	978.0	ND	101	70-130	0.446	50	
Vinyl chloride	960	49	ug/kg dry	978.0	ND	98.2	70-130	2.37	50	
1,4-Dioxane	2230	98	ug/kg dry	1956	ND	114	70-130	6.86	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.7</i>	<i>70-130</i>			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809002 - % Solids

Duplicate (V809002-DUP1)		Source: V183702-03		Prepared: 09/13/2018 Analyzed: 09/14/2018 15:47						
% Solids	93.3	0.00	% by Weight		93.2			0.169	20	

Batch V809003 - % Solids

Duplicate (V809003-DUP1)		Source: V183704-14		Prepared: 09/13/2018 Analyzed: 09/14/2018 15:53						
% Solids	89.5	0.00	% by Weight		89.2			0.384	20	

Batch V809007 - % Solids

Duplicate (V809007-DUP1)		Source: V183705-01		Prepared: 09/14/2018 Analyzed: 09/15/2018 14:25						
% Solids	95.8	0.00	% by Weight		96.6			0.864	20	

Duplicate (V809007-DUP2)		Source: V183705-21		Prepared: 09/14/2018 Analyzed: 09/15/2018 14:25						
% Solids	81.5	0.00	% by Weight		81.6			0.212	20	

Batch V809011 - % Solids

Duplicate (V809011-DUP1)		Source: V183801-15		Prepared: 09/17/2018 Analyzed: 09/18/2018 10:36						
% Solids	84.7	0.00	% by Weight		85.1			0.441	20	

Batch V809014 - % Solids

Duplicate (V809014-DUP1)		Source: V183804-20		Prepared: 09/18/2018 Analyzed: 09/19/2018 14:59						
% Solids	81.9	0.00	% by Weight		81.1			0.923	20	



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Batch V809017 - % Solids

Duplicate (V809017-DUP1)		Source: V183806-08		Prepared: 09/19/2018 Analyzed: 09/20/2018 08:54						
% Solids	82.2	0.00	% by Weight		82.9			0.930	20	

Batch V809020 - % Solids

Duplicate (V809020-DUP1)		Source: V183808-07		Prepared: 09/20/2018 Analyzed: 09/21/2018 08:21						
% Solids	79.2	0.00	% by Weight		81.5			2.93	20	

Batch V809023 - % Solids

Duplicate (V809023-DUP1)		Source: V183810-05		Prepared: 09/21/2018 Analyzed: 09/24/2018 07:48						
% Solids	79.8	0.00	% by Weight		78.8			1.23	20	

Batch V809026 - % Solids

Duplicate (V809026-DUP1)		Source: V183901-08		Prepared: 09/24/2018 Analyzed: 09/25/2018 07:55						
% Solids	84.4	0.00	% by Weight		83.3			1.32	20	

Batch V809029 - % Solids

Duplicate (V809029-DUP1)		Source: V183903-08		Prepared: 09/25/2018 Analyzed: 09/26/2018 08:12						
% Solids	91.6	0.00	% by Weight		93.4			1.99	20	

Batch V809032 - % Solids

Duplicate (V809032-DUP1)		Source: V183905-17		Prepared: 09/26/2018 Analyzed: 09/27/2018 10:10						
% Solids	84.7	0.00	% by Weight		84.2			0.609	20	



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch V809035 - % Solids										
Duplicate (V809035-DUP1)		Source: V183907-19			Prepared: 09/27/2018 Analyzed: 09/28/2018 10:17					
% Solids	81.7	0.00	% by Weight		79.7			2.59	20	
Batch V809038 - % Solids										
Duplicate (V809038-DUP1)		Source: V183910-07			Prepared: 09/28/2018 Analyzed: 10/01/2018 07:51					
% Solids	77.9	0.00	% by Weight		78.2			0.424	20	
Batch V810003 - % Solids										
Duplicate (V810003-DUP1)		Source: V184001-13			Prepared: 10/01/2018 Analyzed: 10/02/2018 08:08					
% Solids	79.9	0.00	% by Weight		81.2			1.61	20	
Batch V810005 - % Solids										
Duplicate (V810005-DUP1)		Source: V184001-29			Prepared: 10/01/2018 Analyzed: 10/02/2018 08:11					
% Solids	80.0	0.00	% by Weight		79.8			0.291	20	
Batch V810008 - % Solids										
Duplicate (V810008-DUP1)		Source: V184005-12			Prepared: 10/02/2018 Analyzed: 10/03/2018 08:05					
% Solids	80.7	0.00	% by Weight		82.6			2.41	20	
Batch V810011 - % Solids										
Duplicate (V810011-DUP1)		Source: V184006-06			Prepared: 10/03/2018 Analyzed: 10/04/2018 07:56					
% Solids	83.7	0.00	% by Weight		86.8			3.55	20	



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Novi MI, 48377

Project: Ford Livonia 2018 Site Investigation
Project Number: 2815

Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch V810014 - % Solids										
Duplicate (V810014-DUP1)		Source: V184008-10			Prepared: 10/04/2018 Analyzed: 10/05/2018 08:05					
% Solids	84.0	0.00	% by Weight		84.5			0.521	20	
Batch V810017 - % Solids										
Duplicate (V810017-DUP1)		Source: V184010-09			Prepared: 10/05/2018 Analyzed: 10/08/2018 08:34					
% Solids	78.9	0.00	% by Weight		78.5			0.551	20	
Batch V810020 - % Solids										
Duplicate (V810020-DUP1)		Source: V184101-07			Prepared: 10/08/2018 Analyzed: 10/09/2018 08:51					
% Solids	82.9	0.00	% by Weight		82.9			0.0884	20	
Batch V810023 - % Solids										
Duplicate (V810023-DUP1)		Source: V184104-13			Prepared: 10/09/2018 Analyzed: 10/10/2018 09:06					
% Solids	80.7	0.00	% by Weight		80.6			0.0649	20	
Batch V810026 - % Solids										
Duplicate (V810026-DUP1)		Source: V184107-12			Prepared: 10/10/2018 Analyzed: 10/11/2018 08:37					
% Solids	80.7	0.00	% by Weight		80.7			0.0802	20	
Batch V810029 - % Solids										
Duplicate (V810029-DUP1)		Source: V184109-13			Prepared: 10/11/2018 Analyzed: 10/12/2018 08:57					
% Solids	84.0	0.00	% by Weight		83.8			0.220	20	



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 Project Number: 2815

Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810032 - % Solids

Duplicate (V810032-DUP1)		Source: V184111-14		Prepared: 10/12/2018 Analyzed: 10/14/2018 11:21						
% Solids	81.5	0.00	% by Weight		81.5			0.104	20	

Batch V810037 - % Solids

Duplicate (V810037-DUP1)		Source: V184202-18		Prepared: 10/14/2018 Analyzed: 10/15/2018 10:32						
% Solids	79.9	0.00	% by Weight		83.4			4.18	20	

Duplicate (V810037-DUP2)		Source: V184204-08		Prepared: 10/14/2018 Analyzed: 10/15/2018 10:32						
% Solids	82.7	0.00	% by Weight		95.4			14.2	20	

Batch V810041 - % Solids

Duplicate (V810041-DUP1)		Source: V184206-08		Prepared: 10/16/2018 Analyzed: 10/17/2018 09:40						
% Solids	86.3	0.00	% by Weight		87.9			1.86	20	

Duplicate (V810041-DUP2)		Source: V184206-17		Prepared: 10/16/2018 Analyzed: 10/17/2018 09:40						
% Solids	78.3	0.00	% by Weight		85.8			9.14	20	

Batch V810045 - % Solids

Duplicate (V810045-DUP1)		Source: V184208-07		Prepared: 10/17/2018 Analyzed: 10/18/2018 09:07						
% Solids	93.2	0.00	% by Weight		92.7			0.530	20	

Duplicate (V810045-DUP2)		Source: V184208-22		Prepared: 10/17/2018 Analyzed: 10/18/2018 09:07						
% Solids	76.3	0.00	% by Weight		76.6			0.377	20	



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Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810049 - % Solids

Duplicate (V810049-DUP1)		Source: V184210-17		Prepared: 10/18/2018 Analyzed: 10/23/2018 10:52		
% Solids	82.4	0.00	% by Weight	83.2	0.938	20
Duplicate (V810049-DUP2)		Source: V184210-30		Prepared: 10/18/2018 Analyzed: 10/23/2018 10:52		
% Solids	80.1	0.00	% by Weight	81.3	1.43	20

Batch V810052 - % Solids

Duplicate (V810052-DUP1)		Source: V184302-06		Prepared: 10/22/2018 Analyzed: 10/23/2018 14:01		
% Solids	87.4	0.00	% by Weight	86.4	1.12	20
Duplicate (V810052-DUP2)		Source: V184302-23		Prepared: 10/22/2018 Analyzed: 10/23/2018 14:01		
% Solids	81.8	0.00	% by Weight	80.8	1.17	20

Batch V810055 - % Solids

Duplicate (V810055-DUP1)		Source: V184304-15		Prepared: 10/23/2018 Analyzed: 10/24/2018 10:30		
% Solids	80.5	0.00	% by Weight	80.8	0.325	20

Batch V810058 - % Solids

Duplicate (V810058-DUP1)		Source: V184306-13		Prepared: 10/24/2018 Analyzed: 10/25/2018 09:56		
% Solids	83.0	0.00	% by Weight	82.6	0.478	20

Batch V810061 - % Solids

Duplicate (V810061-DUP1)		Source: V184308-19		Prepared: 10/25/2018 Analyzed: 10/26/2018 09:15		
% Solids	82.2	0.00	% by Weight	81.6	0.714	20



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Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch V810064 - % Solids										
Duplicate (V810064-DUP1)		Source: V184310-06			Prepared: 10/26/2018 Analyzed: 10/29/2018 08:52					
% Solids	83.0	0.00	% by Weight		81.9			1.41	20	
Batch V810067 - % Solids										
Duplicate (V810067-DUP1)		Source: V184402-06			Prepared: 10/29/2018 Analyzed: 10/30/2018 08:34					
% Solids	82.4	0.00	% by Weight		82.0			0.524	20	
Batch V810070 - % Solids										
Duplicate (V810070-DUP1)		Source: V184404-01			Prepared: 10/30/2018 Analyzed: 10/31/2018 08:56					
% Solids	80.6	0.00	% by Weight		79.4			1.54	20	
Batch V810073 - % Solids										
Duplicate (V810073-DUP1)		Source: V184406-05			Prepared: 10/31/2018 Analyzed: 11/01/2018 08:31					
% Solids	88.5	0.00	% by Weight		89.9			1.55	20	
Batch V811003 - % Solids										
Duplicate (V811003-DUP1)		Source: V184408-13			Prepared: 11/01/2018 Analyzed: 11/02/2018 08:52					
% Solids	83.5	0.00	% by Weight		83.8			0.281	20	
Batch V811006 - % Solids										
Duplicate (V811006-DUP1)		Source: V184410-14			Prepared: 11/02/2018 Analyzed: 11/04/2018 10:59					
% Solids	81.7	0.00	% by Weight		82.2			0.635	20	



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Project Number: 2815

Notes and Definitions

- X Precision for the matrix spike duplicate, laboratory control sample duplicate or lab duplicate was outside of control limits.
- M1 Spike recoveries were not evaluated because of elevated levels of the spiked analyte in the parent sample.
- M The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory control limits.
- HC Results may be biased high because of high continuing calibration verification (CCV).
- E The concentration indicated is above the instrument calibration range. This value is an estimated concentration.
- D Data reported from a dilution
- CN See the case narrative.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
- RPD Relative Percent Difference

Appendix B
Chain of Custody Information



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CHAIN OF CUSTODY

No. 9884

Page: 1 of 1

Lab Work Order #: V153701		Report To: IAN DROST	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address: IAN.DROST@ARCADIS.COM	
Invoice To:		Company:	
Address 1:		Address 2:	
Comments		Lab ID	Lab Receipt Time

Project Number: MI 001454.0002.0001A	PO Number:			
Project Name: FORD LTP				
Project Location (City, State): LIVONIA, MI				
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				
If Rush, Report Due Date:				
Sampled By (Print): KALAN BRIGGS				
Sample Description	Collection Date Time	Matrix	Total # of Containers	Vol (L)
LIFHP-79_10-13'_091118	9-11-18 1345	GW	2	2260 (7)
LIFHP-79_17-20'_091118	↓ 1355	↓	↓	↓
LIFHP-79_22-25'_091118	↓ 1410	↓	↓	↓
LIFHP-80B_18-22'_091218	9-12-18 1310	↓	↓	↓
LIFHP-80B_8-12'_091218	↓ 1325	↓	↓	↓
LIFHP-82_9-13'_091218	↓ 1450	↓	↓	↓
LIFHP-82_18-22'_091218	↓ 1435	↓	↓	↓

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments: 	Relinquished By: <i>[Signature]</i>	Date: 9-12-18	Time: 1620	Received By: <i>[Signature]</i>	Date: 9/12/18	Time: 16:20
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walkin		Receipt Temp: NA		Thermometer #/ Exp. Date: NA	
		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					

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CHAIN OF CUSTODY

No. 9886

Page: 1 of 3

Project Number: MI001454.0002.0001A PO Number:				Lab Work Order #: V183702				Report To: IAN PROST																							
Project Name: Ford LTP				Preservation Codes				Company:																							
Project Location (City, State): Livonia, MI				Analyses Requested: F				Address 1:																							
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td style="text-align:center;">Matrix</td> <td style="text-align:center;">Total # of Containers</td> <td style="text-align:center;">VOCs (2260)</td> <td style="text-align:center;">(7)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>														Matrix	Total # of Containers	VOCs (2260)	(7)							Address 2:			
Matrix	Total # of Containers	VOCs (2260)	(7)																												
If Rush, Report Due Date:								E-mail Address: IAN.PROST@ARCADIS																							
Sampled By (Print): KALAN BEIGGS								Invoice To:																							
								Company:																							
								Address 1:																							
								Address 2:																							
Sample Description		Collection		Matrix		Total # of Containers		VOCs (2260)		Comments		Lab ID	Lab Receipt Time																		
Date	Time	Date	Time									Lab ID	Lab Receipt Time																		
LIFHP-79_1-2'_091118		9-11-18 1225		S		3		X				396.2	-01	16:20																	
LIFHP-79_3-4'_091118								X				398.0	-02																		
LIFHP-79_5-6'_091118								X				277.9	-03																		
LIFHP-79_7-8'_091118								X				87.1	-04																		
LIFHP-79_9-10'_091118								X				51.0	-05																		
LIFHP-79_18.5-19.5'_091118								X				10.1	-06																		
LIFHP-79_19.5-20.5'_091118								X				8.2	-07																		
LIFHP-80_1-2'_091218 (KS) 9-12-18		9-12-18 (KS) 9-12-18						X				5.35	-08																		
LIFHP-80_3-3'_091218 (KS) 9-12-18								X					-09																		
LIFHP-80_5-6'_091218 (KS) 9-12-18								X					-10																		
Preservation Codes		Other Comments:				Relinquished By: <i>[Signature]</i>		Date: 9-12-18		Time: 16:20		Received By: <i>[Signature]</i>		Date: 9/12/18		Time: 16:20															
A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)						Relinquished By:		Date:		Time:		Received By:		Date:		Time:															
Matrix Codes						Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>W/1K</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																	

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CHAIN OF CUSTODY

No. 09885

Page: 2 of 3

Project Number: <u>MI001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V183702</u>				Report To:			
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:			
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>Vols (8200) (7)</u>				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>KALAN BRIGGS</u>								Invoice To:			
								Company:			
				Address 1:							
				Address 2:							
Sample Description		Collection		Matrix	Total # of Containers	Vols (8200) (7)			Comments	Lab ID	Lab Receipt Time
		Date	Time								
<u>LIFHP-80-6-7-091218 (45) 9-12-18</u>		<u>9-12-18</u>		<u>S</u>	<u>3</u>	<u>X</u>			<u>7-8"</u>	<u>-11</u>	<u>16:20</u>
<u>LIFHP-80B-1-2-091218</u>		<u>9-12-18</u>	<u>1210</u>			<u>X</u>			<u>61.7</u>	<u>-12</u>	
<u>LIFHP-80B-3-4-091218</u>			<u>1215</u>			<u>X</u>			<u>150.5</u>	<u>-13</u>	
<u>LIFHP-80B-5-6-091218</u>			<u>1220</u>			<u>X</u>			<u>75.9</u>	<u>-14</u>	
<u>LIFHP-80B-6-7-091218</u>			<u>1225</u>			<u>X</u>			<u>18.7</u>	<u>-15</u>	
<u>LIFHP-80B-19-20-091218</u>			<u>1230</u>			<u>X</u>			<u>715,000</u>	<u>-16</u>	
<u>LIFHP-80B-13-24-091218</u>			<u>1235</u>			<u>X</u>			<u>21.4</u>	<u>-17</u>	
<u>LIFHP-82-1-2-091218</u>			<u>1420</u>			<u>X</u>			<u>6.1</u>	<u>-18</u>	
<u>LIFHP-82-2-3-091218</u>			<u>1425</u>			<u>X</u>			<u>6.7</u>	<u>-19</u>	
<u>LIFHP-82-4-5-091218</u>			<u>1430</u>			<u>X</u>			<u>6.7</u>	<u>-20</u>	<u>6</u>
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Date: <u>9-12-18</u> Time: <u>16:20</u>		Received By: <u>[Signature]</u> Date: <u>9/12/18</u> Time: <u>16:20</u>					
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>	
										Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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CHAIN OF CUSTODY

No. 9934

Page: 3 of 3

Project Number: <u>MI 001454.0102.0001A</u> PO Number:		Lab Work Order #: <u>V183702</u>		Report To: <u>IAN DROST</u>																																									
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:																																									
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																																									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td><u>(7)</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td><u>VOCs (8760)</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										<u>(7)</u>										<u>VOCs (8760)</u>																			Address 2:	
Matrix	Total # of Containers																																												
	<u>(7)</u>																																												
	<u>VOCs (8760)</u>																																												
If Rush, Report Due Date:				E-mail Address: <u>IAN.DROST@ARCADIS</u>																																									
Sampled By (Print): <u>KALAN BRIGGS</u>				Invoice To:																																									
				Company:																																									
				Address 1:																																									
				Address 2:																																									
Sample Description	Collection		Matrix	Total # of Containers						Comments	Lab ID	Lab Receipt Time																																	
	Date	Time																																											
<u>LIFHP-82-67' 091218</u>	<u>9-12-18</u>	<u>1435</u>	<u>S</u>	<u>3</u>	<u>X</u>					<u>4.7</u>	<u>-21</u>	<u>16:20</u>																																	
<u>LIFHP-82-13-14' 091218</u>	<u>↓</u>	<u>1440</u>	<u>↓</u>	<u>↓</u>	<u>X</u>					<u>2.7</u>	<u>-22</u>	<u>↓</u>																																	
<u>LIFHP-82-20-21' 091218</u>	<u>↓</u>	<u>1445</u>	<u>↓</u>	<u>↓</u>	<u>X</u>					<u>2.7</u>	<u>-23</u>	<u>↓</u>																																	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> 9		Date: <u>9-12-18</u> Time: <u>1620</u>		Received By: <u>[Signature]</u>		Date: _____ Time: _____																																			
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By: _____		Date: _____ Time: _____		Received By: _____		Date: _____ Time: _____																																			
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>WALKER</u>		Receipt Temp: <u>ND</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																			

✓ let 9/25/18



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CHAIN OF CUSTODY

No. 09935

Page: 1 of 1

Project Number: <u>ME 001454 . 0062.0601A</u> PO Number:				Lab Work Order #: <u>V183708-</u>				Report To: <u>IAN DROST</u>			
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:			
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs (8260) (7)</u> <u>MS/MSD</u>				Address 2:			
If Rush, Report Due Date:								E-mail Address: <u>IAN.DROST@ARCADIS</u>			
Sampled By (Print): <u>KALAN BRIGGS</u>								Invoice To:			
								Company:			
Sample Description				Collection Date Time				Address 1:			
								Address 2:			
								Comments		Lab ID	Lab Receipt Time
<u>LIFHP-83_18.5-22.5_091318</u>				<u>9-13-18 920 GW 2</u>				<u>715,000</u>		<u>-01</u>	<u>10:16</u>
<u>LIFHP-83_9-13_091318</u>				<u>9-13-18 935 GW 3A</u>				<u>7.2</u>		<u>-02</u>	<u>h</u>
<u>LIFHP-84_18-22_091318</u>				<u>9-13-18 1245 GW 2</u>				<u>0.2</u>		<u>-03</u>	<u>15:10</u>
<u>LIFHP-84_11-15_091318</u>				<u>9-13-18 1300 GW 2</u>				<u>6.8</u>		<u>-04</u>	
<u>LIFHP-85_18-22_091318</u>				<u>9-13-18 1405 GW 2</u>				<u>715,000</u>		<u>-05</u>	
<u>LIFHP-85_13-17_091318</u>				<u>9-13-18 1425 GW 2</u>				<u>715,000</u>		<u>-06</u>	
<u>LIFHP-85_8-12_091318</u>				<u>9-13-18 1440 GW 2</u>				<u>200</u>		<u>-07</u>	
<u>DUP-02</u>				<u>9-13-18 GW 2</u>						<u>-08</u>	<u>e</u>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Date: <u>9-13-18</u>		Received By: <u>[Signature]</u> Date: <u>9/13/18</u>					
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By: Date:		Received By: Date:					
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

via 9/24/18



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CHAIN OF CUSTODY

No. 9936

Page: 1 of 2

Project Number: ME001454.0002.0001 PO Number:				Lab Work Order #: 1183704				Report To: IAN DROST												
Project Name: FORD LTP				Preservation Codes				Company:												
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:												
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">Matrix</td> <td style="width:10%;">Total # of Containers</td> <td style="width:10%;">VOCs (8266) (7)</td> <td style="width:10%;">MS/MSD</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> </table>				Matrix	Total # of Containers	VOCs (8266) (7)	MS/MSD							Address 2:		
Matrix	Total # of Containers	VOCs (8266) (7)	MS/MSD																	
If Rush, Report Due Date:				E-mail Address: IAN.DROST@ARCADIS.COM			Invoice To:													
Sampled By (Print): KALAN BRIGGS				Company:			Address 1:													
Sample Description				Collection		Comments			Lab ID	Lab Receipt Time										
				Date	Time															
LIFHP-83_1-2'_091318		9-13-18	900	S	3	X		1.8	-01	10:16										
LIFHP-83_2-3'_091318			905			X		0.0	-02											
LIFHP-83_4-5'_091318			910			X		4.5	-03											
LIFHP-83_6-7'_091318			915			X		18.6	-04											
LIFHP-83_16-17'_091318			920			X		715.000	-05											
LIFHP-83_19-20'_091318			925			X	X	715.000	-06	5										
LIFHP-84_1-2'_091318			1215			X		24.8	-07	15:10										
LIFHP-84_2-3'_091318			1220			X		6.8	-08											
LIFHP-84_5-6'_091318			1225			X		0.0	-09											
LIFHP-84_7-8'_091318		✓	1230			X		0.0	-10	2										
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>[Signature]</i>		Date: 9-13-18	Time:	Received By: <i>[Signature]</i>		Date: 9/13/18	Time:									
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Received By:		Date:	Time:									
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walkin		Receipt Temp: NA		Thermometer #/ Exp. Date: NA										
										Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N										

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CHAIN OF CUSTODY

No. 09937

Page: 2 of 2

Project Number: MEG01454.0002.0001A PO Number:					Lab Work Order #: V183 204					Report To: IAN DROST																						
Project Name: FORD LTP					Preservation Codes					Company:																						
Project Location (City, State): LUCONIA, MI					Analyses Requested					Address 1:																						
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;">Matrix</td> <td style="width:15%;">Total # of Containers</td> <td style="width:15%;">Vials (7260) (7)</td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					Matrix	Total # of Containers	Vials (7260) (7)																		Address 2:		
Matrix	Total # of Containers	Vials (7260) (7)																														
If Rush, Report Due Date:															E-mail Address: IAN.DROST@ARCADIS.COM																	
Sampled By (Print): KALAN BRIGGS										Invoice To:																						
Sample Description					Collection					Company:																						
										Address 1:																						
										Address 2:																						
										Comments																						
										Lab ID	Lab Receipt Time																					
LIFHP-84_9-10'_091318					9-13-18 1235 S 3					0.0	-11	15:10																				
LIFHP-84_19-20'_091318					1240 3					0.0	-12																					
LIFHP-85_1-2'_091318					1350 2					3.2	-13																					
LIFHP-85_3-4'_091318					1355 2					37.2	-14																					
LIFHP-85_6-7'_091318					1400 2					7.7	-15																					
LIFHP-85_9-10'_091318					1405 2					13.1	-16																					
LIFHP-85_19-20'_091318					1410 2					715000	-17																					
_____					_____					_____	_____	_____																				
DUP-01					9-13-18 -						-18	15:10																				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)					Other Comments:					Relinquished By: <i>[Signature]</i> Date: 9-13-18 Time: 1500		Received By: <i>[Signature]</i> Date: 9/13/18 Time: 15:00																				
Matrix Codes A=Air S=Soil W=Water O=Other					Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact					Shipped Via: <i>Walkin</i>		Receipt Temp: <i>NA</i>																				
										Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																				

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CHAIN OF CUSTODY

No. 09939

Page: 1 of 2

Project Number: <u>MI 01454.0007.0001A</u> PO Number:		Lab Work Order #: <u>V183705</u>		Report To: <u>IAN DROST</u>	
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:	
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:	
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix Total # of Containers <u>5</u> <u>2</u> <u>5PCS (8760) (-)</u>		Address 2:	
If Rush, Report Due Date:				E-mail Address: <u>IAN-DROST@ARCADIS.COM</u>	
Sampled By (Print): <u>KACAN BRIGGS</u>				Invoice To:	
				Company:	
Sample Description		Collection Date Time		Address 1:	
				Address 2:	
				Comments	
				Lab ID	
				Lab Receipt Time	
<u>LIFHP-86_1-2'_091418</u>		<u>9-14-18 800</u>		<u>3.7</u>	
<u>LIFHP-86_3-4'_091418</u>		<u>805</u>		<u>1.6</u>	
<u>LIFHP-86_5-6'_091418</u>		<u>810</u>		<u>6.7</u>	
<u>LIFHP-86_7-8'_091418</u>		<u>815</u>		<u>2.2</u>	
<u>LIFHP-86_18.5-19.5'_091418</u>		<u>820</u>		<u>0.0</u>	
<u>LIFHP-86_22-23'_091418</u>		<u>825</u>		<u>0.0</u>	
<u>LIFHP-89B_1-2'_091418</u>		<u>950</u>		<u>4.1</u>	
<u>LIFHP-89B_2-3'_091418</u>		<u>955</u>		<u>3.5</u>	
<u>LIFHP-89B_4-5'_091418</u>		<u>1000</u>		<u>1.6</u>	
<u>DUP-83</u>		<u>-</u>		<u>-</u>	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u>	
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By: <u>[Signature]</u>		Date: <u>9-14-18</u>	
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Time: <u>1330</u>	
		Shipped Via: <u>Walkin</u>		Received By: <u>[Signature]</u>	
		Receipt Temp: <u>NA</u>		Date: <u>9/14/18</u>	
		Thermometer #/ Exp. Date: <u>NU</u>		Time: <u>13:30</u>	
		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			

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CHAIN OF CUSTODY

No. 9938

Page: 2 of 2

Project Number: MI001454.0002.0001A		PO Number:		Lab Work Order #: V183705		Report To: IDN DEPT			
Project Name: FORD LTR		Preservation Codes		Analyses Requested		Company:			
Project Location (City, State): LUDWIA, MI		Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Address 1:		Address 2:			
If Rush, Report Due Date:		Sampled By (Print): KALAN BRIGGS		E-mail Address: IDN.DEPT@ARCADIS.COM		Invoice To:			
Sample Description		Collection		Matrix	Total # of Containers	NVCs (R200) (7)	Comments	Lab ID	Lab Receipt Time
		Date	Time						
LIFHP-89B_6-7'_091418		9-14-18	1005	S	2	X	2.6	-11	13:30
LIFHP-89B_8-9'_091418		↓	1010	↓	↓	X	0.8	-12	↓
LIFHP-89B_13-14'_091418		↓	1015	↓	↓	X	0.1	-13	↓
LIFHP-89B_19-20'_091418		↓	1020	↓	↓	X	32.0	-14	↓
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>[Signature]</i>		Date: 9-14-18	Time: 1330	Received By: <i>[Signature]</i>	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Date: 9/14/18	
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>W&K</i>		Receipt Temp: <i>NA</i>	
						Thermometer # Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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CHAIN OF CUSTODY

No. 9984

Page: 1 of 1

Project Number: <u>MI001454-0001A</u> PO Number:				Lab Work Order #: <u>V183705</u>				Report To: <u>IAN DEOST</u>																																																																																																																					
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																																																																																																																					
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																																																																																																																					
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>11065 (8260X7)</u>				Address 2:																																																																																																																					
If Rush, Report Due Date:								E-mail Address: <u>IAN.DEOST@ARCADIS.COM</u>																																																																																																																					
Sampled By (Print): <u>KALAN BRIGGS</u>				<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>LIFHP-91-1-2'-091418</td> <td>9-14-18</td> <td>1405</td> <td>S</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.5</td> <td>-15</td> <td>16:00</td> </tr> <tr> <td>LIFHP-91-3-4'-091418</td> <td></td> <td>1410</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>3.9</td> <td>-16</td> <td></td> </tr> <tr> <td>LIFHP-91-5-6'-091418</td> <td></td> <td>1415</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.4</td> <td>-17</td> <td></td> </tr> <tr> <td>LIFHP-91-7-8'-091418</td> <td></td> <td>1420</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.8</td> <td>-18</td> <td></td> </tr> <tr> <td>LIFHP-91-9-10'-091418</td> <td></td> <td>1425</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1.4</td> <td>-19</td> <td></td> </tr> <tr> <td>LIFHP-91-11-12'-091418</td> <td></td> <td>1435</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.3</td> <td>-20</td> <td></td> </tr> <tr> <td>LIFHP-91-14-20'-091418</td> <td></td> <td>1430</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1.4</td> <td>-21</td> <td></td> </tr> </tbody> </table>				Sample Description	Collection		Matrix	Total # of Containers							Comments	Lab ID	Lab Receipt Time	Date	Time	LIFHP-91-1-2'-091418	9-14-18	1405	S	2							0.5	-15	16:00	LIFHP-91-3-4'-091418		1410									3.9	-16		LIFHP-91-5-6'-091418		1415									0.4	-17		LIFHP-91-7-8'-091418		1420									0.8	-18		LIFHP-91-9-10'-091418		1425									1.4	-19		LIFHP-91-11-12'-091418		1435									0.3	-20		LIFHP-91-14-20'-091418		1430									1.4	-21		Invoice To:			
Sample Description	Collection		Matrix						Total # of Containers																		Comments	Lab ID	Lab Receipt Time																																																																																																
	Date	Time																																																																																																																											
LIFHP-91-1-2'-091418	9-14-18	1405	S					2							0.5	-15	16:00																																																																																																												
LIFHP-91-3-4'-091418		1410													3.9	-16																																																																																																													
LIFHP-91-5-6'-091418		1415													0.4	-17																																																																																																													
LIFHP-91-7-8'-091418		1420													0.8	-18																																																																																																													
LIFHP-91-9-10'-091418		1425													1.4	-19																																																																																																													
LIFHP-91-11-12'-091418		1435									0.3	-20																																																																																																																	
LIFHP-91-14-20'-091418		1430									1.4	-21																																																																																																																	
				Company:				Address 1:																																																																																																																					
				Address 2:				Address 2:																																																																																																																					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <u>[Signature]</u> Date: <u>9-14-18</u> Time: <u>16:00</u>		Received By: <u>[Signature]</u> Date: <u>9/14/18</u> Time: <u>16:00</u>																																																																																																																			
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:																																																																																																															
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>WALKER</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																																																																			

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CHAIN OF CUSTODY

No. 9940

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Project Number: <u>MI001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V183726</u>				Report To: <u>IAN DROST</u>											
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:											
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:											
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>NOX (8760) (7)</u>				Address 2:											
If Rush, Report Due Date:								E-mail Address: <u>IAN.DROST@ARCADIS.COM</u>											
Sampled By (Print): <u>KALAN BRIGGS</u>				Invoice To:				Company:											
Sample Description				Collection Date Time				Address 1:											
								Address 2:											
				Comments				Lab ID		Lab Receipt Time									
<u>LIFUP-86-18-22-091418</u>				<u>9-14-18</u>		<u>830</u>		<u>GW</u>		<u>2</u>		<u>0.0</u>		<u>-01</u>		<u>16:09</u>			
<u>LIFUP-86-13-17-091418</u>						<u>835</u>						<u>0.0</u>		<u>-02</u>					
<u>LIFUP-86-8-17-091418</u>						<u>850</u>						<u>2.4</u>		<u>-03</u>					
<u>LIFUP-898-23-27-091418</u>												<u>0.0</u>		<u>-04</u>					
<u>LIFUP-898-18-22-091418</u>						<u>1250</u>						<u>61.0</u>		<u>-0504</u>					
<u>LIFUP-898-12-16-091418</u>						<u>1305</u>						<u>2.0</u>		<u>-0505</u>					
<u>LIFUP-91-24-28-091418</u>						<u>1425</u>						<u>1.0</u>		<u>-07-06</u>					
<u>LIFUP-91-19-23-091418</u>						<u>1450</u>						<u>1.4</u>		<u>-08-01</u>					
<u>LIFUP-91-14-18-091418</u>						<u>1520</u>						<u>3.9</u>		<u>-09-08</u>		<u>2</u>			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (indicate)				Other Comments:				Relinquished By: <u>[Signature]</u>		Date: <u>9-14-18</u>		Time: <u>16:00</u>		Received By: <u>[Signature]</u>		Date: <u>9/14/18</u>		Time: <u>16:00</u>	
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					

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CHAIN OF CUSTODY

No. 09943

Page: 2 of: 8

Project Number: <u>M1001454.0002.0004</u> PO Number:					Lab Work Order #: <u>V183801</u>					Report To: <u>HAAR email lists</u>																						
Project Name: <u>Livonia, MI</u>					Preservation Codes					Company: <u>Alcedis</u>																						
Project Location (City, State): <u>Ford LTP</u>					Analyses Requested					Address 1:																						
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					<table border="1" style="width:100%; text-align: center;"> <tr> <td style="width:10%;">A</td> <td style="width:10%;">A</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">1,4 Dioxane</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>					A	A									VOCs	1,4 Dioxane									Address 2:		
A	A																															
VOCs	1,4 Dioxane																															
If Rush, Report Due Date:										E-mail Address:																						
Sampled By (Print): <u>Ashley Reibel</u>										Invoice To:																						
										Company:																						
										Address 1:																						
										Address 2:																						
Sample Description			Collection		Matrix	Total # of Containers	VOCs	1,4 Dioxane				Comments	Lab ID	Lab Receipt Time																		
			Date	Time																												
LIFHP-87-1-2-091718			9/17/18	1000	S	2	X	X				ms/msd	-01	16:50																		
LIFHP-87-2-3-091718				1005	S	2	X	X				PID: 217.9	-02																			
LIFHP-87-3-4-091718				1010	S	2	X	X				ms/msd PID 358.2	-03																			
LIFHP-87-5-6-091718				1015	S	2	X	X					-04																			
LIFHP-87-6-7-091718				1020	S	2	X	X					-05																			
LIFHP-87-25-26-091718				1100	S	2	X	X					-06																			
LIFHP-87-26.5-27.5-091718				1105	S	2	X	X					-07																			
LIFHP-87-28.5-29.5-091718				1110	S	2	X	X					-08																			
LIFHP-93-1-2-091718				1530	S	2	X	X					-09																			
LIFHP-93-3-4-091718				1535	S	2	X	X					-10																			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other			Other Comments: Submit all results through Cadena: jim.tomara@cadena.com #E203728 Level IV Reporting			Relinquished By: <u>Ashley Reibel</u> Date: <u>9/17/18</u> Time: <u>1650</u>			Received By: <u>[Signature]</u> Date: <u>9/18/18</u> Time: <u>16:50</u>																							
			Relinquished By: Date: Time:			Received By: Date: Time:			Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			Shipped Via: <u>Walkin</u> Receipt Temp: <u>NA</u> Thermometer #/ Exp. Date: <u>NA</u> Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																				

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CHAIN OF CUSTODY

No. 9942

Page: 1 of: 1

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>W183802</u>				Report To: <u>email list</u>																							
Project Name: <u>FORD LTP</u>				Preservation Codes				Company: <u>ARCADIS</u>																							
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:																							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">A</td> <td style="width:5%;">A</td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td style="text-align:center;">VOCs</td> <td style="text-align:center;">1,4 Dioxane</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				A	A									VOCs	1,4 Dioxane									Address 2:			
A	A																														
VOCs	1,4 Dioxane																														
If Rush, Report Due Date:				E-mail Address:				Invoice To:																							
Sampled By (Print): <u>Ashley Reibel</u>				Company:				Address 1:																							
Sample Description				Collection		Matrix		Total # of Containers		Address 2:		Comments		Lab ID	Lab Receipt Time																
				Date	Time																										
<u>LIFHP-87-18-23-091718</u>				<u>9/17/18</u>	<u>0955</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-01</u>	<u>16:50</u>																	
<u>LIFHP-87-14-18-091718</u>					<u>1025</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-02</u>	<u>1</u>																	
<u>LIFHP-87-9-13-091718</u>					<u>1045</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-03</u>	<u>1</u>																	
<u>LIFHP-93-16-20-091718</u>					<u>1500</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-04</u>	<u>1</u>																	
<u>LIFHP-93-11-15-091718</u>					<u>1515</u>	<u>GW</u>	<u>3</u>	<u>X</u>	<u>X</u>		<u>ms/msd</u>		<u>-05</u>	<u>2</u>																	
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (indicate)				Other Comments: Submit all results through Cadena: jim.tomalia@cadena.com #E203128 <u>Level IV Reporting</u>				Relinquished By: <u>Ashley Reibel</u> Date: <u>9/17/18</u> Time: <u>16:50</u>				Received By: <u>[Signature]</u> Date: <u>9/17/18</u> Time: <u>16:50</u>																			
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walkin</u>				Receipt Temp: <u>NA</u> Thermometer #/ Exp. Date: <u>NA</u> Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																			

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CHAIN OF CUSTODY

No. 9954

Page: 1 of 3

Lab Work Order #: 183803
 Report To: IAN DEIST
 Company:

Project Number: ME00454.0002.0001A PO Number:

Project Name: FORD LTP

Project Location (City, State): LIVONIA, MI

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): KALAN BRIGGS

Preservation Codes

Analyses Requested

E-mail Address: IAN.DEIST@ARCADIS.COM

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers	WOCs (8260) (7)							Comments	Lab ID	Lab Receipt Time
	Date	Time												
LIFHP-88_9-13_091818	9-18-18	1220	GW	2	X								-01	13:15
LIFHP-88_14-18_091818	↓	1150	↓	↓	X								-02	↓
LIFHP-88_19-23_091818	↓	1130	↓	↓	X								-03	↓

DUP-05	9-18-18	-	GW	2									-07	13:15

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: [Signature]

Date: 9-18-18

Time: 1230

Received By: [Signature]

Date: 9/18/18

Time: 1300

Relinquished By: [Signature]

Date: 9/18/18

Time: 1315

Received By: [Signature]

Date: 9/18/18

Time: 1315

Custody Seal: NA Intact Not Intact

Shipped Via: Walkin

Receipt Temp: ND

Thermometer #/ Exp. Date: ND

Temp Blank: Y N

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CHAIN OF CUSTODY

No. 09957

Page: 3 of 3

Lab Work Order #: V183803		Report To: IAN DRIST	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address: IAN.DRIST@ARCADIS.COM	
Invoice To:		Company:	
Address 1:		Address 2:	
Comments		Lab ID	Lab Receipt Time

Project Number: **MI 001454 0012 001A** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **KALAN BRIGGS**

Sample Description	Collection		Matrix	Total # of Containers	VOCs (total) (7)
	Date	Time			
LIFHP-95_8-12'_091818	9-18-18	1605	GW	3	X
LIFHP-95_13-17'_091818	9/18/18	1545	GW	2	X
LIFHP-95_18-22'_091818					

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]* Date: **9/18/18** Time: **1645**

Received By: *[Signature]* Date: **9/18/18** Time: **1645**

Relinquished By: Date: Time:

Received By: Date: Time:

Custody Seal: NA Intact Not Intact

Shipped Via: **WALKIN** Receipt Temp: **NA** Thermometer #/ Exp. Date: **NA**

Temp Blank: Y N

✓ *ca* 9/25/18



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CHAIN OF CUSTODY

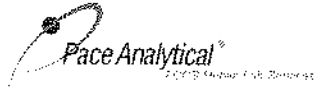
No. 09953

Page: 18 of: 3

Project Number: <u>MI 061454 0002 0001A</u> PO Number:				Lab Work Order #: <u>1183804</u>				Report To: <u>IAN DROST</u>			
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:			
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs (8260) (7)</u> <u>MS/M S1</u>				Address 2:			
If Rush, Report Due Date:								E-mail Address: <u>IAN.DROST@ARCASIS</u>			
Sampled By (Print): <u>KACAN BBIGGS</u>				Sample Description				Invoice To:			
								Company:			
				Collection Date Time				Address 1:			
								Address 2:			
				Comments				Lab ID		Lab Receipt Time	
								-01		13:15	
<u>LIFHP-88_1-2'_091818</u>				9-18-18 1015				-02		1	
<u>LIFHP-88_2-3'_091818</u>				1020				-03			
<u>LIFHP-88_3-4'_091818</u>				1025				-04			
<u>LIFHP-88_5-6'_091818</u>				1030				-05			
<u>LIFHP-88_6-7'_091818</u>				1035				-06			
<u>LIFHP-88_14-15'_091818</u>				1045				-07			
<u>LIFHP-88_19.5-20.5'_091818</u>				1040							
<u>DUP-04</u>				9-18-18				-14		13:15	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Date: <u>9-18-18</u> Time: <u>1300</u>		Received By: <u>[Signature]</u> Date: <u>9/18/18</u> Time: <u>1300</u>		Relinquished By: <u>[Signature]</u> Date: <u>9/18/18</u> Time: <u>1315</u>		Received By: <u>[Signature]</u> Date: <u>9/18/18</u> Time: <u>1315</u>	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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1/28 9/25/18



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CHAIN OF CUSTODY

No. 10030

Page: 2 of: 3

Project Number: <u>M1001454.0002.00014</u> PO Number:				Preservation Codes				Report To: <u>Email List</u>															
Project Name: <u>FORD LTP</u>				Analyses Requested				Company: <u>ARCADIS</u>															
Project Location (City, State): <u>Livonia, MI</u>				<table border="1" style="width:100%; text-align: center;"> <tr> <td style="width:10%;">A</td> <td style="width:10%;">A</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">1,4 Dioxane</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				A	A					VOCs	1,4 Dioxane					Address 1:			
A	A																						
VOCs	1,4 Dioxane																						
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:															
If Rush, Report Due Date:								E-mail Address:															
Sampled By (Print): <u>Ashley Reibel</u>								Invoice To:															
Sample Description				Collection						Company:													
				Date	Time	Matrix	Total # of Containers					Address 1:											
<u>LIFHP-94-1-2-091818</u>				<u>9/18/18</u>	<u>1005</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>													<u>-08</u>	<u>13:15</u>
<u>LIFHP-94-3-4-091818</u>					<u>1010</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>													<u>-09</u>	
<u>LIFHP-94-5-6-091818</u>					<u>1015</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>													<u>-10</u>	
<u>LIFHP-94-7-8-091818</u>					<u>1020</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>													<u>-11</u>	
<u>LIFHP-94-23-24-091818</u>					<u>1145</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>													<u>-12</u>	
<u>LIFHP-94-19-20-091818</u>					<u>1245</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>													<u>-13</u>	<u>2</u>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments: Submit all results through Cadena: jim.tomalia@cadena.com #E203728 <u>Leak/IV Repairing</u>				Relinquished By: <u>Ashley Reibel</u> Date: <u>9/18/18</u> Time: <u>13:15</u>				Received By: <u>[Signature]</u> Date: <u>9/18/18</u> Time: <u>13:15</u>											
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Mail</u>				Receipt Temp: <u>NA</u>											
								Thermometer #/ Exp. Date: <u>NA</u>				Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N											

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CHAIN OF CUSTODY

No. 9956

Page: 3 of 3

Lab Work Order #: V183804		Report To: IAN DROST	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address: IAN.DROST@ARCADIS.COM	
Invoice To:			
Company:			
Address 1:			
Address 2:			
Comments		Lab ID	Lab Receipt Time
		-15	16:45
		-16	
		-17	
		-18	
		-19	
		-20	

Project Number: **MI001454.0002.0001A** PO Number:

Project Name: **F020 LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print):

Sample Description	Collection		Matrix	Total # of Containers
	Date	Time		
LIFHP-95_1-2'_091818	9-18-18	1520	S	2
LIFHP-95_2-3'_091818		1525	S	2
LIFHP-95_3-4'_091818		1530	S	2
LIFHP-95_5-6'_091818		1535	S	2
LIFHP-95_6-7'_091818		1540	S	2
LIFHP-95_21-22_091818		1545	S	2

VOCs (8260) (7)

Preservation Codes
 A=None B=HCl C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*
 Date: 9/18/18 Time: 16:45

Relinquished By:
 Date: Time:

Custody Seal:
 NA Intact Not Intact

Received By: *[Signature]*
 Date: 9/18/18 Time: 16:45

Received By:
 Date: Time:

Shipped Via: **Mailin**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**

Temp Blank: Y N

✓ 002 9/25/18



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CHAIN OF CUSTODY

No. 10029

Page: 1 of 2

Project Number: M1001454.0002.0001A PO Number:				Lab Work Order #: Water - V183805 Soil - V183806				Report To: email list					
Project Name: FORDLTP				Preservation Codes				Company: ARCADIS					
Project Location (City, State): LIVONIA MI				Analyses Requested				Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOCs 1,4-Dioxane				Address 2:					
If Rush, Report Due Date:								E-mail Address:					
Sampled By (Print): ASHLEY REIBEL								Invoice To:					
								Company:					
Sample Description				Collection Date Time				Address 1:					
								Address 2:					
								Comments					
LIFHP-96-1-2-091918				9/19/18 0930 S 2				-01 11:10					
LIFHP-96-3-4-091918				0935 S 2				-02					
LIFHP-96-5-6-091918				0940 S 2				-03					
LIFHP-96-6-7-091818				0945 S 2				-04					
LIFHP-96-9-10-091918				0950 S 2				-05					
DUP-06-091918				0955 S 2				-06					
LIFHP-96-21-22-091918				0955 S 2				-07					
LIFHP-96-23-24-091918				1000 S 2				-08					
LIFHP-96-17-21-091918				1015 GW 2				-01					
LIFHP-96-12-16-091918				1040 GW 2				-02 8					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: All results submitted through Cadena: jim.tormalia@Cadena.com #E203729		Relinquished By: Ashley Reibel Date: 9/19/18 Time: 11:00 Relinquished By:		Received By: Colin Date: 9/19/18 Time: 15:10		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walkin Receipt Temp: NA Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

1/24 9/25/18



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CHAIN OF CUSTODY

No. 09941

Page: 2 of 2

Project Number: M1001454 0002.000A PO Number:				Lab Work Order #: <i>Water - V183805</i> <i>Revised - V183806</i>				Report To: <i>Email List</i>							
Project Name: <i>FORD LTP</i>				Preservation Codes				Company: <i>AREADIS</i>							
Project Location (City, State): <i>Livonia MI</i>				Analyses Requested				Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				A				Address 2:							
If Rush, Report Due Date:								E-mail Address:							
Sampled By (Print): <i>Ashley Reibel</i>				VCS				Invoice To:							
								Company:							
Sample Description				Collection		Matrix		Total # of Containers							
				Date	Time										
LIFHP-92-1-2-091918				9/19/18	1640	S	2	X	ms/msD						
LIFHP-92-3-4-091918					1645	S	2	X	-10						
LIFHP-92-4-5-091918					1650	S	2	X	-11						
LIFHP-92-6-7-091918					1655	S	2	X	-12						
LIFHP-92-20-21-091918					1730	S	2	X	-13						
LIFHP-92-22-23-091918					1735	S	2	X	-14						
LIFHP-92-14-18-091918					1725	GW	2	X	-03						
LIFHP-92-8.5-12.5-091918					1745	GW	3	X	ms/msD						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments: <i>Submit through Cadena</i> <i>jim.tomalia@cadena.com</i>				Relinquished By: <i>Ashley Reibel</i>		Date: <i>9/19/18</i> Time: <i>19:10</i>		Received By: <i>[Signature]</i>		Date: <i>9/19/18</i> Time: <i>18:10</i>	
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Walker</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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CHAIN OF CUSTODY

No. 09983

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Project Number: <u>M1100454.0002-00046</u> Number:		Lab Work Order #: <u>V183807-</u>		Report To: <u>email list</u>																																												
Project Name: <u>FORDLIP</u>		Preservation Codes		Company: <u>ARCADIS</u>																																												
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																																												
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Matrix</th> <th>Total # of Containers</th> </tr> <tr> <td style="text-align: center;">GW</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">GW</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">GW</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="text-align: center;">GW</td> <td style="text-align: center;">2</td> </tr> </table>		Matrix	Total # of Containers	GW	2	GW	2	GW	3	GW	2	Address 2:																																		
Matrix	Total # of Containers																																															
GW	2																																															
GW	2																																															
GW	3																																															
GW	2																																															
If Rush, Report Due Date:		E-mail Address:		Invoice To:																																												
Sampled By (Print): <u>Ashley R. [Signature]</u>		Company:		Address 1:																																												
Sample Description		Comments		Address 2:																																												
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>SB-100-18-22-092018</td> <td>9/20/18</td> <td>1435</td> <td>GW</td> <td style="text-align: center;">2</td> <td style="text-align: center;">-01</td> <td style="text-align: center;">15:55</td> </tr> <tr> <td>SB-100-13-17-092018</td> <td style="text-align: center;"> </td> <td>1450</td> <td>GW</td> <td style="text-align: center;">2</td> <td style="text-align: center;">-02</td> <td style="text-align: center;"> </td> </tr> <tr> <td>SB-100-8-12-092018</td> <td style="text-align: center;"> </td> <td>1520</td> <td>GW</td> <td style="text-align: center;">3</td> <td style="text-align: center;">-03</td> <td style="text-align: center;"> </td> </tr> <tr> <td>DUP-07-092018</td> <td style="text-align: center;"> </td> <td style="text-align: center;">-</td> <td>GW</td> <td style="text-align: center;">2</td> <td style="text-align: center;">-04</td> <td style="text-align: center;"> </td> </tr> </tbody> </table>		Sample Description	Collection		Matrix	Total # of Containers	Lab ID	Lab Receipt Time	Date	Time	SB-100-18-22-092018	9/20/18	1435	GW	2	-01	15:55	SB-100-13-17-092018		1450	GW	2	-02		SB-100-8-12-092018		1520	GW	3	-03		DUP-07-092018		-	GW	2	-04		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Comments</th> <th>Lab ID</th> <th>Lab Receipt Time</th> </tr> <tr> <td style="text-align: center;">ms/msd</td> <td style="text-align: center;">-03</td> <td style="text-align: center;"> </td> </tr> </table>		Comments	Lab ID	Lab Receipt Time	ms/msd	-03			
Sample Description	Collection		Matrix	Total # of Containers					Lab ID	Lab Receipt Time																																						
	Date	Time																																														
SB-100-18-22-092018	9/20/18	1435	GW	2	-01	15:55																																										
SB-100-13-17-092018		1450	GW	2	-02																																											
SB-100-8-12-092018		1520	GW	3	-03																																											
DUP-07-092018		-	GW	2	-04																																											
Comments	Lab ID	Lab Receipt Time																																														
ms/msd	-03																																															
<p>Preservation Codes A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</p> <p>Matrix Codes A=Air S=Soil W=Water O=Other</p>		<p>Other Comments:</p>		<p>Relinquished By: <u>[Signature]</u> Date: <u>9/20/18</u> Time: <u>1555</u></p> <p>Received By: <u>[Signature]</u> Date: <u>9/20/18</u> Time: <u>15:55</u></p>																																												
		<p>Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact</p>		<p>Shipped Via: <u>Walkin</u> Receipt Temp: <u>NA</u> Thermometer #/ Exp. Date: <u>NA</u> Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N</p>																																												

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CHAIN OF CUSTODY

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Project Number: <u>MI001454.0002</u> ^{ECCS} PO Number:				Lab Work Order #: <u>V183809</u>				Report To: <u>Email List</u>																											
Project Name: <u>Ford LTP</u>				Preservation Codes				Company: <u>ARCADIS</u>																											
Project Location (City, State): <u>Livonia MI</u>				Analyses Requested				Address 1:																											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; text-align: center;"> <tr> <td style="width:5%;">A</td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">VOC</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">X</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				A												Matrix	Total # of Containers	VOC	X	X								Address 2:			
A																																			
Matrix	Total # of Containers	VOC	X	X																															
If Rush, Report Due Date:								E-mail Address:																											
Sampled By (Print): <u>AReibel</u>								Invoice To:																											
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID		Lab Receipt Time																					
				Date	Time																														
<u>LIFHP-90-13-17-092118</u>				<u>9-21-18</u>	<u>10:15</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>			<u>-01</u>	<u>11:25</u>																						
<u>LIFHP-90-8-12-092118</u>				<u>9-21-18</u>	<u>10:30</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>			<u>-02</u>	<u>↓</u>																						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments: Relinquished By: <u>Ashley Kelly</u> Date: <u>9/21/18</u> Time: <u>11:25</u> Relinquished By: _____ Date: _____ Time: _____				Received By: <u>[Signature]</u> Date: <u>9/21/18</u> Time: <u>11:25</u> Received By: _____ Date: _____ Time: _____																											
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walker</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																					

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CHAIN OF CUSTODY

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Project Number: <u>M100145U.0002.000.14</u> PO Number:					Lab Work Order #: <u>V183901</u>					Report To: <u>Email List</u>						
Project Name: <u>FORD LTP</u>					Preservation Codes					Company: <u>ARCADIS</u>						
Project Location (City, State): <u>Livonia, MI</u>					Analyses Requested					Address 1:						
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix Total # of Containers <u>VOCs</u>					Address 2:						
If Rush, Report Due Date:										E-mail Address:						
Sampled By (Print): <u>Ashley Reibel</u>										Invoice To:						
Sample Description										Collection					Company:	
					Date		Time		Date		Time		Address 1:			
SB-101-1-2-092418		9/24/18		1530		S		2		X		Address 2:				
SB-101-2-3-092418				1535		S		2		X		Comments		Lab ID		Lab Receipt Time
SB-101-4-5-092418				1540		S		2		X				-01		16:55
SB-101-6-7-092418				1545		S		2		X				-02		
SB-101-19-20-092418				1555		S		2		X				-03		
SB-101-21-22-092418				1635		S		2		X				-04		
SB-101-24-25-092418				1640		S		2		X				-05		
SB-101-26-7-092418				1645		S		2		X		m s/msd		-06		
														-07		
														-08		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water C=Other					Other Comments: Relinquished By: <u>Ashley Reibel</u> Relinquished By:					Date: <u>9/24/18</u> Time: <u>16:55</u>		Received By: <u>[Signature]</u>		Date: <u>9/24/18</u> Time: <u>16:55</u>		
										Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Mail</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>

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CHAIN OF CUSTODY

No. 09979

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Project Number: M100154-0002-0001A- PO Number:				Lab Work Order #: V183902				Report To: Emailist									
Project Name: FORDLTP				Preservation Codes				Company: ARODLS									
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VACS				Address 2:									
If Rush, Report Due Date:								E-mail Address:									
Sampled By (Print): Ashley Reibel								Invoice To:									
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID		Lab Receipt Time			
				Date	Time							Time					
SB-101-19-23-092578				9/25/18	0946	GW	2	X			HIGHPIDS in Soil Samples	-01	10:55				
SB-101-14-18-092578				┆	1000	GW	2	X				-02	┆				
SB-101-9-13-092578				┆	1020	GW	2	X				-03	┆				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <i>Ashley Reibel</i> Relinquished By:				Date: 9/25/18		Time: 11:00		Received By: <i>[Signature]</i>		Date: 9/25/18		Time: 11:00	
								Custody Seal:		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank:	
<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Walk'n		NA		NA		<input type="checkbox"/> Y <input type="checkbox"/> N									

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CHAIN OF CUSTODY

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Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V183903</u>				Report To:			
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:			
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>CATLIN O'NEILL</u>								Invoice To:			
Sample Description				Collection		Matrix		Company:			
				Date	Time			Address 1:			
						Address 2:					
								Comments			
								Lab ID			
								Lab Receipt Time			
<u>SB-102-1-2-092518</u>				<u>09/25/18</u>	<u>1210</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-01</u>	<u>15:14</u>
<u>SB-102-2-3-092518</u>				<u>09/25/18</u>	<u>1215</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-02</u>	
<u>SB-102-4-5-092518</u>				<u>09/25/18</u>	<u>1218</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-03</u>	
<u>SB-102-6-7-092518</u>				<u>09/25/18</u>	<u>1224</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-04</u>	
<u>SB-102-14-15-092518</u>				<u>09/25/18</u>	<u>1228</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-05</u>	
<u>SB-102-20-21-092518</u>				<u>09/25/18</u>	<u>1231</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-06</u>	
<u>SB-102-25-26-092518</u>				<u>09/25/18</u>	<u>1233</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-07</u>	
<u>DUP-08-092518</u>				<u>09/25/18</u>	<u>—</u>	<u>S</u>	<u>2</u>			<u>-08</u>	<u>15:14</u>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: <i>Handwritten notes</i>		Relinquished By: <u>Catlin O'Neill</u> Relinquished By:		Date: <u>09/25/18</u> Time: <u>15:14</u>		Received By: <u>[Signature]</u> Received By:		Date: <u>09/25/18</u> Time: <u>15:14</u>	
Matrix Codes A=Air S=Soil W=Water O=Other		<i>Handwritten notes</i>		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			

Handwritten: ✓ cat 9/25/18



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CHAIN OF CUSTODY

No. 09947

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Project Number: M1 000454.0002.0001A		PO Number:		Lab Work Order #: V183904				Report To: EMAIL LIST					
Project Name: FORD LTP		Preservation Codes				Company: APPADIS							
Project Location (City, State): LIVONIA, MI		Analyses Requested				Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix				Total # of Containers				Address 2:			
If Rush, Report Due Date:										E-mail Address:			
Sampled By (Print): ASHLEY REIBEL		Matrix				Total # of Containers				Invoice To:			
Sample Description										Company:			
		Matrix				Total # of Containers				Address 1:			
										Address 2:			
		Collection				Comments				Lab ID	Lab Receipt Time		
		Date	Time	Matrix	Total # of Containers								
SB-103-17-21-092618		9/26/18	1125	GW2	2					-01	12:20		
SB-103-10-14-092618		I	1140	GW2	2					-02	I		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <i>Ashley Reibel</i> Relinquished By:		Date: 9/26/18 Time: 12:20 Date: Time:		Received By: <i>Jeff Foster</i> Received By:		Date: 9/26/18 Time: 12:20 Date: Time:					
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: MAIL		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

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Lab Work Order #: V183904		Report To: <i>email list</i>	
Preservation Codes		Company: <i>ARCADIS</i>	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
		Invoice To:	
		Company:	
		Address 1:	
		Address 2:	
		Comments	Lab ID
			Lab Receipt Time

Project Number: *M1001454-0002-0001A* PO Number:

Project Name: *FORD CTP*

Project Location (City, State): *LIVONIA, MI*

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): *Ashley Reibel*

Sample Description	Collection		Matrix	Total # of Containers	VCCS
	Date	Time			
<i>DUP-09-092618</i>	<i>9/26/18</i>	<i>-</i>	<i>GW</i>	<i>2</i>	<i>X</i>
<i>SB-104-17-21-092618</i>	<i>L</i>	<i>1610</i>	<i>GW</i>	<i>2</i>	<i>X</i>
<i>SB-104-10-14-092618</i>	<i>L</i>	<i>1625</i>	<i>GW</i>	<i>2</i>	<i>X</i>

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Ashley Reibel* Date: *9/26/18* Time: *16:43*

Relinquished By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Received By: *JH* Date: *9/26/18* Time: *16:43*

Received By: _____ Date: _____ Time: _____

Shipped Via: *Next Business Day* Receipt Temp: *NA* Thermometer #/ Exp. Date: *NA*

Temp Blank: Y N



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CHAIN OF CUSTODY

No. 9946

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Project Number: M10001454.0002.CC01A		Project Name: FORD LTP		Project Location (City, State): LIVONIA, MI		Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		If Rush, Report Due Date:		Sampled By (Print): ASHLEY REIBEL	
Lab Work Order #: V183905		Report To: email list		Company: ALCADIS		Address 1:		Address 2:		E-mail Address:	
Preservation Codes		Analyses Requested		Invoice To:		Company:		Address 1:		Address 2:	
Sample Description		Collection		Matrix		Total # of Containers		Comments		Lab ID	
		Date Time								Lab Receipt Time	
SB-103-1-2-092618		9/26/18 0915		S		2		X		-01 12:20	
SB-103-3-4-092618		0920		S		2		X		-02	
SB-103-5-6-092618 AN		0925		S		2		X		-03	
SB-103-7-8-092618		0930		S		2		X		-04	
SB-103-9-10-092618		0935		S		2		X		-05	
SB-103-18-19-092618		1035		S		2		X		-06	
SB-103-21-22-092618		1020		S		2		X		-07	
SB-103-25-26-092618		1025		S		2		X		-08	
SB-103-27-28-092618		1030		S		2		X		-09	
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>Ashley Reibel</i>		Date: 9/24/18		Time:		Received By: <i>[Signature]</i>	
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By:		Date:		Time:		Received By:		Date:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>Walkin</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 9948

Page: 2 of 2

Lab Work Order #: V183905		Report To: EMALIST	
Preservation Codes		Company: ARADIS	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
		Invoice To:	
		Company:	
		Address 1:	
		Address 2:	
		Comments	Lab ID
			Lab Receipt Time

Project Number: M1001454.0002.0001A PO Number:					
Project Name: FORD LTP					
Project Location (City, State): LIVONIA MI					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					
If Rush, Report Due Date:					
Sampled By (Print): ASHLEY REBEL					
Sample Description	Collection		Matrix	Total # of Containers	VOCs
	Date	Time			
SB-104-1-2-092618	9/26/18	1540	S	2	X
SB-104-3-4-092618		1545	S	2	X
SB-104-5-6-092618		1550	S	2	X
SB-104-7-8-092618		1555	S	2	X
SB-104-9-10-092618		1600	S	2	X
SB-104-11-17-092618		1605	S	2	X
SB-104-19-20-092618		1610	S	2	X
SB-104-23-24-092618		1615	S	2	X

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments: 	Relinquished By: <i>Ashley Rebel</i>	Date: 9/26/18	Time: 16:43	Received By: <i>[Signature]</i>	Date: 9/26/18	Time: 16:43
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: Mail/Box	Receipt Temp: NA	Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 9952

Page: 1 of 1

Project Number: <u>M10001454.0002.0001A</u> PO Number:		Lab Work Order #: <u>V183906</u>		Report To: <u>EMAIL LIST</u>																															
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARADIS</u>																															
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																															
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td><u>VOCS</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										<u>VOCS</u>																			Address 2:	
Matrix	Total # of Containers																																		
	<u>VOCS</u>																																		
If Rush, Report Due Date:				E-mail Address:																															
Sampled By (Print): <u>ASHLEY REBEL</u>				Invoice To:																															
				Company:																															
				Address 1:																															
				Address 2:																															
Sample Description	Collection		Matrix	Total # of Containers							Comments	Lab ID	Lab Receipt Time																						
	Date	Time																																	
<u>SB-105-18-22-092718</u>	<u>9/27/18</u>	<u>1415</u>	<u>GW</u>	<u>3</u>	<u>X</u>						<u>MS/MSD</u>	<u>-01</u>	<u>15:04</u>																						
<u>SB-105-13-17-092718</u>	<u>↓</u>	<u>1435</u>	<u>GW</u>	<u>2</u>	<u>X</u>							<u>-02</u>	<u>↓</u>																						
<u>SB-105-8-12-092718</u>	<u>↓</u>	<u>1450</u>	<u>GW</u>	<u>2</u>	<u>X</u>							<u>-03</u>	<u>↓</u>																						

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Rebel</u>		Date: <u>9/27/18</u> Time: <u>1504</u>		Received By: <u>Cole Hall</u>		Date: <u>9/27/18</u> Time: <u>1504</u>																									
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date: Time:		Received By:		Date: Time:																									
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																									

See 10/1/18



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CHAIN OF CUSTODY

No. 9960

Page: 2 of: 2

Project Number: <u>M1001454.0002.0001A</u> PO Number:			Lab Work Order #: <u>V183906</u>		Report To:								
Project Name: <u>FORD LTP</u>			Preservation Codes		Company:								
Project Location (City, State): <u>LIVONIA, MI</u>			Analyses Requested		Address 1:								
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Address 2:								
If Rush, Report Due Date:					E-mail Address:								
Sampled By (Print): <u>CAITLIN O'NEILL</u>					Invoice To:								
Sample Description			Collection		Company:								
			Date	Time	Matrix	Total # of Containers	Address 1:						
					<u>82608</u>	<u>82608-SIM</u>	Address 2:						
<u>LIFHP-105_20-24_092718</u>			<u>9/27/18</u>	<u>1825</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>	Comments	Lab ID	Lab Receipt Time		
<u>LIFHP-105_15-19_092718</u>			<u>9/27/18</u>	<u>1855</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-04</u>	<u>19:40</u>
<u>LIFHP-105_10-14_092718</u>			<u>9/27/18</u>	<u>1915</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-05</u>	<u>↓</u>
									<u>-06</u>	<u>↓</u>			
Preservation Codes			Other Comments:		Relinquished By:	Date:	Time:	Received By:	Date:	Time:			
A=None B=HCL C=H ₂ SO ₄					<u>Caitlin O'Neill</u>	<u>9/27/18</u>	<u>1930</u>	<u>[Signature]</u>	<u>9/27/18</u>	<u>19:40</u>			
D=HNO ₃ E=EnCore F=Methanol					Relinquished By:	Date:	Time:	Received By:	Date:	Time:			
G=NaOH O=Other (Indicate)													
Matrix Codes			Custody Seal:		Shipped Via:	Receipt Temp:	Thermometer #/ Exp. Date:	Temp Blank:					
A=Air S=Soil W=Water O=Other			<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		<u>NA/KIT</u>	<u>NA</u>	<u>NA</u>	<input type="checkbox"/> Y <input type="checkbox"/> N					

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CHAIN OF CUSTODY

No. 9968

Page: 3 of 3

Lab Work Order #: V183906				Report To: EMAIL LIST					
				Company: ARCADIS					
Project Number: M1001454.0002.0004 PO Number:				Preservation Codes					
Project Name: FORDLTP				Analyses Requested					
Project Location (City, State): LIVONIA MI				Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:					
If Rush, Report Due Date:				E-mail Address:					
Sampled By (Print): ASHLEY REIBEL				Invoice To:					
				Company:					
				Address 1:					
				Address 2:					
				Comments		Lab ID	Lab Receipt Time		
Sample Description		Collection Date Time		Matrix	Total # of Containers				
LIFHP-97-18-22-092718		9/27/18 2000		GW	2	X	-07 20:40		
LIFHP-97-13-17-092718		L 2020		GW	2	X	-08 20:40		
_____ _____									
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>Ashley Reibel</i>	Date: 9/27/18	Time: 20:40	Received By: <i>[Signature]</i>	Date: 9/27/18	Time: 20:40
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walkin	Receipt Temp: NA	Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		

1 out 90/1/18



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CHAIN OF CUSTODY

No. 09951

Page: 1 of 3

Project Number: <u>MWDJLS4.0002.0001A</u> PO Number:		Lab Work Order #: <u>V183907</u>				Report To: <u>Email List</u>					
Project Name: <u>FORD LTP</u>		Preservation Codes				Company: <u>ARCADIS</u>					
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested				Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush						Address 2:					
If Rush, Report Due Date:						E-mail Address:					
Sampled By (Print): <u>ASHLEY REIBEL</u>						Invoice To:					
						Company:					
						Address 1:					
						Address 2:					
Sample Description	Collection		Matrix	Total # of Containers					Comments	Lab ID	Lab Receipt Time
	Date	Time									
<u>SB-105-1-2-092718</u>	<u>9/27/18</u>	<u>1400</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-01</u>	<u>15:01</u>
<u>SB-105-3-4-092718</u>	<u> </u>	<u>1405</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-02</u>	<u> </u>
<u>SB-105-5-6-092718</u>	<u> </u>	<u>1410</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-03</u>	<u> </u>
<u>SB-105-6-7-092718</u>	<u> </u>	<u>1415</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-04</u>	<u> </u>
<u>SB-105-20-21-092718</u>	<u> </u>	<u>1420</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>High PID 104.4</u>	<u>-05</u>	<u> </u>
<u>SB-105-22-23-092718</u>	<u> </u>	<u>1425</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-06</u>	<u>2</u>
<hr/>											
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <u>[Signature]</u> Relinquished By:		Date: <u>9/27/18</u> Time: <u>1504</u> Date: Time:		Received By: <u>[Signature]</u> Received By:		Date: <u>9/27/18</u> Time: <u>1504</u> Date: Time:			
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Mail</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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CHAIN OF CUSTODY

No. 09959

Page: *2* of: *3*

Project Number: <i>M1001454.0002.0001A</i> PO Number:				Lab Work Order #: <i>V183907</i>				Report To:																						
Project Name: <i>FORD LTP</i>				Preservation Codes				Company:																						
Project Location (City, State): <i>LIVONIA, MI</i>				Analyses Requested				Address 1:																						
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; text-align: center;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td><i>8260B</i></td><td><i>8260B-SIM</i></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>				Matrix	Total # of Containers											<i>8260B</i>	<i>8260B-SIM</i>							Address 2:		
Matrix	Total # of Containers																													
		<i>8260B</i>	<i>8260B-SIM</i>																											
If Rush, Report Due Date:								E-mail Address:																						
Sampled By (Print): <i>CAITLIN O'NEILL</i>								Invoice To:																						
Sample Description				Collection						Company:																				
				Date	Time							Address 1:																		
												Address 2:																		
												Comments	Lab ID	Lab Receipt Time																
<i>LIFHP-105_1-2_092718</i>				<i>9/27/18</i>	<i>1650</i>	<i>S</i>	<i>2</i>	<i>X</i>	<i>X</i>				<i>-07</i>	<i>19:40</i>																
<i>LIFHP-105_3-4_092718</i>				<i>9/27/18</i>	<i>1655</i>	<i>S</i>	<i>2</i>	<i>X</i>	<i>X</i>				<i>-08</i>																	
<i>LIFHP-105_5-6_092718</i>				<i>9/27/18</i>	<i>1700</i>	<i>S</i>	<i>2</i>	<i>X</i>	<i>X</i>				<i>-09</i>																	
<i>LIFHP-105_7-8_092718</i>				<i>9/27/18</i>	<i>1705</i>	<i>S</i>	<i>2</i>	<i>X</i>	<i>X</i>				<i>-10</i>																	
<i>LIFHP-105_9-10_092718</i>				<i>9/27/18</i>	<i>1710</i>	<i>S</i>	<i>2</i>	<i>X</i>	<i>X</i>				<i>-11</i>																	
<i>LIFHP-105_20-21_092718</i>				<i>9/27/18</i>	<i>1725</i>	<i>S</i>	<i>2</i>	<i>X</i>	<i>X</i>				<i>-12</i>	<i>2</i>																
<i>DUP-10_092718</i>				<i>9/27/18</i>	<i>—</i>	<i>S</i>	<i>2</i>	<i>X</i>	<i>X</i>				<i>-13</i>	<i>19:40</i>																
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>Caitlin O'Neel</i> Date: <i>9/27/18</i> Time: <i>19:30</i>		Relinquished By: Date: Time:		Received By: <i>[Signature]</i> Date: <i>9/27/18</i> Time: <i>19:30</i>		Received By: Date: Time:																				
Matrix Codes A=Air S=Soil W=Water O=Other		<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>WALKER</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																				

at 6/1/18



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CHAIN OF CUSTODY

No. 9950

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Lab Work Order #: **V183907**
 Report To: **EMAIL LIST**
 Company: **DECADIS**

Project Number: **M1001454 0002 0001A** PO Number:
 Project Name: **FORDUTP**
 Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REIBEL**

Sample Description	Collection		Matrix	Total # of Containers	VOCs						Comments	Lab ID	Lab Receipt Time
	Date	Time											
LIFHP-97-1-7-092718	9/27/18	1855	S	2	X							-14	19:40
LIFHP-97-2-3-092718		1900	S	2	X							-15	
LIFHP-97-5-6-092718		1905	S	2	X							-16	
LIFHP-97-8-9-092718		1910	S	2	X							-17	
LIFHP-97-10-11-092718		1915	S	2	X					ms/msd		-18	
LIFHP-97-20-21-092718		1920	S	2	X							-19	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: **ashley reibel**
 Relinquished By:

Date: **9/27/18** Time: **17:30**
 Date: Time:

Received By: **[Signature]**
 Received By:

Date: **9/27/18** Time: **17:30**
 Date: Time:

Custody Seal:
 NA Intact Not Intact

Shipped Via: **Walkin**

Receipt Temp: **NA**
 Thermometer #/ Exp. Date: **NA**

Temp Blank:
 Y N

VOCs 10/1/18



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CHAIN OF CUSTODY

No. 09965

Page: 1 of:

Project Number: <u>M1001454.0002.0001A</u> PO Number:					Lab Work Order #: <u>V183908</u>					Report To:																																																																																																																																																																																																																																																																																				
Project Name: <u>LIVONIA, MI FORD LTP</u>					Preservation Codes					Company:																																																																																																																																																																																																																																																																																				
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested					Address 1:																																																																																																																																																																																																																																																																																				
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix Total # of Containers <u>8260B</u> <u>8260B-SIM</u>					Address 2:																																																																																																																																																																																																																																																																																				
If Rush, Report Due Date:										E-mail Address:																																																																																																																																																																																																																																																																																				
Sampled By (Print): <u>CATHY O'NEILL</u>					<table border="1"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">8260B</th> <th rowspan="2">8260B-SIM</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td><u>LIFHP-106-15-19-092718</u></td> <td><u>9/27/18</u></td> <td><u>23:25</u></td> <td><u>GW</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-01</u></td> <td><u>09:40</u></td> </tr> <tr> <td><u>LIFHP-106-10-14-092718</u></td> <td><u>9/27/18</u></td> <td><u>23:55</u></td> <td><u>GW</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-02</u></td> <td><u>F</u></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>					Sample Description	Collection		Matrix	Total # of Containers	8260B	8260B-SIM							Comments	Lab ID	Lab Receipt Time	Date	Time	<u>LIFHP-106-15-19-092718</u>	<u>9/27/18</u>	<u>23:25</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-01</u>	<u>09:40</u>	<u>LIFHP-106-10-14-092718</u>	<u>9/27/18</u>	<u>23:55</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-02</u>	<u>F</u>																																																																																																																																																																																																																																	Invoice To:		
Sample Description	Collection		Matrix	Total # of Containers							8260B	8260B-SIM																				Comments	Lab ID	Lab Receipt Time																																																																																																																																																																																																																																																												
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<table border="1"> <tr> <td>Company:</td> <td>Address 1:</td> <td>Address 2:</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>					Company:	Address 1:	Address 2:							Company:																																																																																																																																																																																																																																																																																
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Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: Cathy O'Neill Date: 9/28/18 Time:

Received By: [Signature] Date: 9/28/18 Time: 09:40

Relinquished By: Date: Time:

Received By: Date: Time:

Custody Seal: NA Intact Not Intact

Shipped Via: Mail/Tr

Receipt Temp: NA

Thermometer #/ Exp. Date: NA

Temp Blank: Y N

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CHAIN OF CUSTODY

No. 9966

Page: / of: /

Project Number: <u>M100454.0832.0531A</u> PO Number:					Lab Work Order #: <u>V183909</u>					Report To:			
Project Name: <u>FORD LTP</u>					Preservation Codes					Company:			
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested					Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix Total # of Containers <u>8260B</u> <u>8260B-SIM</u>					Address 2:			
If Rush, Report Due Date:										E-mail Address:			
Sampled By (Print): <u>CATLIN O'NEILL</u>										Invoice To:			
										Company:			
										Address 1:			
										Address 2:			
Sample Description			Collection							Comments		Lab ID	Lab Receipt Time
			Date	Time									
<u>LIFHP-106-12-092718</u>			<u>9/27/18</u>	<u>2045</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u></u>	<u></u>	<u></u>	<u>-01</u>	<u>9:40</u>
<u>LIFHP-106-23-092718</u>			<u>9/27/18</u>	<u>2050</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u></u>	<u></u>	<u></u>	<u>-02</u>	<u></u>
<u>LIFHP-106-56-092718</u>			<u>9/27/18</u>	<u>2055</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u></u>	<u></u>	<u></u>	<u>-03</u>	<u></u>
<u>LIFHP-106-67-092718</u>			<u>9/27/18</u>	<u>2100</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u></u>	<u></u>	<u></u>	<u>-04</u>	<u></u>
<u>LIFHP-106-78-092718</u>			<u>9/27/18</u>	<u>2105</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u></u>	<u></u>	<u></u>	<u>-05</u>	<u></u>
<u>LIFHP-106-25-26-092718</u>			<u>9/27/18</u>	<u>2210</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u></u>	<u></u>	<u>MS/MSD</u>	<u>-06</u>	<u>2</u>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other			Other Comments: Relinquished By: <u>Catlin O'Neill</u> Date: Time: Relinquished By: Date: Time:					Received By: <u>[Signature]</u> Date: <u>9/27/18</u> Time: <u>9:40</u>					
								Received By: Date: Time:					
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			Shipped Via: <u>NextKil</u>		Receipt Temp: <u>NA</u>		Thermometer # Exp. Date: <u>NO</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N				

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CHAIN OF CUSTODY

No. 09969

Page: 1 of 1

Project Number: <u>M1101454 0002 0001A</u> PO Number:		Lab Work Order #: <u>V183912</u>		Report To: <u>emailist</u>																					
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARCADIS</u>																					
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td><u>VOCs</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										<u>VOCs</u>									Address 2:	
Matrix	Total # of Containers																								
	<u>VOCs</u>																								
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): <u>ASHLEY REIBEL</u>		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time																	
<u>LIFHP-100-1-2-092818</u>		<u>9/28/18</u>	<u>1125</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-01</u>	<u>14:00</u>																
<u>LIFHP-100-4-5-092818</u>			<u>1130</u>	<u>S</u>	<u>2</u>			<u>-02</u>																	
<u>LIFHP-100-7-8-092818</u>			<u>1135</u>	<u>S</u>	<u>2</u>			<u>-03</u>																	
<u>LIFHP-100-10-11-092818</u>			<u>1140</u>	<u>S</u>	<u>2</u>			<u>-04</u>																	
<u>LIFHP-100-12-13-092818</u>			<u>1210</u> 1145	<u>S</u>	<u>2</u>			<u>-05</u>																	
<u>LIFHP-100-23-24-092818</u>			<u>1240</u>	<u>S</u>	<u>2</u>			<u>-06</u>																	
<u>LIFHP-100-25-26-092818</u>			<u>1245</u>	<u>S</u>	<u>2</u>			<u>-07</u>	<u>2</u>																
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u>		Date: <u>9/28/18</u>	Time: <u>14:00</u>	Received By: <u>Jeff</u>	Date: <u>9/28/18</u>	Time: <u>14:00</u>															
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Received By:	Date:	Time:															
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N															

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CHAIN OF CUSTODY

No. 09967

Page: 1 of 1

Project Number: <u>M1201454.0002.0001A</u> PO Number:		Lab Work Order #: <u>1183911</u>		Report To: <u>Email List</u>									
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARCADIS</u>									
Project Location (City, State): <u>LIVONIA MI</u>		Analyses Requested		Address 1:									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:									
If Rush, Report Due Date:				E-mail Address:									
Sampled By (Print): <u>ASHLEY REIBEL</u>				Invoice To:									
				Company:									
				Address 1:									
				Address 2:									
Sample Description	Collection		Matrix	Total # of Containers							Comments	Lab ID	Lab Receipt Time
	Date	Time											
<u>LIFHP-100-24-30-092818</u>	<u>9/28/18</u>	<u>1315</u>	<u>GW</u>	<u>2</u>	<u>X</u>							<u>-01</u>	<u>14315</u>
<u>LIFHP-100-21-25-092818</u>	<u>↓</u>	<u>1345</u>	<u>GW</u>	<u>3</u>	<u>X</u>						<u>MS/MSD</u>	<u>-02</u>	<u>↓</u>
<u>LIFHP-100-14-18-092818</u>	<u>↓</u>	<u>1415</u>	<u>GW</u>	<u>2</u>	<u>X</u>							<u>-03</u>	<u>↓</u>
<u>DUP-11-092818</u>	<u>↓</u>	<u>-</u>	<u>GW</u>	<u>2</u>	<u>X</u>							<u>-04</u>	<u>↓</u>
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u>	Date: <u>9/28/18</u>	Time: <u>1415</u>	Received By: <u>[Signature]</u>	Date: <u>9/28/18</u>	Time: <u>1415</u>				
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:	Date:	Time:	Received By:	Date:	Time:				
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>NA/Km</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			

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CHAIN OF CUSTODY

No. 09971

Page: 1 of: 1

Project Number: M1001454.0002.0001A PO Number:				Lab Work Order #: V184001				Report To: EMAIL LIST					
Project Name: FORDLTP				Preservation Codes				Company: ARCADIS					
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOCs				Address 2:					
If Rush, Report Due Date:								E-mail Address:					
Sampled By (Print): ASHLEY REIBA								Invoice To:					
								Company:					
								Address 1:					
								Address 2:					
Sample Description		Collection		Matrix		Total # of Containers		VOCs		Comments		Lab ID	Lab Receipt Time
		Date Time											
LIFHP-99-1-2-100118		10/1/18 0936		S		2		x				-01	10:25
LIFHP-99-3-4-100118		0935		S		2		x				-02	
LIFHP-99-6-7-100118		0940		S		2		x				-03	
LIFHP-99-10-11-100118		0945		S		2		x				-04	
LIFHP-99-11-12-100118		0956		S		2		x				-05	
LIFHP-99-19-20-100118		1000		S		2		x				-06	
LIFHP-99-28-29-100118		1015		S		2		x				-07	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <i>Ashley Reiba</i> Date: 10/1/18 Time: 10:25 Relinquished By: _____ Date: _____ Time: _____				Received By: <i>[Signature]</i> Date: 10/1/18 Time: 10:25					
								Received By: _____ Date: _____ Time: _____					
								Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>Walkin</i>		Receipt Temp: <i>NA</i>	

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CHAIN OF CUSTODY

No. 9962

Page: 2 of:

Lab Work Order #: V184001			Report To:											
Preservation Codes			Company:											
Analyses Requested			Address 1:											
E-mail Address:			Address 2:											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush			Invoice To:											
If Rush, Report Due Date:			Company:											
Sampled By (Print): CATHY O'NEILL			Address 1:											
			Address 2:											
Sample Description	Collection		Matrix	Total # of Containers	82768	82608-SIM						Comments	Lab ID	Lab Receipt Time
	Date	Time												
LIFHP-103-1-2-100118	10/01/18	1110	S	2	X	X							-08	14:15
LIFHP-103-3-4-100118	10/01/18	1115	S	2	X	X							-09	14:15
LIFHP-103-6-7-100118	10/01/18	1120	S	2	X	X							-10	14:15
LIFHP-103-7-8-100118	10/01/18	1125	S	2	X	X							-11	14:15
LIFHP-103-9-10-100118	10/01/18	1130	S	2	X	X							-12	14:15
LIFHP-103-25-26-100118	10/01/18	1250	S	2	X	X							-13	14:15
←—————														
DUP-13-100118	10/01/18	—	S	2	X	X							-14	14:15
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: Cathy O'Neill		Date: 10/01/18		Time:		Received By: [Signature]		Date: 10/01/18		Time:
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: NA/KIT		Receipt Temp: NA		Thermometer #/ Exp. Date: NA			Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			

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CHAIN OF CUSTODY

No. 09973

Page: 3 of 1

Project Number: <u>M1001454.0002.0001A</u> PO Number:		Lab Work Order #: <u>V184001</u>		Report To: <u>EMAIL LIST</u>																					
Project Name: <u>FORDOP</u>		Preservation Codes		Company: <u>ARCADIS</u>																					
Project Location (City, State): <u>LIVONIA MI</u>		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers	VOCs																		Address 2:	
Matrix	Total # of Containers			VOCs																					
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): <u>ASHLEY REIBEL</u>		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Comments	Lab ID	Lab Receipt Time																			
<u>LIFHP-98-1-2-100118</u>		<u>1/1/18</u>	<u>1450</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>MS/MSD</u>	<u>-15</u>	<u>16:37</u>																
<u>LIFHP-98-5-6-100118</u>			<u>1455</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-16</u>																	
<u>LIFHP-98-7-8-100118</u>			<u>1500</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-17</u>																	
<u>LIFHP-98-9-10-100118</u>			<u>1505</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-18</u>																	
<u>LIFHP-98-11-12-100118</u>			<u>1510</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-19</u>																	
<u>LIFHP-98-19-20-100118</u>			<u>1515</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-20</u>																	
<u>LIFHP-98-23.5-24.5-100118</u>			<u>1520</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-21</u>																	
<u>LIFHP-98-26-27-100118</u>			<u>1525</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-22</u>																	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Date: <u>10/1/18</u> Time: <u>16:37</u>		Received By: <u>[Signature]</u> Date: <u>10/1/18</u> Time: <u>16:37</u>																			
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>																	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																	

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CHAIN OF CUSTODY

No. 09963

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Project Number: <u>M1081454-002-0501A</u> PO Number:		Lab Work Order #: <u>V184001</u>		Report To:																													
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:																													
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																													
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th>82608</th> <th>82608-510</th> </tr> <tr> <td>S</td> <td>2</td> <td>X</td> <td>X</td> </tr> <tr> <td>S</td> <td>2</td> <td>X</td> <td>X</td> </tr> <tr> <td>S</td> <td>2</td> <td>X</td> <td>X</td> </tr> <tr> <td>S</td> <td>2</td> <td>X</td> <td>X</td> </tr> <tr> <td>S</td> <td>2</td> <td>X</td> <td>X</td> </tr> <tr> <td>S</td> <td>2</td> <td>X</td> <td>X</td> </tr> </table>		Matrix	Total # of Containers	82608	82608-510	S	2	X	X	S	2	X	X	S	2	X	X	S	2	X	X	S	2	X	X	S	2	X	X	Address 2:	
Matrix	Total # of Containers			82608	82608-510																												
S	2			X	X																												
S	2			X	X																												
S	2	X	X																														
S	2	X	X																														
S	2	X	X																														
S	2	X	X																														
If Rush, Report Due Date:		E-mail Address:		Invoice To:																													
Sampled By (Print): <u>CAITLIN O'NEILL</u>		Company:		Address 1:																													
Sample Description		Collection		Address 2:																													
		Date	Time	Comments	Lab ID	Lab Receipt Time																											
<u>LIFHP-102-1-2-100118</u>		<u>10/01/18</u>	<u>1655</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-23</u>	<u>17:38</u>																								
<u>LIFHP-102-3-4-100118</u>		<u>10/01/18</u>	<u>1700</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-24</u>																									
<u>LIFHP-102-4-5-100118</u>		<u>10/01/18</u>	<u>1705</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-25</u>																									
<u>LIFHP-102-6-7-100118</u>		<u>10/01/18</u>	<u>1708</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-26</u>																									
<u>LIFHP-102-7-8-100118</u>		<u>10/01/18</u>	<u>1710</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-27</u>																									
<u>LIFHP-102-15-16-100118</u>		<u>10/01/18</u>	<u>1715</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-28</u>																									
<u>LIFHP-102-22-23-100118</u>		<u>10/01/18</u>	<u>1720</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-29</u>																									
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Caitlin O'Neill</u>		Date: <u>10/01/18</u>	Time: <u>17:38</u>	Received By: <u>[Signature]</u>		Date: <u>10/1/18</u>	Time: <u>17:38</u>																						
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																							

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CHAIN OF CUSTODY

No. 9970

Page: 1 of 1

Project Number: <u>M1001454.0002.0001A</u> PO Number:		Lab Work Order #: <u>184002</u>		Report To: <u>EMAIL LIST</u>																					
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARCADIS</u>																					
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">Matrix</td> <td style="width:10%;">Total # of Containers</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td></td> <td style="text-align:center; vertical-align:middle;"><u>VCS</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										<u>VCS</u>									Address 2:	
Matrix	Total # of Containers																								
	<u>VCS</u>																								
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): <u>ASHLEY REIBEL</u>		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time																	
<u>LIFHP-99-25-29-100118</u>		<u>10/1/18</u>	<u>1045</u>	<u>GW</u>	<u>2</u>	<u>X</u>		<u>-01</u>	<u>11:39</u>																
<u>LIFHP-99-20-24-100118</u>		<u>L</u>	<u>1110</u>	<u>GW</u>	<u>2</u>	<u>X</u>		<u>-02</u>	<u>L</u>																
<u>LIFHP-99-15-19-100118</u>		<u>L</u>	<u>1125</u>	<u>GW</u>	<u>2</u>	<u>X</u>		<u>-03</u>	<u>L</u>																
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/1/18</u> Time: <u>11:39</u>		Received By: <u>[Signature]</u>		Date: <u>10/1/18</u> Time: <u>11:39</u>															
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N															

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CHAIN OF CUSTODY

No. 9974

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Lab Work Order #: V184002				Report To: EMAIL LIST			
Preservation Codes				Company: AMDIS			
Analyses Requested				Address 1:			
				Address 2:			
				E-mail Address:			
Invoice To:							
Company:							
Address 1:							
Address 2:							

Project Number: M1001454002.0001A		PO Number:		Matrix		Total # of Containers		VOCs	
Project Name: FORD LTP									
Project Location (City, State): LIVONIA, MI									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush									
If Rush, Report Due Date: 1									
Sampled By (Print): ASHLEY REIBEL									

Sample Description	Collection		Matrix	Total # of Containers	VOCs	Comments	Lab ID	Lab Receipt Time
	Date	Time						
LIFHP-98-25-29-100118	10/1/18	1545	GW	2	X		-07	16:37
LIFHP-98-20-24-100118	↓	1610	GW	2	X		-08	↓
LIFHP-98-15-19-100118	↓	1630	GW	2	X		-09	↓
<div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); font-size: 2em; opacity: 0.5;"> (This area is crossed out with a large diagonal line) </div>								

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments:		Relinquished By: <i>Ashley Reibel</i>	Date: 10/1/18	Time: 16:37	Received By: <i>Jeff K...</i>	Date: 10/1/18	Time: 16:37
				Relinquished By:	Date:	Time:	Received By:	Date:	Time:
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>Next Kin</i>	Receipt Temp: <i>NA</i>	Thermometer #/ Exp. Date: <i>NA</i>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		

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CHAIN OF CUSTODY

No. 09987

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Project Number: M1001454.0002 0001 APO Number:		Lab Work Order #: V184005		Report To: EMAIL LIST																					
Project Name: FORD LTP		Preservation Codes		Company: ARCADIS																					
Project Location (City, State): WYLVONIA, MI		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td style="text-align: center;">VOCs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										VOCs									Address 2:	
Matrix	Total # of Containers																								
	VOCs																								
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): Ashley Reibel		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time																	
LIFHP-101-1-2-100218		10/2/18	1020	S	2	X		ARCADIS 10/2/18	-01	11:15															
LIFHP-101-2-3-100218			1025	S	2	X			-02																
LIFHP-101-3-4-100218			1030	S	2	X			-03																
LIFHP-101-4-5-100218			1035	S	2	X			-04																
LIFHP-101-5-6-100218			1040	S	2	X			-05																
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:		Relinquished By: Ashley Reibel		Date: 10/2/18 Time: 11:15		Received By: [Signature]		Date: 10/2/18 Time: 11:15															
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: NEULINK		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N															

✓ wt 10/3/18



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CHAIN OF CUSTODY

No. 09989

Page:

1 of 1

Project Number: M1001454.0002.0001A PO Number:		Lab Work Order #: V184005		Report To: EMAIL LIST											
Project Name: FORDLTP		Preservation Codes		Company: ARCADIS											
Project Location (City, State): LIVONIA, MI		Analyses Requested		Address 1:											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:											
If Rush, Report Due Date:				E-mail Address:											
Sampled By (Print): ASHLEY REBEL				Invoice To:											
				Company:											
				Address 1:											
				Address 2:											
				Comments											
				Lab ID											
				Lab Receipt Time											
Sample Description		Collection Date	Collection Time	Matrix	Total # of Containers										
SB-106-1-2-100218		10/2/18	1420	S	2	X							MS/MSD	-06	16:35
SB-106-3-4-100218			1425	S	2	X								-07	
SB-106-6-7-100218			1430	S	2	X								-08	
SB-106-10-11-100218			1435	S	2	X								-09	
SB-106-11-12-100218			1440	S	2	X								-10	
SB-106-19-20-100218			1535	S	2	X								-11	
SB-106-26-27-100218			1530	S	2	X								-12	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>[Signature]</i>		Date: 10/2/18		Time: 16:35		Received By: <i>[Signature]</i>		Date: 10/2/18		Time: 16:35	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>Mail</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			

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CHAIN OF CUSTODY

No. 09887

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Lab Work Order #:

V184006

Report To: Kns Hinskey @ Arcadis / Ian Drost

Company: ARCADIS

Address 1: 28550 Cabot Dr Suite 500 Novi MI

Address 2:

E-mail Address: ian.drost@arcadis.com
 Kns.Hinskey@arcadis.com

Invoice To:

Company:

Address 1:

Address 2:

Project Number: M1001454.0002, 00014PO Number:

Project Name: Ford LTP

Project Location (City, State): Livonia, MI

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print):

Sample Description	Collection		Matrix	Total # of Containers	VOCs	Method 8260B	1,4-dioxane method	8260B-SIM							Comments	Lab ID	Lab Receipt Time
	Date	Time															
SB-107-1-2-100318	10/3/18	1125	S	2	X	X										-01	13:20
SB-107-5-6-100318		1130	S	2	X	X										-02	
SB-107-7-8-100318		1135	S	2	X	X										-03	
SB-107-9-10-100318		1140	S	2	X	X										-04	
SB-107-11-12-100318		1145	S	2	X	X										-05	
SB-107-19-20-100318		1200	S	2	X	X										-06	

Preservation Codes

A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes

A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By:

Ashley [Signature]

Date:

10/3/18

Time:

13:20

Received By:

[Signature]

Date:

10/3/18

Time:

13:20

Relinquished By:

Date:

Time:

Received By:

Date:

Time:

Custody Seal:

NA Intact Not Intact

Shipped Via:

Walkin

Receipt Temp:

NA

Thermometer #/ Exp. Date:

NA

Temp Blank:

Y N

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1 Oct 10/11/18



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CHAIN OF CUSTODY

No. 09991

Page: 1 of 1

Lab Work Order #: V184007					Report To: EMANUELE				
Preservation Codes					Company: ARCADIS				
Analyses Requested					Address 1:				
					Address 2:				
					E-mail Address:				
					Invoice To:				
					Company:				
					Address 1:				
					Address 2:				
					Comments			Lab ID	Lab Receipt Time
								-01	16:22
								-02	↓
								-03	↓

Project Number: M1001454.0002.0001		APO Number:							
Project Name: FORDLTP									
Project Location (City, State): MIAMI MI									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush									
If Rush, Report Due Date:									
Sampled By (Print): ASHLEY REBEL									
Sample Description	Collection		Matrix	Total # of Containers	VOCs				
	Date	Time							
SB-107-25-29-100318	10/3/18	1520	GW	2	X				
SB-107-20-24-100318	↓	1550	GW	2	X				
SB-107-15-19-100318	↓	1610	GW	2	X				

Preservation Codes
 A=None B=HCl C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: **Ashley Rebel** Date: **10/3/18** Time: **16:22**

Relinquished By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Received By: **Jeff Forte** Date: **10/3/18** Time: **16:22**

Received By: _____ Date: _____ Time: _____

Shipped Via: **Walkin** Receipt Temp: **NA** Thermometer #/ Exp. Date: **NA**

Temp Blank: Y N

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CHAIN OF CUSTODY

No. 9992

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Project Number: <u>M100454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184008</u>				Report To:	
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:	
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VACS</u>				Address 2:	
If Rush, Report Due Date:								E-mail Address:	
Sampled By (Print): <u>ASHLEY REBEL</u>								Invoice To:	
								Company:	
Sample Description				Collection Date Time Matrix Total # of Containers				Address 1:	
								Comments	
<u>SB-108-1-2-100418</u>				<u>10/1/18</u> <u>11:40</u> <u>S</u> <u>2</u> <u>X</u>				<u>-01</u>	<u>13:05</u>
<u>SB-108-5-6-100418</u>				<u>11:45</u> <u>S</u> <u>2</u> <u>X</u>				<u>-02</u>	
<u>SB-108-7-8-100418</u>				<u>11:50</u> <u>S</u> <u>2</u> <u>X</u>				<u>-03</u>	
<u>SB-108-9-10-100418</u>				<u>11:55</u> <u>S</u> <u>2</u> <u>X</u>				<u>-04</u>	
<u>SB-108-11-12-100418</u>				<u>12:00</u> <u>S</u> <u>2</u> <u>X</u>				<u>-05</u>	
<u>SB-108-19-20-100418</u>				<u>12:05</u> <u>S</u> <u>2</u> <u>X</u>				<u>-06</u>	
<u>SB-108-23.5-24.5-100418</u>				<u>12:30</u> <u>S</u> <u>2</u> <u>X</u>				<u>-07</u>	
<u>SB-108-25-26-100418</u>				<u>12:40</u> <u>S</u> <u>2</u> <u>X</u>				<u>-08</u>	<u>MS/MSD</u>
<u>SB-108-28-29-100418</u>				<u>12:45</u> <u>S</u> <u>2</u> <u>X</u>				<u>-09</u>	
<u>DUP-14-100418</u>				<u>10/4/18</u> <u>-</u> <u>S</u> <u>2</u> <u>X</u>				<u>-10</u>	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Rebel</u> Date: <u>10/4/18</u> Time: <u>13:05</u>		Received By: <u>[Signature]</u> Date: <u>10/4/18</u> Time: <u>13:05</u>			
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By: Date: Time:		Received By: Date: Time:		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>W/k/n</u> Receipt Temp: <u>N/A</u> Thermometer #/ Exp. Date: <u>N/A</u> Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

Rev. 12/15

✓ 10/5/18



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CHAIN OF CUSTODY

No. 10001

Page: 1 of 1

Project Number: <u>M1001454 0002 0001A</u> PO Number:		Lab Work Order #: <u>V184010</u>		Report To: <u>EMAIL LIST</u>																																	
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARCADIS</u>																																	
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																																	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; text-align: center;"> <tr><td>Matrix</td><td>Total # of Containers</td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> </table>		Matrix	Total # of Containers	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	Address 2:					
Matrix	Total # of Containers																																				
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<u>S</u>	<u>2</u>																																				
If Rush, Report Due Date:		<table border="1" style="width:100%; text-align: center;"> <tr><td>Matrix</td><td>Total # of Containers</td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> <tr><td><u>S</u></td><td><u>2</u></td></tr> </table>		Matrix	Total # of Containers	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	<u>S</u>	<u>2</u>	E-mail Address:	
Matrix	Total # of Containers																																				
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<u>S</u>	<u>2</u>																																				
<u>S</u>	<u>2</u>																																				
Sampled By (Print): <u>ASHLEY REIBEL</u>		Invoice To:		Company:																																	
Sample Description		Collection		Address 1:																																	
		Date	Time	Address 2:																																	
<u>SB-109-1-2-100518</u>		<u>10/5/18</u>	<u>0835</u>	<u>S</u>	<u>2</u>																																
<u>SB-109-5-6-100518</u>			<u>0840</u>	<u>S</u>	<u>2</u>																																
<u>SB-109-7-8-100518</u>			<u>0845</u>	<u>S</u>	<u>2</u>																																
<u>SB-109-9-10-100518</u>			<u>0850</u>	<u>S</u>	<u>2</u>																																
<u>SB-109-11-12-100518</u>			<u>0855</u>	<u>S</u>	<u>2</u>																																
<u>SB-109-19-20-100518</u>			<u>0900</u>	<u>S</u>	<u>2</u>																																
<u>SB-109-23-5-24-5-100518</u>			<u>0905</u>	<u>S</u>	<u>2</u>																																
<u>SB-109-26-27-100518</u>			<u>0910</u>	<u>S</u>	<u>2</u>																																
<u>SB-109-29-30-100518</u>			<u>0915</u>	<u>S</u>	<u>2</u>																																
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <u>Ashley Reibel</u> Relinquished By: _____ Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Date: <u>10/5/18</u> Date: _____	Time: <u>9:19</u> Time: _____	Received By: <u>[Signature]</u> Received By: _____	Date: <u>10/5/18</u> Date: _____	Time: <u>9:19</u> Time: _____	Receipt Temp: <u>NA</u> Receipt Temp: _____	Thermometer #/ Exp. Date: <u>NA</u> Thermometer #/ Exp. Date: _____	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																										

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CHAIN OF CUSTODY

No. 10008

Page: | of: |

Project Number: <u>MIC01454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184011</u>				Report To:																					
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																					
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">Matrix</td> <td style="width:10%;">Total # of Containers</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td></td> <td style="text-align:center;"><u>VCS</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Matrix	Total # of Containers										<u>VCS</u>									Address 2:	
Matrix	Total # of Containers																												
	<u>VCS</u>																												
If Rush, Report Due Date:								E-mail Address:		Invoice To:																			
Sampled By (Print): <u>ASHLEY REIBEL</u>				Company:		Address 1:																							
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID		Lab Receipt Time															
				Date	Time							Date		Time															
<u>SB-109-25-29-100518</u>				<u>10/5/18</u>	<u>0935</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-01</u>	<u>10:15</u>																	
<u>SB-109-20-24-100518</u>					<u>0955</u>	<u>GW</u>	<u>2</u>	<u>Y</u>			<u>-02</u>																		
<u>SB-109-15-19-100518</u>					<u>1015</u>	<u>GW</u>	<u>2</u>	<u>Y</u>			<u>-03</u>																		
<u>DUP 15-100518</u>					<u>-</u>	<u>GW</u>	<u>2</u>	<u>Y</u>			<u>-04</u>																		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By: <u>Ashley Reibel</u>				Date: <u>10/5/18</u> Time: <u>10:15</u>		Received By: <u>[Signature]</u>		Date: <u>10/5/18</u> Time: <u>10:15</u>																	
				Other Comments:				Relinquished By:		Date:		Received By:		Date:															
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>W/Kin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																			

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CHAIN OF CUSTODY

No. 9994

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Lab Work Order #: 184101
 Report To: IAN DROST
 Company: _____

Project Number: 1001454002, 0001A
 Project Name: Ford LTP

Project Location (City, State): LIVONIA, MI

Turn Around (check one): Normal Rush

If Rush, Report Due Date: _____

Sampled By (Print): BRUCE EVANS

Matrix: _____
 Total # of Containers: 7

Sample Description

Sample Description	Collection		Matrix	Total # of Containers	X
	Date	Time			
LIFHP-108(1-2)-100918	10/18/18	12:30	S	1	X
LIFHP-108(3-4)-100918	10/18/18	12:35		1	X
LIFHP-108(5-6)-100918		12:40		1	X
LIFHP-108(7-8)-100918		12:50		1	X
LIFHP-108(9-10)-100918	10/18/18	12:55		1	X
LIFHP-108(26-27)-100918	10/19/18	14:05		1	X
LIFHP-108(29-30)-100918	10/19/18	14:15		1	X

Preservation Codes

Analyses Requested

Address 1:

Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Comments	Lab ID	Lab Receipt Time
	-01	14:55
	-02	
	-03	
	04	
	-05	
	06	
	07	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: [Signature] Date: 10/18/18 Time: 14:55

Received By: [Signature] Date: 10/18/18 Time: 14:55

Relinquished By: _____ Date: _____ Time: _____

Received By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Shipped Via: WALSH

Receipt Temp: NA Thermometer #/ Exp. Date: NA

Temp Blank: Y N

✓ us 10/18/18



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CHAIN OF CUSTODY

No. 09995

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Project Number: M1001454.0002.0001A		Lab Work Order #: 1184102		Report To: Ian Drost											
Project Name: Ford LTP		Preservation Codes		Company:											
Project Location (City, State): Livonia, MI		Analyses Requested		Address 1:											
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; text-align: center;"> <tr><td>Matrix</td><td>Total # of Containers</td></tr> <tr><td></td><td>VOC</td></tr> </table>		Matrix	Total # of Containers		VOC	Address 2:							
Matrix	Total # of Containers														
	VOC														
If Rush, Report Due Date:		E-mail Address:													
Sampled By (Print): Bruce Evans		Invoice To:		Company:											
Sample Description		Collection		Address 1:											
		Date	Time	Matrix	Total # of Containers	Address 2:		Comments	Lab ID	Lab Receipt Time					
LIFHP-108-21-25-100818	10/15/18	16:00	W	2	X				-01	18:22					
LIFHP-108-16-20-100818	10/15/18	16:40	W	2	X				-02	↓					
LIFHP-108-10-14-100818	10/15/18	17:05	W	2	X				-03	↓					

Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: [Signature]		Date: 10/8/18		Time: 18:20		Received By: [Signature]		Date: 10/8/18		Time: 18:22	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: NIKIN		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					

✓ 10/19/18



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CHAIN OF CUSTODY

No. 09997

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Lab Work Order #: 1184103		Report To: IAN Drost	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Invoice To:			
Company:			
Address 1:			
Address 2:			

Project Number: MI001454.0002.000A		PO Number:	
Project Name: Ford LTP			
Project Location (City, State): Livonia, MI			
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush			
If Rush, Report Due Date:			
Sampled By (Print): BRUCE EVANS			

Sample Description	Collection		Matrix	Total # of Containers	VOC							Comments	Lab ID	Receipt Time
	Date	Time												
LIFHP-111A-20-24-100918	10/9/18	15:10	W	2	X									10/16/18
LIFHP-111A-15-19-100918	10/9/18	15:30	W	2	X									10/16/18
LIFHP-111A-8-12-100918	10/9/18	15:45	W	2	X									10/16/18
/														

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Matrix Codes A=Air S=Soil W=Water O=Other	Relinquished By: <i>[Signature]</i>	Date: 10/9/18	Time: 16:15	Received By: <i>[Signature]</i>	Date: 10/9/18	Time: 16:15
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Other Comments:		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: MAIL	Receipt Temp: NA	Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

✓ 10/16/18



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CHAIN OF CUSTODY

No. 10009

Page: 1 of 1

Project Number: MI001454.0002.0001A PO Number:
 Project Name: Ford LTP
 Project Location (City, State): Livonia, MI
 Turn Around (check one): Normal Rush

Lab Work Order #: V184104
 Report To: IAN DROST
 Preservation Codes
 Analyses Requested
 Company:
 Address 1:
 Address 2:
 E-mail Address:

If Rush, Report Due Date:
 Sampled By (Print): Bruce Evans (BE)

Sample Description	Collection		Matrix	Total # of Containers	VOCs
	Date	Time			
LIFHP-109-1-2-100918	10/09/18	10:45	S	1	+
LIFHP-109-2-3-100918	10/9/18	10:50	S	1	X
LIFHP-109-3-4-100918		11:00	S	1	X
LIFHP-109-7-8-100918		11:05	S	1	X
LIFHP-109-9-10-100918		11:10	S	1	X
LIFHP-109-21-22-100918	10/9/18	11:15	S	1	X
Dup-16	10/9/18	-	S	1	X

Comments	Lab ID	Lab Receipt Time
	-01	12:45
	-02	
	-03	
	-04	
	-05	
	-06	
	-07	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:
 Relinquished By: [Signature] Date: 10/9/18 Time: 12:45
 Relinquished By: _____ Date: _____ Time: _____
 Received By: Coleman Date: 10/9/18 Time: 12:45
 Received By: _____ Date: _____ Time: _____
 Custody Seal: NA Intact Not Intact
 Shipped Via: Walkin Receipt Temp: NA Thermometer #/ Exp. Date: NA
 Temp Blank: Y N

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CHAIN OF CUSTODY

No. 9996

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M.I. 001454, 0002, 0001A

Project Number: For LTP		PO Number:		Lab Work Order #: V184104				Report To: JM Drost							
Project Name: For LTP		Preservation Codes				Company:			Address 1:						
Project Location (City, State): Livonia, MI		Analyses Requested				Address 2:			E-mail Address:						
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix	Total # of Containers	VOCs				Invoice To:							
If Rush, Report Due Date:								Company:							
Sampled By (Print): Bruce Evans								Address 1:							
								Address 2:							
Sample Description	Collection		Matrix	Total # of Containers					Comments	Lab ID	Lab Receipt Time				
	Date	Time													
LIFHP-111A-1-2-100918	10/9/18	14:30	S	1	X					-08	16:15				
LIFHP-111A-3-4-100918	10/9/18	14:35	S	1	X					-09					
LIFHP-111A-4-5-100918		14:40	S	1	X					-10					
LIFHP-111A-5-6-100918		14:45	S	1	X					-11					
LIFHP-111A-7-8-100918		14:50	S	1	X					-12					
LIFHP-111A-26-27-100918	10/9/18	15:00	S	1	X					-13					
←															
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>[Signature]</i>		Date: 10/9/18		Time: 16:15		Received By: <i>[Signature]</i>		Date: 10/9/18		Time: 16:15	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>NA/KR</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					

✓ 10/10/18



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CHAIN OF CUSTODY

No. 9972

Page: 1 of 1

Lab Work Order #: V184105				Report To:			
Preservation Codes				Company:			
Analyses Requested				Address 1:			
				Address 2:			
				E-mail Address:			
				Invoice To:			
				Company:			
				Address 1:			
				Address 2:			
				Comments		Lab ID	Lab Receipt Time

Project Number: **M1001454.0002.0001A** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **CAITLIN O'NEILL**

Matrix: **82608**
 Total # of Containers: **82608-SIM**

Sample Description	Collection		Matrix	Total # of Containers	82608	82608-SIM												
	Date	Time																
LIFHP-107-1-2-100218	10/02/18	0910	S	2	X	X												
LIFHP-107-3-4-100218	10/02/18	0915	S	2	X	X												
LIFHP-107-5-6-100218	10/02/18	0920	S	2	X	X												
LIFHP-107-7-8-100218	10/02/18	0925	S	2	X	X												
LIFHP-107-9-10-100218	10/02/18	0930	S	2	X	X												
LIFHP-107-21-22-100218	10/02/18	0940	S	2	X	X												

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: **Caitlin O'Neill**

Date: **10/02/18** Time: **13:30**

Received By: **[Signature]**

Date: **10/02/18** Time: **13:30**

Relinquished By:

Date: Time:

Received By:

Date: Time:

Custody Seal:
 NA Intact Not Intact

Shipped Via: **Mail**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**

Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10000

Page: 2 of 2

Lab Work Order #: **V184106**

Report To: _____
 Company: _____

Project Number: **MT 001454.0002.0001A** PO Number: _____

Project Name: **Fox VLP**

Project Location (City, State): **Levada, MF**

Turn Around (check one): Normal Rush

If Rush, Report Due Date: _____

Sampled By (Print): **Alice Evans (BE)**

Preservation Codes

Analyses Requested

Address 1:

Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Preservation Codes

A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes

A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*

Date: **10/10/18** Time: **12:15**

Received By: *[Signature]*

Date: **10/10/18** Time: **12:15**

Relinquished By: _____

Date: _____ Time: _____

Received By: _____

Date: _____ Time: _____

Custody Seal:
 NA Intact Not Intact

Shipped Via: **NalKin**

Receipt Temp: **T/A**

Thermometer #/ Exp. Date: **NA**

Temp Blank:
 Y N



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CHAIN OF CUSTODY

No. 10002

Page: 1 of 2

Lab Work Order #: V184107				Report To: IAN DROST			
Preservation Codes				Company:			
Analyses Requested				Address 1:			
				Address 2:			
				E-mail Address:			
				Invoice To:			
				Company:			
				Address 1:			
				Address 2:			
Comments		Lab ID	Lab Receipt Time				

Project Number: **MI001454002.0001A** PO Number:

Project Name: **Ford LTP**

Project Location (City, State): **Leumia, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **Bruce Evans (OE)**

Sample Description	Collection		Matrix	Total # of Containers	VOCs
	Date	Time			
LIFHP-110-1-2-10/10/18	10/10/18	10:10	S	1	X
LIFHP-110-3-4-10/10/18	10/10/18	10:15	S	1	X
LIFHP-110-4-5-10/10/18		10:20	S	1	X
LIFHP-110-5-6-10/10/18		10:30	S	1	X
LIFHP-110-6-7-10/10/18		10:35	S	1	X
LIFHP-110-26-27-10/10/18	10/10/18	10:45	S	1	X

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*
 Date: **10/10/18** Time: **12:15**

Received By: *[Signature]*
 Date: **10/10/18** Time: **12:15**

Relinquished By:
 Date: Time:
 Custody Seal:
 NA Intact Not Intact

Received By:
 Date: Time:
 Shipped Via: **W/R**

Received By:
 Date: Time:
 Receipt Temp: **NA**
 Thermometer #/ Exp. Date: **NA**
 Temp Blank: Y N



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CHAIN OF CUSTODY

No. 9998

Page: 1 of 2

Lab Work Order #: V184107		Report To: IAN DROST	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
		Invoice To:	
		Company:	
		Address 1:	
		Address 2:	
		Comments	Lab ID
			Lab Receipt Time

Project Number: **MI001494.0002.0001A** PO Number:

Project Name: **Ford LTP**

Project Location (City, State): **Levonix, MF**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **Bruce Evans (BE)**

Sample Description	Collection		Matrix	Total # of Containers	VOCs						
	Date	Time									
LIFHP-114-1-2-10/10/18	10/10/18	14:10	S	1	X						
LIFHP-114-2-3-10/10/18	10/10/18	14:15	S	1	X						
LIFHP-114-3-4-10/10/18		14:20	S	1	X						
LIFHP-114-4-5-10/10/18		14:25	S	1	X						
LIFHP-114-5-6-10/10/18		14:30	S	1	X						
LIFHP-114-26-27-10/10/18	10/10/18	14:40	S	1	X						

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]* Date: **10/10/18** Time: **16:10**

Received By: *[Signature]* Date: **10/10/18** Time: **16:15**

Relinquished By:

Received By:

Custody Seal: NA Intact Not Intact

Shipped Via: **Walk in**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**

Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10027

Page: 2 of 2

Lab Work Order #: V184108				Report To: IAN Drost			
Preservation Codes				Company:			
Analyses Requested				Address 1:			
				Address 2:			
				E-mail Address:			
				Invoice To:			
				Company:			
				Address 1:			
				Address 2:			
				Comments		Lab ID	Lab Receipt Time

Project Number: MI001454.0002.0001A PO Number:					
Project Name: Ford LTP					
Project Location (City, State): Livonia, MI					
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush					
If Rush, Report Due Date:					
Sampled By (Print): Bance Evans (BE)					
Sample Description	Collection		Matrix	Total # of Containers	VOCs
	Date	Time			
LIFHP-113-15-22-101118	10/11/18	16:30	W	2	X
LFFHP-113-13-17-101118	10/11/18	16:55	W	2	X
LIFHP-113-8-12-101118	10/11/18	17:10	W	2	X

Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:	Relinquished By: <i>[Signature]</i>	Date: 10/11/18	Time: 17:50	Received By: Colleen Small	Date: 10/11/18	Time: 17:45
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walk in	Receipt Temp: N/A	Thermometer #/ Exp. Date: N/A	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N



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CHAIN OF CUSTODY

No. 10011

Page: 1 of 2

Project Number: **MI 001454.0002.800PA** Number:
 Project Name: **Ford LTP**
 Project Location (City, State): **Livonia, MI**

Turn Around (check one): Normal Rush
 If Rush, Report Due Date:
 Sampled By (Print): **Bruce Evans (BE)**

Lab Work Order #: **V184109**
 Report To: **IAN PROET**
 Company:
 Address 1:
 Address 2:
 E-mail Address:
 Invoice To:
 Company:
 Address 1:
 Address 2:

Sample Description	Collection		Matrix	Total # of Containers	VOCs													
	Date	Time																
LIFHP-116-1-2-10118	10/11/18	09:20	S	1	X													
LIFHP-116-3-4-10118	10/11/18	09:25	S	1	X													
LIFHP-116-5-6-10118		09:30	S	1	X													
LIFHP-116-7-8-10118		09:35	S	1	X													
LIFHP-116-9-10-10118		09:40	S	1	X													
LIFHP-116-23-24-10118	10/11/18	10:30	S	1	X													

Comments	Lab ID	Lab Receipt Time
	-01	
	-02	
	-03	
	-04	
	-05	
	-06	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*
 Date: **10/11/18**
 Time: **12:30**

Received By: *[Signature]*
 Date: **10/11/18**
 Time: **12:50**

Custody Seal:
 NA Intact Not Intact

Shipped Via: **WALK IN**
 Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**

Temp Blank: Y N



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Bottles!
CHAIN OF CUSTODY

No. 10004

Page: 2 of 2

Lab Work Order #: **V A184110**
 Report To: **IAN DROST**
 Company: **ARCADIS**

Project Number: **MF001454.0002.000A** PO Number:

Project Name: **FORD TP**

Project Location (City, State): **Livonia, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **BRUCE EVANS (HE)**

Preservation Codes

Analyses Requested

Address 1:

Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers									Comments	Lab ID	Lab Receipt Time
	Date	Time													
LIFHP-118-21-25-10/21/18	10/21/18	15:05	W	2	X									-05	1615
LIFHP-118-16-20-10/21/18	10/21/18	15:25	W	2	X									-06	↓
LIFHP-118-11-15-10/21/18	10/21/18	15:45	W	2	X									-07	↓
Dap-19	-	-	W	2	X									-08	↓

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]* Date: **10/12/18** Time: **1615**

Received By: *[Signature]* Date: **10/12/18** Time: **1615**

Relinquished By:

Received By:

Custody Seal:
 NA Intact Not Intact

Shipped Via: **Walk in**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**

Temp Blank:
 Y N



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CHAIN OF CUSTODY

No. 10024

Page: 1 of 2

Project Number: MI001454.0002.0001A PO Number:				Lab Work Order #: V184111				Report To: IAN DROST									
Project Name: Ford LTP				Preservation Codes				Company: Accordis									
Project Location (City, State): Livonia, MI				Analyses Requested				Address 1:									
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOCs				Address 2:									
If Rush, Report Due Date:								E-mail Address:									
Sampled By (Print): DANCE EVANS (DE)								Invoice To:									
Sample Description				Collection		Matrix		Total # of Containers		VOCs		Company:					
				Date	Time							Address 1:					
										Address 2:		Comments		Lab ID	Lab Receipt Time		
LIFHP-115-1-2-101218				10/12/18	10:20	S	1	X							-01	1215	
LIFHP-115-4-5-101218				10/12/18	10:25	S	1	X							-02		
LIFHP-115-6-7-101218				10/12/18	10:30	S	1	X							-03		
LIFHP-115-8-9-101218					10:35	S	1	X							-04		
LIFHP-115-10-11-101218					10:40	S	1	X							-05		
LIFHP-115-19-20-101218					10:45	S	1	X							-06		
LIFHP-115-22-23-101218				10/12/18	10:50	S	1	X					MS/MSD		-07		
DUP-17				-	-	S	1	X							-08	↓	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: [Signature]		Date: 10/12/18	Time: 12:15	Received By: Colleen Small		Date: 10/12/18	Time: 12:15		
Matrix Codes A=Air S=Soil W=Water O=Other								Relinquished By:		Date:	Time:	Received By:		Date:	Time:		
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Walk in				Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

11-12-18 No. 10003

Page: 1 of 2

Project Number: MI001494.0002.0001A PO Number:		Lab Work Order #: V A184111		Report To: IAN DIOST													
Project Name: Ford LTP		Preservation Codes		Company: ARCADIS													
Project Location (City, State): Livonia, MI		Analyses Requested		Address 1:													
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50px;">Matrix</td> <td style="width:50px;">Total # of Containers</td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> </tr> <tr> <td></td> <td style="text-align:center; vertical-align:middle;">Vocs</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers						Vocs					Address 2:	
Matrix	Total # of Containers																
	Vocs																
If Rush, Report Due Date:				E-mail Address:		Invoice To:											
Sampled By (Print): Bruce Evans (BE)		Company:		Address 1:													
		Address 2:		Address 2:													
Sample Description		Collection		Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time									
		Date	Time														
LIFHT-118-1-2-101218		10/12/18	14:30	S	1	X	-09	1540									
LIFHT-118-3-4-101218		10/12/18	14:35	S	1	X	-10										
LIFHT-118-5-6-101218			15:00	S	1	X	-11										
LIFHT-118-8-9-101218			15:05	S	1	X	-12										
LIFHT-118-10-11-101218			15:10	S	1	X	-13										
LIFHT-118-25-26-101218		10/12/18	15:15	S	1	X	-14										
D4p-20		-	-	S	1	X	-15	✓									
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: Location ID is LIFHT not LIFHT. cls 10/12/18		Relinquished By: <i>[Signature]</i> Date: 10/12/18 Time: 14:35		Received By: <i>Colleen Ansell</i> Date: 10/12/18 Time: 1540											
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walkin		Receipt Temp: NA		Thermometer #/ Exp. Date: NA									
						Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N											



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CHAIN OF CUSTODY

No. 10005

Page: 2 of 2

Project Number: <u>M1001454-000Z 0001A</u> PO Number:					Lab Work Order #: <u>V184201</u>					Report To:							
Project Name: <u>FORD LTP</u>					Preservation Codes					Company:							
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested					Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix Total # of Containers <u>VCCS</u>					Address 2:							
If Rush, Report Due Date:										E-mail Address:							
Sampled By (Print): <u>ASHLEY REIBEL</u>										Invoice To:							
Sample Description					Collection					Company:							
					Date	Time				Address 1:							
								Address 2:									
								Comments									
								Lab ID									
								Lab Receipt Time									
<u>LIFHP-122-21-25-101318</u>					<u>10/13/18</u>	<u>1640</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-01</u>	<u>0825</u>				
<u>LIFHP-122-16-20-101318</u>					<u>1</u>	<u>1700</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-02</u>	<u>1</u>				
<u>LIFHP-122-11-15-101318</u>					<u>1</u>	<u>1720</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-03</u>	<u>1</u>				
<u>LIFHP-122-22-26-101318</u>					<u>1</u>	<u>1722</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-04</u>	<u>1</u>				
<u>LIFHP-121-16-20-101318</u>					<u>1</u>	<u>1750</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-05</u>	<u>1</u>				
<u>LIFHP-121-11-15-101318</u>					<u>1</u>	<u>1810</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-06</u>	<u>1</u>				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other					Other Comments:					Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/14/18</u>	Time: <u>825</u>	Received By: <u>Coleman</u>		Date: <u>10/14/18</u>	Time: <u>0825</u>
										Relinquished By:		Date:	Time:	Received By:		Date:	Time:
<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact					Shipped Via: <u>WHL</u>					Receipt Temp: <u>on ice</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			
										Custody Seal:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank:	



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CHAIN OF CUSTODY

No. 10013

Page: ^{1 of 10/14/18} 2 of 2

Project Number: <u>MI001454.0002.0001A</u> PO Number:		Lab Work Order #: <u>V184201</u>		Report To: <u>JAN DROST</u>																																																																									
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARCADIS</u>																																																																									
Project Location (City, State): <u>Livonia, MI</u>		Analyses Requested		Address 1:																																																																									
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Pace Analytical - ECCS Division
 2525 Advance Road
 Madison, WI 53718
 608-221-8700 (phone)
 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10007

Page: 1 of 3 *at 10/14/18*

Lab Work Order #: **V184202**
 Report To: **IAN PROST**
 Company: **ARCADIS**

Project Number: **MI001424.0002.0001A** PO Number:

Project Name: **Ford LTP**

Project Location (City, State): **Livonia, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **Bruce Evans (BE)**

Preservation Codes

Analyses Requested

Address 1:

Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers	VOCs											Comments	Lab ID	Lab Receipt Time
	Date	Time																
LIFHP-117B-1-2-101318	10/13/18	10:20	S	1	X												-01	0825
LIFHP-117B-3-4-101318	10/13/18	10:25	S	1	X												-02	
LIFHP-117B-6-7-101318		10:30	S	1	X												-03	
LIFHP-117B-9-10-101318		10:35	S	1	X												-04	
LIFHP-117B-10-11-101318		10:40	S	1	X												-05	
LIFHP-117B-29-30-101318	10/13/18	11:00	S	1	X												-06	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:
 % Solids in lockloads

Relinquished By: *[Signature]*
 Date: **10/13/18** Time: **12:30**

Received By: *[Signature]*
 Date: **10/13/18** Time: **1300**

Relinquished By: *[Signature]*
 Date: **10/14/18** Time: **0825**

Received By: *[Signature]*
 Date: **10/14/18** Time: **0825**

Custody Seal: NA Intact Not Intact

Shipped Via: **Walk in**

Receipt Temp: **on ice**

Thermometer #/ Exp. Date: **NA**



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CHAIN OF CUSTODY

No. 10006

Page: 2 of 23 *let print*

Project Number: FORDLTP		PO Number:		Lab Work Order #: V184202				Report To: EMAILLIST			
Project Name: M1001454.0002.0001A		Preservation Codes				Company: ARCADIS					
Project Location (City, State): LIVONIA MI		Analyses Requested				Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix Total # of Containers VOCs				Address 2:					
If Rush, Report Due Date:						E-mail Address:					
Sampled By (Print): ASHLEY REBEL						Invoice To:					
Sample Description		Collection						Company:			
		Date	Time					Address 1:			
								Address 2:			
								Comments		Lab ID	Lab Receipt Time
LIFHP-122-1-2-101318		10/13/18	1448	S	2	X			-07	0825	
LIFHP-122-3-4-101318			1450	S	2	X			-08		
LIFHP-122-6-7-101318			1452	S	2	X			-09		
LIFHP-122-9-10-101318			1454	S	2	X			-10		
LIFHP-122- 10-11 -101318			1515	S	2	X			-11		
LIFHP-122-25-26-101318			1630	S	2	X			-12		
LIFHP-121-1-2-101318			1650	S	2	X			-13		
LIFHP-121-2-3-101318			1652	S	2	X			-14		
LIFHP-121-4-5-101318			1654	S	2	X			-15		
LIFHP-8-9-101318			1656	S	2	X			-14	✓	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>Ashley Rebel</i>		Date: 10/14/18	Time: 825	Received By: <i>Colin Hall</i>		Date: 10/14/18	Time: 0825
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Received By:		Date:	Time:
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walk-in		Receipt Temp: ca 100		Thermometer #/ Exp. Date: NA	
										Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10014

Page: 2 of: 3 of 11/11/18

Project Number: <u>M1001454.002.0001A</u> PO Number:					Lab Work Order #: <u>V187202</u>					Report To:							
Project Name: <u>FORDLTP</u>					Preservation Codes					Company:							
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested					Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix Total # of Containers <u>LECS</u>					Address 2:							
If Rush, Report Due Date:										E-mail Address:							
Sampled By (Print): <u>ASHLEY REIBEL</u>										Invoice To:							
Sample Description										Company:							
					Address 1:												
Collection			Address 2:			Comments			Lab ID	Lab Receipt Time							
		Date	Time	Matrix	Total # of Containers												
<u>LIFHP-121-9-10-101318</u>		<u>10/13/18</u>	<u>1655</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-17</u>	<u>0825</u>						
<u>LIFHP-121-23-24-101318</u>			<u>1755</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-18</u>	<u>↓</u>						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)					Other Comments:					Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/13/18</u>	Time: <u>0825</u>	Received By: <u>Colem Hall</u>		Date: <u>10/14/18</u>	Time: <u>0825</u>
Matrix Codes A=Air S=Soil W=Water O=Other					Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact					Shipped Via: <u>Walk in</u>		Receipt Temp: <u>on ice</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10016

Page: | of: |

Lab Work Order #: V184203					Report To: EMAIL LIST					
Preservation Codes					Company: ARCADIS					
Analyses Requested					Address 1:					
					Address 2:					
					E-mail Address:					
					Invoice To:					
					Company:					
					Address 1:					
					Address 2:					
					Comments		Lab ID		Lab Receipt Time	

Project Number: **M1001451 0002-0001A** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REBEL**

Matrix

Collection

Sample Description	Collection		Matrix	Total # of Containers	X
	Date	Time			
LIFHP-123-22-26-101418	10/14/18	1250	GW	2	X
LIFHP-123-10-20-101418	1	1315	GW	2	X
LIFHP-123-10-14-101418	1	1330	GW	2	X
DUP-21-101418	1	-	GW	2	X

Relinquished By: *Ashley Rebel*

Relinquished By:

Date: 10/14/18 Time: 1400

Received By: *Cole Hall*

Date: 10/14/18 Time: 1400

Custody Seal: NA Intact Not Intact

Shipped Via: Receipt Temp: Thermometer #/ Exp. Date: Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10018

Page: 1 of 1

Project Number: <u>M1001454.0002.000A</u> PO Number:		Lab Work Order #: <u>V184203</u>		Report To: <u>EMAIL LIST</u>
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARCADIS</u>
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:
If Rush, Report Due Date:				E-mail Address:
Sampled By (Print): <u>ASHLEY REIBEL</u>				Invoice To:
				Company:
				Address 1:
				Address 2:
				Comments
				Lab ID
				Lab Receipt Time

Sample Description	Collection		Matrix	Total # of Containers														
	Date	Time																
<u>LIFHP-124-21-25-101418</u>	<u>10/14/18</u>	<u>1535</u>	<u>GW</u>	<u>2</u>	<u>VOCs</u>													
<u>LIFHP-124-16-20-101418</u>	<u>1</u>	<u>1555</u>	<u>GW</u>	<u>2</u>														
<u>LIFHP-124-11-15-101418</u>	<u>1</u>	<u>1615</u>	<u>GW</u>	<u>2</u>														

Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments:	Relinquished By: <u>Ashley Reibel</u>	Date: <u>10/14/18</u>	Time: <u>1635</u>	Received By: <u>Colin Hall</u>	Date: <u>10/14/18</u>	Time: <u>1635</u>
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>WALK IN</u>	Receipt Temp: <u>NA</u>	Thermometer #/ Exp. Date: <u>NA</u>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		



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CHAIN OF CUSTODY

No. 10022

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Project Number: <u>M1001454.0002.0004</u> PO Number:				Lab Work Order #: <u>V184204</u>				Report To: <u>EMAILLIST</u>																												
Project Name: <u>FORDLTP</u>				Preservation Codes				Company: <u>ARCADIS</u>																												
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:																												
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1"> <tr> <td>Matrix</td> <td>Total # of Containers</td> <td rowspan="8"> <u>VOCS</u> </td> <td rowspan="8"></td> <td rowspan="8"></td> <td rowspan="8"></td> <td rowspan="8"></td> <td rowspan="8"></td> <td rowspan="8"></td> <td rowspan="8"></td> <td rowspan="8"></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> </table>				Matrix	Total # of Containers	<u>VOCS</u>																							Address 2:			
Matrix	Total # of Containers	<u>VOCS</u>																																		
If Rush, Report Due Date:				E-mail Address:				Invoice To:																												
Sampled By (Print): <u>ASHLEY REBEL</u>				Company:				Address 1:																												
				Address 2:																																
Sample Description			Collection		Matrix	Total # of Containers							Comments	Lab ID	Lab Receipt Time																					
	Date	Time																																		
<u>LIFHP-123-1-2-101418</u>	<u>10/14/18</u>	<u>1110</u>	<u>S</u>	<u>2</u>																																
<u>LIFHP-123-3-4-101418</u>		<u>1112</u>	<u>S</u>	<u>2</u>																																
<u>LIFHP-123-4-5-101418</u>		<u>1114</u>	<u>S</u>	<u>2</u>																																
<u>LIFHP-123-5-6-101418</u>		<u>1140</u>	<u>S</u>	<u>2</u>																																
<u>LIFHP-123-7-8-101418</u> ^{7-8 *} _(see 10/14/18)		<u>1142</u>	<u>S</u>	<u>2</u>																																
<u>LIFHP-123-22-23-101418</u>		<u>1255</u>	<u>S</u>	<u>2</u>																																
<u>LIFHP-123-25-26-101418</u>		<u>1300</u>	<u>S</u>	<u>2</u>																																
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other			Other Comments: * Depth did not match sample. AR confirmed it was 7-8 not 9-8		Relinquished By: <u>Ashley Rebel</u> Relinquished By:		Date: <u>10/14/18</u> Time: <u>1400</u> Date: Time:		Received By: <u>Colin Karl</u> Received By:		Date: <u>10/14/18</u> Time: <u>1400</u> Date: Time:																									
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																										



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CHAIN OF CUSTODY

No. 10017

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Project Number: M1001454.0002.0001 PO Number:					Lab Work Order #: V184204					Report To: EMAIL LIST									
Project Name: FORD LTP					Preservation Codes					Company: ARCADIS									
Project Location (City, State): LIVONIA, MI					Analyses Requested					Address 1:									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush										Address 2:									
If Rush, Report Due Date:										E-mail Address:									
Sampled By (Print): ASHLEY REIBEL										Invoice To:									
										Company:									
										Address 1:									
										Address 2:									
Sample Description			Collection		Matrix	Total # of Containers	VOCs						Comments	Lab ID	Lab Receipt Time				
	Date	Time																	
LIFHP-124_1-2-101418	10/14/18	1430	S	2				X										-08	1635
LIFHP-124_3-4-101418		1432	S	2				X										-09	
LIFHP-124_6-7-101418		1434	S	2				X										-10	
LIFHP-124_8-9-101418		1436	S	2				X										-11	
LIFHP-124_9-10-101418		1438	S	2				X										-12	
LIFHP-124_24-25-101418		1515	S	2				X										-13	↓
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)			Other Comments:					Relinquished By: <i>Ashley Reibel</i>		Date: 10/14/18		Time: 1635		Received By: <i>Colleen Small</i>		Date: 10/14/18		Time: 1635	
Matrix Codes A=Air S=Soil W=Water O=Other								Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact					Shipped Via: Walkin					Receipt Temp: NA					Thermometer #/ Exp. Date: NA				
										Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N									



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CHAIN OF CUSTODY

No. 10023

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Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184205</u>				Report To:	
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:	
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCS</u>				Address 2:	
If Rush, Report Due Date:								E-mail Address:	
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:	
Sample Description				Collection Date Time Matrix Total # of Containers				Company:	
								Comments	
<u>SB-110-8-12-101618</u>				<u>10/16/18 1200 GW 2 X</u>				<u>-01</u>	<u>1215</u>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments: Relinquished By: <u>Ashley Reibel</u> Relinquished By:				Date: <u>10/16/18</u> Time: <u>1215</u>	Received By: <u>Coleen Hall</u> Date: <u>10/16/18</u> Time: <u>1215</u>
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walk in</u>	Receipt Temp: <u>NA</u>	Thermometer #/ Exp. Date: <u>NK</u>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N



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CHAIN OF CUSTODY

No. 09977

Page: **2** of: **3**

Lab Work Order #: V184205		Report To:	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Invoice To:	
If Rush, Report Due Date:		Company:	
Sampled By (Print): CAITLIN O'NEILL		Address 1:	
		Address 2:	
		Comments	Lab ID
			Lab Receipt Time

Project Number: **M1001454.0002.0001A** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **CAITLIN O'NEILL**

Sample Description	Collection		Matrix	Total # of Containers	8260B	8260B-Sum														
	Date	Time																		
LIFHP-119-10-14-101618	10/16/18	1312	Gw	2	X	X														
LIFHP-119-15-19-101618	10/16/18	1257	Gw	2	X	X														

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: **Caitlin O'Neill** Date: **10/16/18** Time: **1545**

Received By: **Colleen Small** Date: **10/16/18** Time: **1545**

Relinquished By: _____ Date: _____ Time: _____

Received By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Shipped Via: **Walk in** Receipt Temp: **NA** Thermometer #/ Exp. Date: **NA**

Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10020

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Project Number: M1001454.0002.CC01 APO Number:					Lab Work Order #: V184206					Report To: EMAILLIST										
Project Name: FORD LTP					Preservation Codes					Company: ARCADIS										
Project Location (City, State): LIVONIA, MI					Analyses Requested					Address 1:										
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix Total # of Containers VOCS					Address 2:										
If Rush, Report Due Date:										E-mail Address:										
Sampled By (Print): ASHLEY REIBEL										Invoice To:										
										Company:										
										Address 1:										
										Address 2:										
Sample Description			Collection		Matrix		Total # of Containers		Comments		Lab ID		Lab Receipt Time							
			Date	Time																
SB-110-1-2-101018			10/16/18	1132	S	2	X				-01	1215								
SB-110-3-4-101018				1134	S	2	X				-02									
SB-110-4-5-101018				1136	S	2	X				-03									
SB-110-5-6-101018				1138	S	2	X				-04									
SB-110-7-8-101018				1140	S	2	X			MMS/MSD	-05									
Preservation Codes A=None B=HCL C=H2SO4 D=HNO3 E=EnCore F=Methanol G=NaOH O=Other (Indicate)			Other Comments:			Relinquished By: Ashley Reibel Date: 10/16/18 Time: 1215			Received By: Colleen Small Date: 10/16/18 Time: 1215											
Matrix Codes A=Air S=Soil W=Water O=Other			Relinquished By:			Date:			Time:			Received By:			Date:			Time:		
			Custody Seal:			Shipped Via:			Receipt Temp:			Thermometer #/ Exp. Date:			Temp Blank:					
			<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			WALK M			NA			NA			<input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

No. 9978

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Lab Work Order #: **V184206**

Report To: _____
 Company: _____

Project Number: **M1601454.0002.0001A** PO Number: _____

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date: _____

Sampled By (Print): **CATHY O'NEILL**

Preservation Codes

Analyses Requested

Address 1:
Address 2:
E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers	8260B	8260B - SIM						Comments	Lab ID	Lab Receipt Time
	Date	Time												
LIFHP-119-1-2-101618	10/16/18	1110	S	2	X	X							-06	1545
LIFHP-119-4-5-101618	10/16/18	1115	S	2	X	X							-07	
LIFHP-119-6-7-101618	10/16/18	1120	S	2	X	X							-08	
LIFHP-119-7-8-101618	10/16/18	1125	S	2	X	X							-09	
LIFHP-119-9-10-101618	10/16/18	1130	S	2	X	X							-10	
LIFHP-119-22-23-101618	10/16/18	1155	S	2	X	X							-11	↓

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: **Cathy O'Neill**

Date: **10/16/18** Time: **1545**

Received By: **Cathy O'Neill**

Date: **10/16/18** Time: **1545**

Relinquished By: _____

Date: _____ Time: _____

Received By: _____

Date: _____ Time: _____

Custody Seal:
 NA Intact Not Intact

Shipped Via: **WALM**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**
 Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10251

Page: X 3 of: X 3 *CS 10/17/18*

Project Number: <u>M1001454.0002.000NA</u>				Lab Work Order #: <u>V184206</u>				Report To:			
Project Name: <u>FORDLTP</u>				Preservation Codes				Company:			
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>AREIBEL</u>				Total # of Containers				Invoice To:			
Sample Description								VSS			
				Collection Date							
Collection Time				Address 2:				Comments		Lab ID	Lab Receipt Time
SB-111-1-2-1011618		10/16/18	1410	S	2	Y				-12	1655
SB-111-3-4-1011618			1430	S	2	Y				-13	
SB-111-4-5-1011618			1430	S	2	Y				-14	
SB-111-5-6-1011618			1432	S	2	Y				-15	
SB-111-7-8-1011618			1434	S	2	X				-16	
SB-113-2-3-1011618			1610	S	2	Y				-17	
SB-113-3-4-1011618			1612	S	2	X				-18	
SB-113-4-5-1011618			1614	S	2	X				-19	
SB-113-5-6-1011618			1616	S	2	X				-20	
SB-113-6-7-1011618			1618	S	2	X				-21	↓
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u><i>Ashtyn R...</i></u> Date: <u>10/16/18</u> Time: <u>1655</u>		Received By: <u><i>Colleen Small</i></u> Date: <u>10/16/18</u> Time: <u>1655</u>					
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Received By:					
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>White Box</u>		Receipt Temp: <u>VIA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 10234

Page: 12 of 5 *cc 10/18/14*

Project Number: M1001454 0002 0001A PO Number:		Lab Work Order #: V184207				Report To: Email List																																																																																																																																																																																																							
Project Name: FORD LTP		Preservation Codes				Company:																																																																																																																																																																																																							
Project Location (City, State): LIVONIA, MI		Analyses Requested				Address 1:																																																																																																																																																																																																							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1"> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">VOCs</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> <tr> <td>88-114-6-10-101718</td> <td>10/17/18</td> <td>1020</td> <td>GW</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-01</td> <td>1040</td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>				Sample Description	Collection		Matrix	Total # of Containers	VOCs							Comments	Lab ID	Lab Receipt Time	Date	Time	88-114-6-10-101718	10/17/18	1020	GW	2									-01	1040																																																																																																																																																																						Address 2:		
Sample Description	Collection						Matrix	Total # of Containers													VOCs							Comments	Lab ID	Lab Receipt Time																																																																																																																																																																															
	Date					Time																																																																																																																																																																																																							
88-114-6-10-101718	10/17/18	1020	GW	2									-01	1040																																																																																																																																																																																															
If Rush, Report Due Date:		Sampled By (Print): ASHLEY REIBEL				E-mail Address:																																																																																																																																																																																																							
Sampled By (Print): ASHLEY REIBEL						Invoice To:																																																																																																																																																																																																							
Sample Description						Company:																																																																																																																																																																																																							
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						Address 2:																																																																																																																																																																																																							
Preservation Codes		Relinquished By: Ashley Reibel				Date: 10/20/18		Time: 1035		Received By: Colin Mack		Date: 1		Time: 1040																																																																																																																																																																																															
Other Comments:		Relinquished By:				Date:		Time:		Received By:		Date:		Time:																																																																																																																																																																																															
Matrix Codes		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Walter		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																																																																																																																																																	



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CHAIN OF CUSTODY

No. 9976

Page: 2 of 5

Project Number: <u>M1001454.0002.0001A</u> PO Number:					Lab Work Order #: <u>V184207</u>			Report To:					
Project Name: <u>FORD LTP</u>					Preservation Codes			Company:					
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested			Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix	Total # of Containers	8260B	8260B-SIM	Address 2:				
If Rush, Report Due Date:									E-mail Address:				
Sampled By (Print): <u>CAITLIN O'NEILL</u>									Invoice To:				
									Company:				
									Address 1:				
					Address 2:								
Sample Description	Collection		Matrix	Total # of Containers	8260B	8260B-SIM	Comments		Lab ID	Lab Receipt Time			
	Date	Time											
<u>SB-112-10-14-101718</u>	<u>10/16/18</u>	<u>11:20</u>					<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-02</u>	
<u>SB-112-15-19-101718</u>	<u>10/16/18</u>	<u>11:05</u>					<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-03</u>	
<u>SB-112-20-24-101718</u>	<u>10/17/18</u>	<u>10:35</u>					<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-04</u>	
Preservation Codes		Other Comments:			Relinquished By:		Date:	Time:	Received By:				
A=None B=HCL C=H ₂ SO ₄					<u>Caitlin O'Neill</u>		<u>10/17/18</u>	<u>1130</u>	<u>Caitlin O'Neill</u>				
D=HNO ₃ E=EnCore F=Methanol					Relinquished By:		Date:	Time:	Received By:				
G=NaOH O=Other (Indicate)													
Matrix Codes					Custody Seal:		Shipped Via:		Receipt Temp:				
A=Air S=Soil W=Water O=Other					<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		<u>Will in</u>		<u>NA</u>				
									Thermometer #/ Exp. Date:				
									<u>NA</u>				
									Temp Blank:				
									<input type="checkbox"/> Y <input type="checkbox"/> N				



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CHAIN OF CUSTODY

No. 10238

Page: 5 of 5 *cut 10/18/18*

Project Number: <i>M1001454 0002 0001A</i> PO Number:				Lab Work Order #: <i>V184207</i>				Report To: <i>EMAILLIST</i>							
Project Name: <i>FORD LTP</i>				Preservation Codes				Company: <i>ARCADIS</i>							
Project Location (City, State): <i>LIVONIA, MI</i>				Analyses Requested				Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix				Address 2:							
If Rush, Report Due Date:								E-mail Address:							
Sampled By (Print): <i>ASHLEY REIBEL</i>				Total # of Containers <i>VOCs</i>				Invoice To:							
Sample Description								Company:							
				Address 1:											
Collection Date Time				Address 2:				Comments		Lab ID	Lab Receipt Time				
				SB-117-8-12-101718				10/17/18 1505 GW 2 X						-091	1535
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <i>Ashley Reibel</i>		Date: <i>10/17/18</i>	Time: <i>1535</i>	Received By: <i>Cole Hall</i>	Date: <i>10/17/18</i>	Time: <i>1535</i>	
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Walk in</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10021

Page: 1 of 5

Lab Work Order #: V184208	Report To: Email USB		
Preservation Codes	Company: AREADIS		
Analyses Requested	Address 1:		
	Address 2:		
	E-mail Address:		
	Invoice To:		
	Company:		
	Address 1:		
	Address 2:		
	Comments	Lab ID	Lab Receipt Time

Project Number: M1001454 0002 0001A Number:
Project Name: FORD LTP
Project Location (City, State): LIVONIA MI

Turn Around (check one): Normal Rush
If Rush, Report Due Date:

Sampled By (Print): ASHLEY REIBEL

Sample Description	Collection		Matrix	Total # of Containers	VOCs													
	Date	Time																
SB-114-1-2-101718	10/17/18	0955	S	2	X													
SB-114-2-3-101718		1003	S	2	X													
SB-114-3-4-101718		0957	S	2	X													
SB-114-4-5-101718		0959	S	2	X													
SB-114-5-6-101718		1001	S	2	X													

Preservation Codes
A=None B=HCl C=H₂SO₄
D=HNO₃ E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: Ashley Reibel Date: 10/17/18 Time: 1:55

Relinquished By: Date: Time:

Custody Seal: NA Intact Not Intact

Shipped Via: Walk in

Receipt Temp: NA

Thermometer #/ Exp. Date: NA

Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10019

Page: 2 of 5

Lab Work Order #: **V184208**

Report To: _____
 Company: _____

Project Number: **MI601454.0002.0001A** PO Number: _____

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date: _____

Sampled By (Print): **CAITLIN O'NEILL**

Sample Description	Collection		Matrix	Total # of Containers	8260B	8260B-SIM
	Date	Time				
SB-112_1-2_101718	10/17/18	0905	S	2	X	X
SB-112_3-4_101718	10/17/18	0910	S	2	X	X
SB-112_5-6_101718	10/17/18	0915	S	2	X	X
SB-112_6-7_101718	10/17/18	0920	S	2	X	X
SB-112_7-8_101718	10/17/18	0925	S	2	X	X
SB-112_2425_101718	10/17/18	0940	S	2	X	X

Preservation Codes

Analyses Requested

E-mail Address: _____

Invoice To: _____

Company: _____

Address 1: _____

Address 2: _____

Comments	Lab ID	Lab Receipt Time
	-06	1135
	-07	↓
	-08	↓
	-09	↓
	-10	↓
	-11	↓

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Caitlin O'Neill*

Date: *10/17/18* Time: *1130*

Received By: *Con Hall*

Date: *10/17/18* Time: *1135*

Relinquished By: _____

Date: _____ Time: _____

Received By: _____

Date: _____ Time: _____

Custody Seal:
 NA Intact Not Intact

Shipped Via: *Walt*

Receipt Temp: *NA*

Thermometer #/ Exp. Date: *NA*
 Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10254

Page: 4 of 5

Project Number: <u>M1081454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184208</u>				Report To:																					
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																					
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">Matrix</td> <td style="width:5%;">Total # of Containers</td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td></td> <td></td> <td style="text-align:center;"><u>8260B</u></td> <td style="text-align:center;"><u>8260B-SJM</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Matrix	Total # of Containers											<u>8260B</u>	<u>8260B-SJM</u>							Address 2:	
Matrix	Total # of Containers																												
		<u>8260B</u>	<u>8260B-SJM</u>																										
If Rush, Report Due Date:								E-mail Address:																					
Sampled By (Print): <u>CAITLIN O'NEILL</u>								Invoice To:																					
Sample Description				Collection				Company:																					
								Date		Time		Address 1:																	
								Address 2:																					
								Comments																					
								Lab ID																					
								Lab Receipt Time																					
<u>SB-116-1-2-101718</u>								<u>-17</u>																					
<u>SB-116-3-4-101718</u>								<u>-18</u>																					
<u>SB-116-5-6-101718</u>								<u>-19</u>																					
<u>SB-116-6-7-101718</u>								<u>-20</u>																					
<u>SB-116-7-8-101718</u>								<u>-21</u>																					
<u>SB-116-21-22-101718</u>								<u>-22</u>																					
<u>DUP-23-101718 *</u>																													
<u>cc 10/17/18</u>																													
<u>DUP-23-101718</u>								<u>-27</u>																					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: <u>* cc 10/17/18</u>		Relinquished By: <u>Caitlin O'Neill</u>		Date: <u>10/17/18</u>		Time: <u>1515</u>		Received By: <u>Colin Analt</u>		Date: <u>10/17/18</u>		Time: <u>1520</u>															
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:															
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>				Receipt Temp: <u>NA</u>				Thermometer #/ Exp. Date: <u>NA</u>																	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																					



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CHAIN OF CUSTODY

No. 10242

Page: 1 of 1

Project Number: <u>MICU154.0002.0001A</u> PO Number:				Lab Work Order #: <u>V18+209</u>				Report To: <u>EMAILLOF</u>																																										
Project Name: <u>FORD ITP</u>				Preservation Codes				Company: <u>ARMAS</u>																																										
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																																										
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:																																										
If Rush, Report Due Date:								E-mail Address:																																										
Sampled By (Print): <u>ASHLEY REBEL</u>				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> </tr> <tr> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td colspan="2">Collection</td> <td rowspan="2" style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td rowspan="2"></td> <td rowspan="2"></td> </tr> <tr> <td>Date</td> <td>Time</td> </tr> <tr> <td colspan="4" style="text-align: center;">Sample Description</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="4" style="height: 100px; vertical-align: top;"> <u>SB-120 - 8-12 - 101818</u> </td> <td style="text-align: center;"><u>10/18/18</u></td> <td style="text-align: center;"><u>1050</u></td> <td style="text-align: center;"><u>GNW</u></td> <td style="text-align: center;"><u>2</u></td> <td style="text-align: center;"><u>X</u></td> <td colspan="3"></td> <td style="text-align: center;"><u>-02</u></td> </tr> </table>										Matrix	Collection		Total # of Containers			Date	Time	Sample Description												<u>SB-120 - 8-12 - 101818</u>				<u>10/18/18</u>	<u>1050</u>	<u>GNW</u>	<u>2</u>	<u>X</u>				<u>-02</u>	Invoice To:			
Matrix	Collection		Total # of Containers																																															
	Date	Time																																																
Sample Description																																																		
<u>SB-120 - 8-12 - 101818</u>				<u>10/18/18</u>	<u>1050</u>	<u>GNW</u>	<u>2</u>	<u>X</u>				<u>-02</u>																																						
								Company:																																										
								Address 1:																																										
								Address 2:																																										
								Comments		Lab ID		Lab Receipt Time																																						
										<u>-02</u>																																								

Preservation Codes

A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes

A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: Ashley Rebel Date: 10/18/18 Time: 1135

Relinquished By: _____ Date: _____ Time: _____

Received By: Cole Hall Date: 10/18/18 Time: 1135

Received By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Shipped Via: WALTON

Receipt Temp: NA

Thermometer #/ Exp. Date: NA

Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10255

Page: of:

Project Number: <u>WI1801454-0802-0001A</u> PO Number:					Lab Work Order #: <u>V184209</u>			Report To:									
Project Name: <u>FORD LTP</u>					Preservation Codes			Company:									
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested			Address 1:									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix	Total # of Containers	Address 2:										
If Rush, Report Due Date:							E-mail Address:										
Sampled By (Print): <u>CAITLIN O'NEILL</u>							Invoice To:										
Sample Description					Collection Date Time Matrix Total # of Containers			Company:									
								Address 1:									
								Address 2:									
								Comments		Lab ID	Lab Receipt Time						
<u>SB-119-25-29-101818</u>					<u>10/18/18</u>	<u>1215</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-03</u>	<u>1320</u>				
<u>SB-119-20-24-101818</u>					<u>10/18/18</u>	<u>1235</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-04</u>	<u>↓</u>				
<u>SB-119-15-19-101818</u>					<u>10/18/18</u>	<u>1255</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-05</u>	<u>↓</u>				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)					Other Comments:					Relinquished By: <u>Caithlin O'Neill</u>		Date: <u>10/18/18</u>	Time: <u>1310</u>	Received By: <u>Coleen A...</u>		Date: <u>10/18/18</u>	Time: <u>1320</u>
										Relinquished By:		Date:	Time:	Received By:		Date:	Time:
Matrix Codes A=Air S=Soil W=Water O=Other					Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			

Rev. 12/15



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CHAIN OF CUSTODY

No. 10245

Page: 1 of 1

Project Number: <u>MIDWATER 0002-0001A</u> PO Number:				Lab Work Order #: <u>V184209</u>				Report To:							
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:							
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix	Total # of Containers					E-mail Address:					
If Rush, Report Due Date:										Invoice To:					
Sampled By (Print): <u>Ashley Rebel</u>				VOCs						Company:					
Sample Description										Address 1:					
										Address 2:					
										Comments					
										Lab ID					
										Lab Receipt Time					
<u>DUP-24-101818</u>				<u>01/18</u>	<u>---</u>	<u>2</u>	<u>GW</u>	<u>X</u>			<u>-07</u>				
<u>SB-123-8-12-101818</u>				<u>L</u>	<u>1540</u>	<u>2</u>	<u>GW</u>	<u>X</u>			<u>-08</u>				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Rebel</u>		Date: <u>10/18/18</u>		Time: <u>1558</u>		Received By: <u>Columbian</u>		Date: <u>10/18/18</u>		Time: <u>1558</u>	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Wife in</u>				Receipt Temp: <u>NA</u>				Thermometer #/ Exp. Date: <u>NA</u>			
												Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 10258

Page: _____ of: _____

Project Number: <u>M1001454.0002.0001A</u> PO Number: _____		Lab Work Order #: <u>V1842109</u>		Report To: _____										
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: _____										
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1: _____										
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2: _____										
If Rush, Report Due Date: _____				E-mail Address: _____										
Sampled By (Print): <u>CAITLIN O'NEILL</u>				Invoice To: _____										
				Company: _____										
				Address 1: _____										
				Address 2: _____										
Sample Description	Collection		Matrix	Total # of Containers	8260B	8260B-SIM						Comments	Lab ID	Lab Receipt Time
	Date	Time												
SB-122-25-29-101818	10/18/18	1545	GW	2	X	X							-09	
SB-122-20-24-101818	10/18/18	1610	GW	2	X	X							-10	
SB-122-15-19-101818	10/18/18	1630	GW	2	X	X							-11	
DUP-25-101818	10/18/18	---	GW	2	X	X							-12	
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:		Relinquished By: <u>Caitlin O'Neill</u>		Date: <u>10/18/18</u>	Time: <u>1645</u>	Received By: <u>[Signature]</u>		Date: <u>10/18/18</u>	Time: <u>1645</u>				
Matrix Codes A=Air S=Soil W=Water O=Other			Relinquished By:		Date:	Time:	Received By:		Date:	Time:				
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

No. 10239

Page: 1 of 1

Lab Work Order #: V184210		Report To: EMANUELE	
Preservation Codes		Company: ARCADIS	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
		Invoice To:	
		Company:	
		Address 1:	
		Address 2:	
		Comments	
		Lab ID	
		Lab Receipt Time	

Project Number: **M1001454-0002-0001A** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REIBEL**

Sample Description	Collection		Matrix	Total # of Containers	VOCs
	Date	Time			
SB-118-1-2-101818	10/18/18	0844	S	2	X
SB-118-2-3-101818		0846	S	2	X
SB-118-3-4-101818		0848	S	2	X
SB-118-4-5-101818		0850	S	2	X
SB-118-5-6-101818		0852	S	2	X

Preservation Codes
 A=None B=HCl C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Ashley Reibel*
 Relinquished By: _____
 Custody Seal:
 NA Intact Not Intact

Date: **10/18/18** Time: **0920**
 Date: _____ Time: _____
 Shipped Via: **Walk in**

Received By: **Coleen Small**
 Received By: _____
 Receipt Temp: **NA**
 Thermometer #/ Exp. Date: **NA**

Date: **10/18/18** Time: **0920**
 Date: _____ Time: _____
 Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10241

Page: 1 of 1

Project Number: <u>MICONS4 0002 0001A</u> PO Number:				Lab Work Order #: <u>V184210</u>				Report To: <u>EMAN USB</u>																																																																																
Project Name: <u>FORD LTP</u>				Preservation Codes				Company: <u>ARCADIS</u>																																																																																
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:																																																																																
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> <td style="width:15%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);"><u>VOCs</u></td> <td></td> <td></td> <td></td> </tr> </table>										Matrix	Total # of Containers	<u>VOCs</u>				Address 2:																																																																				
Matrix	Total # of Containers	<u>VOCs</u>																																																																																						
If Rush, Report Due Date:				E-mail Address:																																																																																				
Sampled By (Print): <u>ASHLEY REIBEL</u>				Invoice To:				Company:																																																																																
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td><u>SB-120-1-2-101818</u></td> <td><u>10/10/18</u></td> <td><u>1036</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-06</u></td> <td></td> </tr> <tr> <td><u>SB-120-3-4-101818</u></td> <td><u>I</u></td> <td><u>1038</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-07</u></td> <td></td> </tr> <tr> <td><u>SB-120-5-6-101818</u></td> <td><u>I</u></td> <td><u>1040</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-08</u></td> <td></td> </tr> <tr> <td><u>SB-120-7-8-101818</u></td> <td><u>I</u></td> <td><u>1042</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-09</u></td> <td></td> </tr> </tbody> </table>				Sample Description	Collection		Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time	Date	Time	<u>SB-120-1-2-101818</u>	<u>10/10/18</u>	<u>1036</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-06</u>		<u>SB-120-3-4-101818</u>	<u>I</u>	<u>1038</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-07</u>		<u>SB-120-5-6-101818</u>	<u>I</u>	<u>1040</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-08</u>		<u>SB-120-7-8-101818</u>	<u>I</u>	<u>1042</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-09</u>		Address 1:				Address 2:			
					Sample Description	Collection													Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time																																																										
				Date		Time																																																																																		
				<u>SB-120-1-2-101818</u>	<u>10/10/18</u>	<u>1036</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-06</u>																																																																							
				<u>SB-120-3-4-101818</u>	<u>I</u>	<u>1038</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-07</u>																																																																							
<u>SB-120-5-6-101818</u>	<u>I</u>	<u>1040</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-08</u>																																																																											
<u>SB-120-7-8-101818</u>	<u>I</u>	<u>1042</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-09</u>																																																																											
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments: Relinquished By: <u>Ashley Reibel</u> Date: <u>10/10/18</u> Time: <u>1135</u> Relinquished By: _____ Date: _____ Time: _____				Received By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____																																																																																
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																										



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CHAIN OF CUSTODY

No. 10256

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Project Number: <u>M1001454.0002.0001A</u> PO Number:		Lab Work Order #: <u>V1842.0</u>		Report To:											
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:											
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align:center;">Matrix</td> <td style="width:50%; text-align:center;">Total # of Containers</td> </tr> <tr> <td style="text-align:center;">8260B</td> <td style="text-align:center;">8260B-SIM</td> </tr> </table>		Matrix	Total # of Containers	8260B	8260B-SIM	Address 2:							
Matrix	Total # of Containers														
8260B	8260B-SIM														
If Rush, Report Due Date:				E-mail Address:											
Sampled By (Print): <u>CAITLIN O'NEILL</u>		Invoice To:													
Sample Description		Collection Date Time		Company:											
				Address 1:											
				Address 2:											
				Comments	Lab ID	Lab Receipt Time									
<u>SB-119-1-2-101818</u>		<u>10/18/18 0945</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-10</u>						
<u>SB-119-5-6-101818</u>		<u>10/18/18 0950</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-11</u>						
<u>SB-119-7-8-101818</u>		<u>10/18/18 0955</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-12</u>						
<u>SB-119-9-10-101818</u>		<u>10/18/18 1000</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-13</u>						
<u>SB-119-11-12-101818</u>		<u>10/18/18 1005</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-14</u>						
<u>SB-119-19-20-101818</u>		<u>10/18/18 1015</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-15</u>						
<u>SB-119-23.5-24.5-101818</u>		<u>10/18/18 1020</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-16</u>						
<u>SB-119-26-27-101818</u>		<u>10/18/18 1030</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-17</u>						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Caithlin O'Neill</u> Relinquished By:		Date: <u>10/18/18</u> Date:		Time: <u>1310</u> Time:		Received By: <u>Colin Arch</u> Received By:		Date: <u>10/18/18</u> Date:		Time: <u>1320</u> Time:	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

No. 10257

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Project Number: <u>M1001454 0822 0521A</u> PO Number:				Lab Work Order #: <u>V184210</u>				Report To:			
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:			
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>8260B</u> <u>8260B-SIM</u>				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>CAITLIN O'NEILL</u>								Invoice To:			
								Company:			
								Address 1:			
								Address 2:			
Sample Description			Collection				Comments		Lab ID	Lab Receipt Time	
			Date	Time							
<u>SB-122-1-2-101818</u>			<u>10/18/18</u>	<u>1455</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-23</u>		
<u>SB-122-5-6-101818</u>			<u>10/18/18</u>	<u>1500</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-24</u>		
<u>SB-122-7-8-101818</u>			<u>10/18/18</u>	<u>1505</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-25</u>		
<u>SB-122-9-10-101818</u>			<u>10/18/18</u>	<u>1510</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-26</u>		
<u>SB-122-11-12-101818</u>			<u>10/18/18</u>	<u>1515</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-27</u>		
<u>SB-122-19-20-101818</u>			<u>10/18/18</u>	<u>1520</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-28</u>		
<u>SB-122-23.5-24.5-101818</u>			<u>10/18/18</u>	<u>1525</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-29</u>		
<u>SB-122-26-27-101818</u>			<u>10/18/18</u>	<u>1530</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-30</u>		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Caitlin O'Neill</u>		Date: <u>10/18/18</u>	Time: <u>15:45</u>	Received By: <u>Colin Fran</u>		Date: <u>10/18/18</u>	Time: <u>1545</u>
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Received By:		Date:	Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10246

Page: | of: |

Project Number: <u>M100454.0002-0001A</u> PO Number:		Lab Work Order #: <u>V18+210</u>		Report To:	
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:	
Project Location (City, State): <u>LIVONIA MI</u>		Analyses Requested		Address 1:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:	
If Rush, Report Due Date:				E-mail Address:	
Sampled By (Print): <u>ASHLEY REBEL</u>				Invoice To:	
				Company:	
				Address 1:	
				Address 2:	
				Comments	
				Lab ID	
				Lab Receipt Time	
Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	
<u>SB-123-1-2-101818</u>	<u>10/18/18</u>	<u>1524</u>	<u>S</u>	<u>2</u>	<u>X</u>
<u>SB-123-3-4-101818</u>		<u>1526</u>	<u>S</u>	<u>2</u>	<u>X</u>
<u>SB-123-4-5-101818</u>		<u>1528</u>	<u>S</u>	<u>2</u>	<u>X</u>
<u>SB-123-5-6-101818</u>		<u>1530</u>	<u>S</u>	<u>2</u>	<u>X</u>
<u>SB-123-7-8-101818</u>		<u>1532</u>	<u>S</u>	<u>2</u>	<u>X</u>

Preservation Codes
 A=None B=HCl C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:
 * Wrong time on chain.

Relinquished By: [Signature]
 Relinquished By:

Date: 10/18/18 Time: 1558
 Date: Time:

Received By: [Signature]
 Received By:

Date: 10/18/18 Time: 1558
 Date: Time:

Custody Seal:
 NA Intact Not Intact

Shipped Via: Walkein

Receipt Temp: NA

Thermometer #/ Exp. Date: NA
 Temp Blank: Y N



Pace Analytical - ECCS Division
 2525 Advance Road
 Madison, WI 53718
 608-221-8700 (phone)
 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10267

Page: 2 of 3

Project Number: <u>M1081454.0332.0001A</u> PO Number:		Lab Work Order #: <u>V184301</u>		Report To:											
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:											
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:											
If Rush, Report Due Date:				E-mail Address:											
Sampled By (Print): <u>Caitlin O'Neill</u>				Invoice To:											
				Company:											
				Address 1:											
				Address 2:											
Sample Description	Collection		Matrix	Total # of Containers	8260B	8260B-SIM					Comments	Lab ID	Lab Receipt Time		
	Date	Time													
<u>SB-125-6-10-101918</u>	<u>10/19/18</u>	<u>1050</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>						<u>-02</u>			
<u>SB-126-6-10-101918</u>	<u>10/19/18</u>	<u>1415</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>						<u>-03</u>			
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Caitlin O'Neill</u>		Date: <u>10/19/18</u>		Time: <u>15:30</u>		Received By: <u>[Signature]</u>		Date: <u>10/22/18</u>		Time: <u>1603</u>	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walk-in</u>		Receipt Temp: <u>3.9°C</u>		Thermometer #/ Exp. Date: <u>181303091 / 9/1/19</u>		Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N					

For Sample left in fridge #38



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 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10268

Page: 2 of 3

Project Number: <u>W1001454 1232 0031A</u> PO Number:					Lab Work Order #: <u>V184302</u>					Report To:																																																																																																																																																																																									
Project Name: <u>FORD LTP</u>					Preservation Codes					Company:																																																																																																																																																																																									
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested					Address 1:																																																																																																																																																																																									
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Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments: 	Relinquished By: <u>Caithlin O'Neill</u> Date: <u>10/19/18</u> Time: <u>15:30</u> Relinquished By: Date: Time:	Received By: <u>Colin Anelli</u> Date: <u>10/22/18</u> Time: <u>1600</u> Received By: Date: Time:
Matrix Codes A=Air S=Soil W=Water O=Other	Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: <u>Walton</u> Receipt Temp: <u>5.9°C</u> Thermometer #/ Exp. Date: <u>181303091 / 9/7/19</u>	Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N

Samples left in fridge #38.



Pace Analytical - ECCS Division
 2525 Advance Road
 Madison, WI 53718
 608-221-8700 (phone)
 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10233

Page: X³ of: V³ *CEL 10/22/18*

Project Number: <u>M1001454.0002.0001A</u>		Project Name: <u>FORD LTP</u>		Project Location (City, State): <u>LIVONIA MI</u>		Lab Work Order #: <u>V184302</u>		Report To:		Company:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		If Rush, Report Due Date:		Sampled By (Print): <u>ASHLEY REIBEL</u>		Preservation Codes		Address 1:		Address 2:	
Sample Description		Collection Date Time		Matrix		Total # of Containers		Analyses Requested		E-mail Address:	
SB-127-1-2-102218		10/22/18 1432		S		2		X		Invoice To:	
SB-127-5-6-102218		1444		S		2		X		Company:	
SB-127-7-8-102218		1450		S		2		X		Address 1:	
SB-127-9-10-102218		1454		S		2		X		Address 2:	
SB-127-11-12-102218		1458		S		2		X		Comments	
SB-127-19-20-102218		1512		S		2		X		Lab ID	
SB-127-23.5-24.5-102218		1514		S		2		X		Lab Receipt Time	
SB-127-26-27-102218		1516		S		2		X			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/22/18</u>		Time: <u>1625</u>		Received By: <u>Coleman Smith</u>	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Date: <u>10/22/18</u>	
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NR</u>	
										Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



Pace Analytical - ECCS Division
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 Madison, WI 53718
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 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10210

Page: 1 of: 1

Project Number: <u>M1001454-0002-0001A</u> PO Number:				Lab Work Order #: <u>V184303</u>				Report To:																																																																																																																																																																						
Project Name: <u>FURDLTP</u>				Preservation Codes				Company:																																																																																																																																																																						
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:																																																																																																																																																																						
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">VOC</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>SB-128-20-24-102318</td> <td>10/23/18</td> <td>1650</td> <td>GW</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>04</td> <td></td> </tr> <tr> <td>SB-128-15-19-102318</td> <td>L</td> <td>1710</td> <td>GW</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-05</td> <td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				Sample Description	Collection		Matrix	Total # of Containers	VOC							Comments	Lab ID	Lab Receipt Time	Date	Time	SB-128-20-24-102318	10/23/18	1650	GW	2	X								04		SB-128-15-19-102318	L	1710	GW	2	X								-05																																																																																																																										Address 1:		Address 2:	
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Relinquished By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walk in</u> Receipt Temp: <u>NA</u> Thermometer #/ Exp. Date: <u>NA</u> Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																																																																																																																								



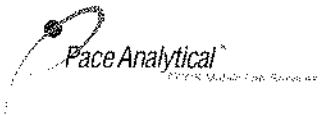
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CHAIN OF CUSTODY

No. 10259

Page: 1 of 1

Project Number: <u>MILWAUKEE 0002 0001A</u> PO Number:		Lab Work Order #: <u>V184304</u>		Report To:																																									
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:																																									
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																																									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td colspan="8"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">S</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">2</td> <td colspan="8" style="text-align: center; vertical-align: middle;"><u>VACS</u></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">S</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">2</td> <td colspan="8"></td> </tr> </table>												Matrix	Total # of Containers									S	2	<u>VACS</u>								S	2									Address 2:	
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If Rush, Report Due Date:				E-mail Address:																																									
Sampled By (Print): <u>ASHLEY REIBEL</u>				Invoice To:																																									
Sample Description		Collection		Company:																																									
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				Comments		Lab ID		Lab Receipt Time																																					
<u>UFHP-128_1-2-102318</u>		<u>10/23/18</u>	<u>1214</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>ms/MSD</u>		<u>-01</u>																																				
<u>UFHP-128_3-4-102318</u>			<u>1216</u>	<u>S</u>	<u>2</u>	<u>X</u>			<u>-02</u>																																				
<u>UFHP-128_5-6-102318</u>			<u>1218</u>	<u>S</u>	<u>2</u>	<u>X</u>			<u>-03</u>																																				
<u>UFHP-128_7-8-102318</u>			<u>1220</u>	<u>S</u>	<u>2</u>	<u>X</u>			<u>-04</u>																																				
<u>UFHP-128_9-10-102318</u>			<u>1222</u>	<u>S</u>	<u>2</u>	<u>X</u>			<u>-05</u>																																				
<u>UFHP-128_19-20-102318</u>			<u>1242</u>	<u>S</u>	<u>2</u>	<u>X</u>			<u>-06</u>																																				
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Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u> Date: <u>10/23/18</u> Time: <u>1430</u>		Received By: <u>Colin Smith</u> Date: <u>10/23/18</u> Time: <u>1430</u>																																							
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Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Work in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																					



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CHAIN OF CUSTODY

No. 10250

Page: | of: |

Project Number: <u>W1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184304</u>				Report To:			
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:			
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs</u>				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:			
								Company:			
Sample Description				Collection		Address 1:		Address 2:			
				Date	Time	Matrix	Total # of Containers	Comments		Lab ID	Lab Receipt Time
<u>SB-128-1-2-102318</u>				<u>10/23/18</u>	<u>1748</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-08</u>		
<u>SB-128-5-6-102318</u>					<u>1750</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-09</u>		
<u>SB-128-7-8-102318</u>					<u>1752</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-10</u>		
<u>SB-128-9-10-102318</u>					<u>1754</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-11</u>		
<u>SB-128-11-12-102318</u>					<u>1756</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-12</u>		
<u>SB-128-19-20-102318</u>					<u>1758</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-13</u>		
<u>SB-128-23.5-24.5-102318</u>					<u>*1600</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-14</u>		
<u>SB-128-26-27-102318</u>					<u>*1602</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-15</u>		
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: <u>* Actual time is 1800 & 1802, respectively.</u>		Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/23/18</u>	Time: <u>1830</u>	Received By: <u>Colin [Signature]</u>		Date: <u>10/23/18</u>	Time: <u>1830</u>
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Received By:		Date:	Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10261

Page: 1 of 1

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184305</u>				Report To:																																																	
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																																																	
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																																																	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td colspan="6" style="text-align:center; vertical-align: middle;"><u>VOCs</u></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Sample Description</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Collection Date</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Collection Time</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Comments</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Lab ID</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Lab Receipt Time</td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">SB-129-22-26-102418</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">10/24/18</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">1155</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">GW</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">2</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">X</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">-01</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">SB-129-11-20-102418</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);"> </td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">1215</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">GW</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">2</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">X</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">-02</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">SB-129-11-15-102418</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);"> </td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">1230</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">GW</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">2</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">X</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">-03</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);"></td> </tr> </table>												Matrix	Total # of Containers	<u>VOCs</u>						Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time	SB-129-22-26-102418	10/24/18	1155	GW	2	X	-01		SB-129-11-20-102418		1215	GW	2	X	-02		SB-129-11-15-102418		1230	GW	2	X	-03		Address 2:	
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CHAIN OF CUSTODY

No. 10263

Page: 1 of 1

Project Number: <u>M1001454 0002 0001A</u> PO Number:		Lab Work Order #: <u>V184305</u>		Report To:									
Project Name: <u>FORD CTP</u>		Preservation Codes		Company:									
Project Location (City, State): <u>LIVONIA MI</u>		Analyses Requested		Address 1:									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td style="width:100px; text-align:center;">Matrix</td><td style="width:100px; text-align:center;">Total # of Containers</td></tr> <tr><td style="text-align:center;">GW</td><td style="text-align:center;">2</td></tr> <tr><td style="text-align:center;">AW</td><td style="text-align:center;">2</td></tr> <tr><td style="text-align:center;">AW</td><td style="text-align:center;">2</td></tr> </table>		Matrix	Total # of Containers	GW	2	AW	2	AW	2	Address 2:	
Matrix	Total # of Containers												
GW	2												
AW	2												
AW	2												
If Rush, Report Due Date:		E-mail Address:		Invoice To:									
Sampled By (Print): <u>ASHLEY REIBEL</u>		Company:		Address 1:									
Sample Description		Collection		Address 2:									
		Date	Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time					
SB-130-21-25-102418		10/24/18	1555	GW	2	X		-04					
SB-130-11-20-102418		1	1615	AW	2	X		-05					
SB-130-11-15-102418		1	1635	AW	2	X		-06					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: Relinquished By: <u>Ashley Reibel</u> Date: <u>10/24/18</u> Time: <u>1650</u>		Received By: <u>Coleman</u> Date: <u>10/24/18</u> Time: <u>1650</u>									
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By: _____ Date: _____ Time: _____		Received By: _____ Date: _____ Time: _____									
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>									
Thermometer #/ Exp Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N											



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CHAIN OF CUSTODY

No. 10260

Page: | of: |

Project Number: <u>M1001454.0002.0001A</u> PO Number:					Lab Work Order #: <u>V184306</u>			Report To:																																																																																																										
Project Name: <u>FORD LTP</u>					Preservation Codes			Company:																																																																																																										
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested			Address 1:																																																																																																										
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:																																																																																																										
If Rush, Report Due Date:								E-mail Address:																																																																																																										
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:																																																																																																										
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">VOCs</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>SB-129-1-2-102418</td> <td>10/24/18</td> <td>1100</td> <td>S</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-01</td> <td></td> </tr> <tr> <td>SB-129-3-4-102418</td> <td> </td> <td>1102</td> <td>S</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-02</td> <td></td> </tr> <tr> <td>SB-129-6-7-102418</td> <td> </td> <td>1114</td> <td>S</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-03</td> <td></td> </tr> <tr> <td>SB-129-7-8-102418</td> <td> </td> <td>1116</td> <td>S</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-04</td> <td></td> </tr> <tr> <td>SB-129-9-10-102418</td> <td> </td> <td>1118</td> <td>S</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-05</td> <td></td> </tr> <tr> <td>SB-129-24-25-102418</td> <td> </td> <td>1200</td> <td>S</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-06</td> <td></td> </tr> </tbody> </table>								Sample Description	Collection		Matrix	Total # of Containers	VOCs							Comments	Lab ID	Lab Receipt Time	Date	Time	SB-129-1-2-102418	10/24/18	1100	S	2	X								-01		SB-129-3-4-102418		1102	S	2	X								-02		SB-129-6-7-102418		1114	S	2	X								-03		SB-129-7-8-102418		1116	S	2	X								-04		SB-129-9-10-102418		1118	S	2	X								-05		SB-129-24-25-102418		1200	S	2	X								-06	
					Sample Description	Collection			Matrix	Total # of Containers													VOCs							Comments	Lab ID	Lab Receipt Time																																																																																		
Date	Time																																																																																																																	
SB-129-1-2-102418	10/24/18	1100	S	2	X								-01																																																																																																					
SB-129-3-4-102418		1102	S	2	X								-02																																																																																																					
SB-129-6-7-102418		1114	S	2	X								-03																																																																																																					
SB-129-7-8-102418		1116	S	2	X								-04																																																																																																					
SB-129-9-10-102418		1118	S	2	X								-05																																																																																																					
SB-129-24-25-102418		1200	S	2	X								-06																																																																																																					
								Address 1:																																																																																																										
								Address 2:																																																																																																										
<p>Preservation Codes A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</p> <p>Matrix Codes A=Air S=Soil W=Water O=Other</p>					Relinquished By: <u>Ashley Reibel</u> Date: <u>10/24/18</u> Time: <u>1240</u> Relinquished By: _____ Date: _____ Time: _____			Received By: <u>Colleen Ansel</u> Date: <u>10/24/18</u> Time: <u>1240</u> Received By: _____ Date: _____ Time: _____																																																																																																										
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact					Shipped Via: <u>WALK CO</u>			Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																																																						



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CHAIN OF CUSTODY

No. 10262

Page: 1 of 1

Project Number: M100M54.0002.0001A PO Number:				Lab Work Order #: V184306				Report To:			
Project Name: FORD LTP				Preservation Codes				Company:			
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): ASHLEY REBEL								Invoice To:			
								Company:			
								Address 1:			
								Address 2:			
								Comments		Lab ID	Lab Receipt Time
Sample Description		Collection Date Time		Matrix	Total # of Containers						
SB-130-1-2-102418		10/24/18 1500		S	2	X				-07	
SB-130-2-3-102418		1502		S	2	X				-08	
SB-130-3-4-102418		1504		S	2	X				-09	
SB-130-7-8-102418		1506		S	2	X				-10	
SB-130-9-10-102418		1508		S	2	X				-11	
SB-130-21-22-102418		1524		S	2	X				-12	
SB-130-24-25-102418		1526		S	2	X				-13	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>Ashley Rebel</i> Date: 10/24/18		Time: 1650		Received By: <i>Coleman</i> Date: 10/24/18		Time: 1650	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Received By:		Date:	
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: WALK IN		Receipt Temp: NA		Thermometer #/ Exp. Date: NA	
										Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10265

Page: 1 of 12 *CIA 10/25/18*

Project Number: <i>M1001454 0002 0001A</i>		PO Number:		Lab Work Order #: <i>V184307</i>		Report To:					
Project Name: <i>FORD LTP</i>		Preservation Codes		Analyses Requested		Company:					
Project Location (City, State): <i>LIVONIA MI</i>		Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix		Address 1:					
If Rush, Report Due Date:		Sampled By (Print): <i>ASHLEY REIBL</i>		Total # of Containers: <i>V O C S</i>		Address 2:					
Sample Description		Collection		Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time			
		Date	Time								
<i>LIFHP-112-21-25-102418</i>		<i>10/24/18</i>	<i>1850</i>	<i>W</i>	<i>2</i>	<i>X</i>	<i>-01</i>				
<i>LIFHP-112-15-19-102418</i>		<i>↓</i>	<i>1910</i>	<i>W</i>	<i>2</i>	<i>X</i>	<i>-02</i>				
<i>LIFHP-112-16-14-102418</i>		<i>↓</i>	<i>1930</i>	<i>W</i>	<i>2</i>	<i>X</i>	<i>-03</i>				
Preservation Codes		Other Comments:		Relinquished By: <i>Ashley Reibl</i>		Date: <i>10/24/18</i>	Time: <i>1940</i>	Received By: <i>Coleman</i>	Date: <i>10/25/18</i>	Time: <i>0845</i>	
A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Relinquished By:		Date:	Time:	Received By:	Date:	Time:	
Matrix Codes		Custody Seal:		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank:	
A=Air S=Soil W=Water O=Other		<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		<i>Walk in #</i>		<i>2.90C</i>		<i>181303100 / 9/7/18</i>		<input type="checkbox"/> Y <input checked="" type="checkbox"/> N	

* Samples left in fridge #38 overnight by AR.

CIA 10/25/18



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CHAIN OF CUSTODY

No. 10212

Page: 2 of: 2 ^{CIS} (12/26/18)

Lab Work Order #: V184307					Report To:			
Preservation Codes					Company:			
Analyses Requested					Address 1:			
					Address 2:			
					E-mail Address:			
					Invoice To:			
					Company:			
					Address 1:			
					Address 2:			
					Comments		Lab ID	Lab Receipt Time

Project Number: M1001454 CORE 0001A PO Number: _____
 Project Name: FORD LTP
 Project Location (City, State): LIVONIA, MI

Turn Around (check one): Normal Rush
 If Rush, Report Due Date: _____
 Sampled By (Print): ASHLEY REIBEL

Sample Description	Collection		Matrix	Total # of Containers	VCS							
	Date	Time										
HPT-180-20-24-102518	10/25/18	1150	GW	2	X							
HPT-180-14-18-102518		1210	GW	2	X							
HPT-180-6-10-102518		1230	GW	2	X							
DWP-27-102518		-	GW	2	X							

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: Ashley Reibel Date: 10/25/18 Time: 1320
 Relinquished By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Received By: Colleen Smith Date: 10/25/18 Time: 1320
 Received By: _____ Date: _____ Time: _____

Shipped Via: _____ Receipt Temp: _____ Thermometer #/ Exp. Date: _____ Temp Blank: Y N

Rev. 12/15



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CHAIN OF CUSTODY

No. 10264

Page: 1 of 3 *CEL 10/20/18*

Project Number: <i>M1001454.0002.0001A</i> PO Number:				Lab Work Order #: <i>V184308</i>				Report To:																																					
Project Name: <i>FORD LTP</i>				Preservation Codes				Company:																																					
Project Location (City, State): <i>LIVONIA, MI</i>				Analyses Requested				Address 1:																																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td><i>V</i></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td><i>O</i></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td><i>S</i></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Matrix	Total # of Containers									<i>V</i>									<i>O</i>									<i>S</i>								Address 2:	
Matrix	Total # of Containers																																												
	<i>V</i>																																												
	<i>O</i>																																												
	<i>S</i>																																												
If Rush, Report Due Date:				Invoice To:				Company:																																					
Sampled By (Print): <i>ASHLEY REIBEL</i>				Address 1:				Address 2:																																					
Sample Description	Collection		Matrix	Total # of Containers					Comments	Lab ID	Lab Receipt Time																																		
	Date	Time																																											
<i>UFHP-112-1-2-102418</i>	<i>10/24/18</i>	<i>1744</i>	<i>S</i>	<i>2</i>	<i>X</i>				<i>MS/MSD</i>	<i>-01</i>																																			
<i>UFHP-112-3-4-102418</i>		<i>1746</i>	<i>S</i>	<i>2</i>	<i>X</i>					<i>-02</i>																																			
<i>UFHP-112-4-5-102418</i>		<i>1748</i>	<i>S</i>	<i>2</i>	<i>X</i>					<i>-03</i>																																			
<i>UFHP-112-6-7-102418</i>		<i>1750</i>	<i>S</i>	<i>2</i>	<i>X</i>					<i>-04</i>																																			
<i>UFHP-112-8-9-102418</i>		<i>1752</i>	<i>S</i>	<i>2</i>	<i>X</i>					<i>-05</i>																																			
<i>UFHP-112-21-27-102418</i>		<i>1848</i>	<i>S</i>	<i>2</i>	<i>X</i>					<i>-06</i>																																			
<i>UFHP-112-29-30-102418</i>		<i>1850</i>	<i>S</i>	<i>2</i>	<i>X</i>					<i>-07</i>																																			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <i>[Signature]</i> Date: <i>10/24/18</i> Time: <i>1940</i>		Received By: <i>[Signature]</i> Date: <i>10/25/18</i> Time: <i>0845</i>																																			
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Walk in *</i> Receipt Temp: <i>2.9°C</i>		Thermometer #/ Exp. Date: <i>181303100 / 9/7/19</i> Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N																																			

** Samples left in fridge #38 overnight by AR*

Rev. 12/15

CEL



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CHAIN OF CUSTODY

No. 10211

Page: 2 of: 13 *CUA* 10/26/18

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184308</u>				Report To:											
Project Name: <u>FORD ITP</u>				Preservation Codes				Company:											
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:											
If Rush, Report Due Date:								E-mail Address:											
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:											
								Company:											
Sample Description				Collection		Matrix		Total # of Containers		VOCs		Address 1:							
				Date	Time							Address 2:							
<u>HPT-180-1-2-102518</u>				<u>10/25/18</u>	<u>1026</u>	<u>S</u>	<u>2</u>	<u>X</u>				Comments	Lab ID	Lab Receipt Time					
<u>HPT-180-2-3-102518</u>					<u>1028</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-08</u>						
<u>HPT-180-3-4-102518</u>					<u>1030</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-09</u>						
<u>HPT-180-4-5-102518</u>					<u>1032</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-10</u>						
<u>HPT-180-23-24-102518</u>					<u>1155</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-11</u>						
<u>HPT-180-25-26-102518</u>					<u>1157</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-12</u>						
													<u>-13</u>						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/25/18</u>		Time: <u>1320</u>		Received By: <u>Colleen Moore</u>		Date: <u>10/25/18</u>		Time: <u>1320</u>	
Matrix Codes A=Air S=Soil W=Water O=Other								Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

No. 10213

Page: 3 of: 3 CA 10/22/18

Project Number: <u>MIC01454 0002 0004</u> APO Number:				Lab Work Order #: <u>V184308</u>				Report To:												
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:												
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:												
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width: 100%; height: 100px;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</th> <td style="text-align: center;">6025</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Matrix	Total # of Containers	6025								Address 2:		
Matrix	Total # of Containers	6025																		
If Rush, Report Due Date:				E-mail Address:			Invoice To:													
Sampled By (Print): <u>ASHLEY REIBEL</u>				Company:			Address 1:													
Sample Description				Collection		Matrix			Total # of Containers			Comments			Lab ID	Lab Receipt Time				
				Date	Time															
HPT-181-1-2-102518				10/25/18	1424	S	2	X						-14						
HPT-181-2-3-102518					1428	S	2	X						-15						
HPT-181-3-4-102518					1430	S	2	X						-16						
HPT-181-4-5-102518					1432	S	2	X						-17						
HPT-181-6-6-102518					1502	S	2	X						-18						
HPT-181-22-23-102518					1622	S	2	X						-19						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <u>Ashley Reibel</u> Relinquished By:				Date: <u>10/25/18</u> Time: <u>1645</u>		Received By: <u>Colleen</u>		Date: <u>10/25/18</u>	Time: <u>1645</u>							
								Date: Time:		Received By:		Date:	Time:							
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N										



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CHAIN OF CUSTODY

No. 10232

Page: 1 of 12 ^{WS} 10/26/18

Lab Work Order #: V184309				Report To: EMAIL LIST			
				Company: ARCADIS			
Preservation Codes				Address 1:			
Analyses Requested				Address 2:			
				E-mail Address:			
Invoice To:							
Company:							
Address 1:							
Address 2:							

Project Number: **MIG0454 C002 C001A** PD Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REIBEL**

Sample Description

Sample Description	Collection		Matrix	Total # of Containers	VOCs
	Date	Time			
HPT-181-24-28-102618	10/26/18	1000	GW	2	X
HPT-181-115-102618		1120	GW	2	X
HPT-181-6-10-102618		1135	GW	2	X

Comments	Lab ID	Lab Receipt Time
	-01	1142
	-02	↓
	-03	↓

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: **Ashley Reibel**
 Date: 10/26/18

Time: 1142

Received By: **Coleman**

Date: 10/26/18 Time: 1142

Relinquished By:

Date:

Received By:

Date: Time:

Custody Seal:
 NA Intact Not Intact

Shipped Via: **W&I**

Receipt Temp: Thermometer #/ Exp. Date:

Temp Blank:
 Y N



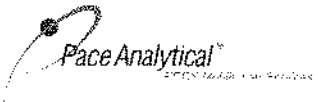
Pace Analytical - ECCS Division
 2525 Advance Road
 Madison, WI 53718
 608-221-8700 (phone)
 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10214

Page: 1 of: 1

Project Number: <u>M1001454-0002.0001A</u> PO Number:				Lab Work Order #: <u>V184310</u>				Report To: <u>EMERSON</u>																																																																																																														
Project Name: <u>FORD LTP</u>				Preservation Codes				Company: <u>AREADIS</u>																																																																																																														
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:																																																																																																														
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<div style="display: flex; align-items: center;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold;">Matrix</div> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold;">Total # of Containers</div> <div style="font-size: 2em; margin-left: 10px;">VCS</div> </div>				Address 2:																																																																																																														
If Rush, Report Due Date:								E-mail Address:																																																																																																														
Sampled By (Print): <u>ASHLEY ZEIGEL</u>								Invoice To:																																																																																																														
Sample Description				<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">X</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td><u>HPT-184-1-2-102018</u></td> <td><u>10/26/18</u></td> <td><u>1232</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-01</u></td> <td></td> </tr> <tr> <td><u>HPT-184-2-3-102018</u></td> <td><u>10/26/18</u></td> <td><u>1234</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-02</u></td> <td></td> </tr> <tr> <td><u>HPT-184-3-4-102018</u></td> <td> </td> <td><u>1236</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-03</u></td> <td></td> </tr> <tr> <td><u>HPT-184-4-5-102018</u></td> <td> </td> <td><u>1238</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-04</u></td> <td></td> </tr> <tr> <td><u>HPT-184-5-6-102018</u></td> <td> </td> <td><u>1240</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-05</u></td> <td></td> </tr> <tr> <td><u>HPT-184-21-22-102018</u></td> <td> </td> <td><u>132</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-06</u></td> <td></td> </tr> </tbody> </table>				Collection		Matrix	Total # of Containers	X								Comments	Lab ID	Lab Receipt Time	Date	Time	<u>HPT-184-1-2-102018</u>	<u>10/26/18</u>	<u>1232</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-01</u>		<u>HPT-184-2-3-102018</u>	<u>10/26/18</u>	<u>1234</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-02</u>		<u>HPT-184-3-4-102018</u>		<u>1236</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-03</u>		<u>HPT-184-4-5-102018</u>		<u>1238</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-04</u>		<u>HPT-184-5-6-102018</u>		<u>1240</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-05</u>		<u>HPT-184-21-22-102018</u>		<u>132</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-06</u>		Address 1:			
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<div style="display: flex;"> <div style="flex: 1;"> <p>Preservation Codes A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</p> <p>Matrix Codes A=Air S=Soil W=Water O=Other</p> </div> <div style="flex: 1;"> <p>Other Comments:</p> </div> </div>				Company:																																																																																																																		
				Address 2:																																																																																																																		
				Relinquished By: <u>Ashley Zeigel</u>				Date: <u>10/26/18</u> Time: <u>1325</u>																																																																																																														
				Relinquished By:				Received By: <u>Coleman Hall</u>																																																																																																														
				Date:				Date:																																																																																																														
				Time:				Time:																																																																																																														
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CHAIN OF CUSTODY

No. 10270

Page: 1 of 1

Project Number: M1001454.0002.0001A PO Number:				Lab Work Order #: V184401				Report To:											
Project Name: Ford LTP				Preservation Codes				Company: Arcadis											
Project Location (City, State): Livonia, MI				Analyses Requested				Address 1:											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOC				Address 2:											
If Rush, Report Due Date:								E-mail Address:											
Sampled By (Print): L. Reuteman								Invoice To:											
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID		Lab Receipt Time					
				Date	Time							Lab ID		Lab Receipt Time					
HPT-182-22-26-102918				10/29/18	1505	W	2	X			-01	17:00							
HPT-182-13-17-102918				↓	1535	↓	↓	↓			-02	↓							
HPT-182-5-9-102918				↓	1555	↓	↓	↓			-03	↓							
 [Redacted Section] 				Relinquished By:		Date:		Time:		Received By:		Date:		Time:					
				Other Comments:				Relinquished By: <i>[Signature]</i>		10/29/18		1700		Jeff Setz		10/29/18		17:00	
								Custody Seal:		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank:			
				<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Walkin		NA		NA		<input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

No. 10269

Page: (of: |

Project Number: M1001454.0002 PO Number:				Lab Work Order #: V184402				Report To:																																																																																																								
Project Name: Ford LTP				Preservation Codes				Company: Arcadis																																																																																																								
Project Location (City, State): Livonia, MI				Analyses Requested				Address 1:																																																																																																								
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOC				Address 2:																																																																																																								
If Rush, Report Due Date:								E-mail Address:																																																																																																								
Sampled By (Print): C. Reuteman								Invoice To:																																																																																																								
Sample Description				Collection Date Time				Company:																																																																																																								
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<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th>Sample Description</th> <th>Date</th> <th>Time</th> <th>Matrix</th> <th>Total # of Containers</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Comments</th> <th>Lab ID</th> <th>Lab Receipt Time</th> </tr> </thead> <tbody> <tr> <td>HPT-182-1-2-102918</td> <td>10/29/18</td> <td>1420</td> <td>S</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-01</td> <td>16:00</td> </tr> <tr> <td>HPT-182-2-3-102918</td> <td></td> <td>1425</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-02</td> <td></td> </tr> <tr> <td>HPT-182-3-4-102918</td> <td></td> <td>1430</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-03</td> <td></td> </tr> <tr> <td>HPT-182-4-5-102918</td> <td></td> <td>1435</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-04</td> <td></td> </tr> <tr> <td>HPT-182-5-6-102918</td> <td></td> <td>1440</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-05</td> <td></td> </tr> <tr> <td>HPT-182-27-28-102918</td> <td></td> <td>1445</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-06</td> <td>2</td> </tr> </tbody> </table>				Sample Description	Date	Time	Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time	HPT-182-1-2-102918	10/29/18	1420	S	2	X								-01	16:00	HPT-182-2-3-102918		1425											-02		HPT-182-3-4-102918		1430											-03		HPT-182-4-5-102918		1435											-04		HPT-182-5-6-102918		1440											-05		HPT-182-27-28-102918		1445											-06	2	Address 2:			
				Sample Description	Date	Time	Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time																																																																																														
HPT-182-1-2-102918	10/29/18	1420	S	2	X								-01	16:00																																																																																																		
HPT-182-2-3-102918		1425											-02																																																																																																			
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Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: 				Relinquished By: Date: 10/29/18 Time: 1700		Received By: Date: 10/29/18 Time: 17:00																																																																																																						
				Relinquished By: _____ Date: _____ Time: _____				Received By: _____ Date: _____ Time: _____		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walk'in		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																																														



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CHAIN OF CUSTODY

No. 10271

Page: 1 of 2

Project Number: M1001454.0002.0001A PO Number:		Lab Work Order #: V184403			Report To:										
Project Name: Ford LTP		Preservation Codes			Company: ArcaDIS										
Project Location (City, State): Livonia, MI		Analyses Requested			Address 1:										
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1"> <tr> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">VOC</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>			Matrix	Total # of Containers	VOC						Address 2:		
Matrix	Total # of Containers							VOC							
									E-mail Address:						
									Invoice To:						
		Company:													
If Rush, Report Due Date:					Address 1:										
Sampled By (Print): L Reuteman					Address 2:										
Sample Description	Collection Date Time		Matrix	Total # of Containers		Comments	Lab ID	Lab Receipt Time							
HPT-185_19-23_103018	10/30/18	11:50	W	2	X		-01	13:10							
HPT-185_14-18_103018	↓	12:15	↓	↓	↓		-02	↓							
HPT-185_4-8_103018	↓	12:40	↓	↓	↓		-03	↓							
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:			Relinquished By:	Date: 10/30/18	Time: 1645	Received By:	Date: 10/30/18	Time: 1645					
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			Shipped Via: Mailin	Receipt Temp: NA	Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N							



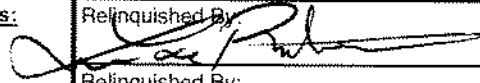
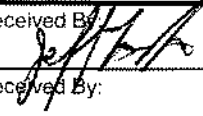
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 608-221-8700 (phone)
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CHAIN OF CUSTODY

No. 10273

Page: 2 of 2

Project Number: <u>M100454.0002.0001 A</u> PO Number:				Lab Work Order #: <u>✓184403</u>				Report To:											
Project Name: <u>Ford LTP</u>				Preservation Codes				Company: <u>Arcadis</u>											
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1"> <tr><td>Matrix</td><td>Total # of Containers</td></tr> <tr><td>W</td><td>2</td></tr> <tr><td>↓</td><td>↓</td></tr> <tr><td>↓</td><td>↓</td></tr> </table>				Matrix	Total # of Containers	W	2	↓	↓	↓	↓	Address 2:			
Matrix	Total # of Containers																		
W	2																		
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↓	↓																		
If Rush, Report Due Date:				E-mail Address:															
Sampled By (Print): <u>L. Reuteman</u>				Invoice To:															
				Company:															
				Address 1:															
				Address 2:															
Sample Description		Collection						Comments		Lab ID		Lab Receipt Time							
		Date		Time															
<u>SB-131-14-18-103018</u>		<u>10/30/18</u>		<u>1545</u>		<u>W</u>		<u>2</u>		<u>X</u>		<u>-04</u>		<u>16:40</u>					
<u>SB-131-5-9-103018</u>		↓		<u>1605</u>		↓		↓		↓		<u>-05</u>		↓					

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: 		Date: <u>10/30/18</u> Time: <u>1645</u>		Received By: 		Date: <u>10/30/18</u> Time: <u>16:45</u>					
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:				Date:		Time:		Received By:		Date:		Time:			
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk/Kit</u>				Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N							



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CHAIN OF CUSTODY

No. 10272

Page: 1 of 2

Project Number: M1001454.0002.0001 APO Number:		Lab Work Order #: V184404		Report To:																					
Project Name: Ford LTP		Preservation Codes		Company: Arcadis																					
Project Location (City, State): Livonia, MI		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="text-align: center;">VOC</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>												Matrix	Total # of Containers	VOC								Address 2:	
Matrix	Total # of Containers			VOC																					
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): L. Reuteman		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Comments	Lab ID	Lab Receipt Time																			
HPT-185-12-103018		10/30/18	1030	S	2	X		-01	13:10																
HPT-185-2-3-103018			1035					-02																	
HPT-185-3-4-103018			1040					-03																	
HPT-185-4-5-103018			1045					-04																	
HPT-185-5-6-103018			1050					-05																	
HPT-185-21-22-103018			1055					-06																	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:		Relinquished By:		Date: 10/30/18 Time:		Received By:		Date: 10/30/18 Time: 16:45															
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walkin		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N															



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CHAIN OF CUSTODY

No. 10274

Page: 2 of 2

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184401</u>				Report To:							
Project Name: <u>EORD LTP</u>				Preservation Codes				Company: <u>Arcadis</u>							
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOC</u>				Address 2:							
If Rush, Report Due Date:								E-mail Address:							
Sampled By (Print): <u>L. Reuteman</u>								Invoice To:							
								Company:							
Sample Description				Collection Date Time				Address 1:							
								Comments		Lab ID	Lab Receipt Time				
<u>SB-131-1-2-103018</u>				<u>10/30/18</u> <u>1445</u>				<u>S</u>	<u>2</u>	<u>X</u>			<u>-07</u>	<u>16:40</u>	
<u>SB-131-2-3-103018</u>													<u>-08</u>		
<u>SB-131-3-4-103018</u>													<u>-09</u>		
<u>SB-131-4-5-103018</u>													<u>-10</u>		
<u>SB-131-5-6-103018</u>													<u>-11</u>		
<u>SB-131-19-20-103018</u>													<u>-12</u>	<u>8</u>	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <u>[Signature]</u>		Date: <u>10/30/18</u>	Time:	Received By: <u>[Signature]</u>		Date: <u>10/30/18</u>	Time:
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>	Thermometer #/ Exp. Date: <u>NA</u>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 10275

Page: 1 of 2

Project Number: M100454.0002.0001 A		PO Number:		Lab Work Order #: V184405		Report To:			
Project Name: Ford LTP		Preservation Codes		Analyses Requested		Company: Arcadis			
Project Location (City, State): Livonia, MI		Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Address 1:		Address 2:			
If Rush, Report Due Date:		Sampled By (Print): L. Resteman		Invoice To:		Company:			
Sample Description		Collection		Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time	
		Date	Time						
SB-132_22-26_103118		10/31/18	1110	W	2	X	-01	12:25	
SB-132_13-17_103118		↓	1125	↓	↓	↓	-02	↓	
SB-132_5-9_103118		↓	1155	↓	↓	↓	-03	↓	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Matrix Codes A=Air S=Soil W=Water C=Other				Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walker		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10278

Page: 2 of 2

Project Number: <u>M100454.0002.0001A</u> PO Number:		Lab Work Order #: <u>V184405</u>		Report To:																					
Project Name: <u>Ford LTP</u>		Preservation Codes		Company: <u>Arcais</u>																					
Project Location (City, State): <u>Livonia, MI</u>		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">Matrix</td> <td style="width:10%;">Total # of Containers</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td></td> <td style="text-align:center;"><u>VOC</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										<u>VOC</u>									Address 2:	
Matrix	Total # of Containers																								
	<u>VOC</u>																								
If Rush, Report Due Date:				Invoice To:		Company:																			
Sampled By (Print): <u>L. Reuteman</u>		Address 1:		Address 2:																					
Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time																		
<u>SB-133-16-20-103118</u>	<u>10/31/18</u>	<u>1515</u>	<u>W</u>	<u>2</u>	<u>X</u>	<u>-04</u>	<u>16:25</u>																		
<u>SB-133-11-15-103118</u>	↓	<u>1530</u>	↓	↓	↓	<u>-05</u>	↓																		
<u>SB-133-6-10-103118</u>	↓	<u>1555</u>	↓	↓	↓	<u>-06</u>	↓																		

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u>	Date: <u>10/31/18</u>	Time: <u>16:25</u>	Received By: <u>[Signature]</u>	Date: <u>10/31/18</u>	Time: <u>16:25</u>																
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>	Receipt Temp: <u>NA</u>	Thermometer #/ Exp. Date: <u>NA</u>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																		



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CHAIN OF CUSTODY

No. 10276

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Project Number: <u>M1001454.0002.0001A</u> PO Number:		Lab Work Order #: <u>V184406</u>		Report To:																									
Project Name: <u>Ford LTP</u>		Preservation Codes		Company: <u>Arcadis</u>																									
Project Location (City, State): <u>Livonia, MI</u>		Analyses Requested		Address 1:																									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="text-align: center;"><u>VOC</u></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">S</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">2</td> <td style="text-align: center;">X</td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">↓</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">↓</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">↓</td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">6</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">2</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">↓</td> </tr> </table>		Matrix	Total # of Containers	<u>VOC</u>	S	2	X	↓	↓	↓	6	2	↓	Address 2:													
Matrix	Total # of Containers			<u>VOC</u>																									
S	2			X																									
↓	↓			↓																									
6	2	↓																											
If Rush, Report Due Date:		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:60%;">Comments</td> <td style="width:15%;">Lab ID</td> <td style="width:25%;">Lab Receipt Time</td> </tr> <tr> <td></td> <td style="text-align: center;">-01</td> <td style="text-align: center;">12:25</td> </tr> <tr> <td></td> <td style="text-align: center;">-02</td> <td style="text-align: center;"> </td> </tr> <tr> <td></td> <td style="text-align: center;">-03</td> <td style="text-align: center;"> </td> </tr> <tr> <td></td> <td style="text-align: center;">-04</td> <td style="text-align: center;"> </td> </tr> <tr> <td></td> <td style="text-align: center;">-05</td> <td style="text-align: center;"> </td> </tr> <tr> <td></td> <td style="text-align: center;">-06</td> <td style="text-align: center;"> </td> </tr> <tr> <td></td> <td style="text-align: center;">-07</td> <td style="text-align: center;">2</td> </tr> </table>		Comments	Lab ID	Lab Receipt Time		-01	12:25		-02			-03			-04			-05			-06			-07	2	E-mail Address:	
Comments	Lab ID			Lab Receipt Time																									
	-01	12:25																											
	-02																												
	-03																												
	-04																												
	-05																												
	-06																												
	-07	2																											
Sampled By (Print): <u>L. Reuteman</u>		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="3">Invoice To:</td> </tr> <tr> <td colspan="3">Company:</td> </tr> <tr> <td colspan="3">Address 1:</td> </tr> <tr> <td colspan="3">Address 2:</td> </tr> </table>		Invoice To:			Company:			Address 1:			Address 2:			Invoice To:													
Invoice To:																													
Company:																													
Address 1:																													
Address 2:																													
Sample Description		Collection		Company:																									
		Date	Time	Address 1:																									
<u>SB-132-1-2-103118</u>		<u>10/31/18</u>	<u>1115</u>	Address 2:																									
<u>SB-132-2-3-103118</u>			<u>1120</u>																										
<u>SB-132-3-4-103118</u>			<u>1125</u>																										
<u>SB-132-45-103118</u>			<u>1130</u>																										
<u>SB-132-5-6-103118</u>			<u>1135</u>																										
<u>SB-132-21-22-103118</u>			<u>1140</u>																										
<u>DUP-28-103118</u>			<u>-</u>																										
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:		Relinquished By: <u>[Signature]</u> Date: <u>10/31/18</u> Time: <u>12:25</u>																									
				Received By: <u>[Signature]</u> Date: <u>12/31/18</u> Time: <u>12:25</u>																									
		Relinquished By:		Received By:																									
		Date:		Date:																									
		Time:		Time:																									
Custody Seal:		Shipped Via:		Receipt Temp:																									
<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		<u>Walkin</u>		<u>NA</u>																									
				Thermometer #/ Exp. Date:																									
				<u>NA</u>																									
				Temp Blank:																									
				<input type="checkbox"/> Y <input type="checkbox"/> N																									



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CHAIN OF CUSTODY

No. 10277

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Project Number: <u>M100454002.0001A</u> PO Number:		Lab Work Order #: <u>V184406</u>		Report To:							
Project Name: <u>Ford LTP</u>		Preservation Codes		Company: <u>Arcais</u>							
Project Location (City, State): <u>Livonia, MI</u>		Analyses Requested		Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix: <u>VOC</u> Total # of Containers: <u>2</u>		Address 2:							
If Rush, Report Due Date:				E-mail Address:							
Sampled By (Print): <u>L. Restman</u>				Invoice To:							
				Company:							
Sample Description		Collection		Address 1:							
		Date	Time	Address 2:							
<u>SB-133_1-2_103118</u>	<u>10/31/18</u>	<u>1435</u>	<u>S</u>	<u>2</u>	<u>X</u>	Comments	Lab ID	Lab Receipt Time			
<u>SB-133_2-3_103118</u>		<u>1440</u>					<u>-08</u>	<u>16:25</u>			
<u>SB-133_3-4_103118</u>		<u>1445</u>					<u>-09</u>				
<u>SB-133_4-5_103118</u>		<u>1450</u>					<u>-10</u>				
<u>SB-133_5-6_103118</u>		<u>1455</u>					<u>-11</u>				
<u>SB-133_26-27_103118</u>		<u>1500</u>					<u>-12</u>				
							<u>-13</u>				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Date: <u>10/31/18</u> Time: <u>16:25</u>		Received By: <u>[Signature]</u> Date: <u>10/31/18</u> Time: <u>16:25</u>					
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10281

Page: 1 of: 2

Project Number: <u>MI001454.0002.0001</u> PO Number:						Lab Work Order #: <u>V184407</u>						Report To:																																																																	
Project Name: <u>Ford LTP</u>						Preservation Codes						Company: <u>ArcaDis of Michigan, LLC</u>																																																																	
Project Location (City, State): <u>Livonia, MI</u>						Analyses Requested						Address 1:																																																																	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush						<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td colspan="5" style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="text-align: center;"><u>VOC</u></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;"><input checked="" type="checkbox"/></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td style="text-align: center;"><input checked="" type="checkbox"/></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																					Matrix	Total # of Containers					<u>VOC</u>															<input checked="" type="checkbox"/>															<input checked="" type="checkbox"/>									Address 2:					
Matrix	Total # of Containers											<u>VOC</u>																																																																	
												<input checked="" type="checkbox"/>																																																																	
						<input checked="" type="checkbox"/>																																																																							
If Rush, Report Due Date:						E-mail Address:						Invoice To:																																																																	
Sampled By (Print): <u>Luke Reuteman</u>						Company:						Address 1:																																																																	
Sample Description						Collection Date Time						Comments						Lab ID						Lab Receipt Time																																																					
<u>SB-134_24-28_110118</u>						<u>11/1/18 1115</u>												<u>-01</u>						<u>12:07</u>																																																					
<u>SB-134_11-15_110118</u>						<u>11/1/18 1135</u>												<u>-02</u>																																																											
<u>SB-134_6-10_110118</u>						<u>11/1/18 1150</u>												<u>-03</u>																																																											
<p>Preservation Codes A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</p> <p>Matrix Codes A=Air S=Soil W=Water O=Other</p>						Other Comments:						Relinquished By:						Date: <u>11/1/18</u> Time: <u>1200</u>						Received By: <u>[Signature]</u>						Date: <u>11/1/18</u> Time: <u>12:00</u>																																															
												Relinquished By:						Date:						Received By:						Date:																																															
						Custody Seal:						Shipped Via:						Receipt Temp:						Thermometer #/ Exp. Date:						Temp Blank:																																															
						<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact						<u>Walkin</u>						<u>NA</u>						<u>NA</u>						<input type="checkbox"/> Y <input type="checkbox"/> N																																															

Rev. 12/15



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CHAIN OF CUSTODY

No. 10285

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Project Number: <i>MI001454.0002.0001C</i> PO Number:				Lab Work Order #: <i>V184407</i>				Report To:																	
Project Name: <i>Ford LTP</i>				Preservation Codes				Company: <i>Arcadis of Michigan, LLC</i>																	
Project Location (City, State): <i>Livonia, MI</i>				Analyses Requested				Address 1:																	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; text-align: center;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">VOCs</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>				Matrix	Total # of Containers	VOCs									Address 2:						
Matrix	Total # of Containers	VOCs																							
If Rush, Report Due Date:				E-mail Address:				Invoice To:																	
Sampled By (Print): <i>Austin Westhuis</i>				Company:				Address 1:																	
Sample Description				Collection		Matrix				Total # of Containers				VOCs				Comments				Lab ID		Lab Receipt Time	
				Date	Time																	ID		Time	
<i>HPT-183-14-18-11018</i>				<i>11/1/18</i>	<i>1450</i>	<i>W</i>				<i>2</i>				<i>✓</i>				<i>-04</i>				<i>15:50</i>			
<i>HPT-183-9-13-11018</i>				<i>11/1/18</i>	<i>1505</i>	<i>W</i>				<i>2</i>				<i>✓</i>				<i>-05</i>				<i>1</i>			
<i>HPT-183-3-8-11018</i>				<i>11/1/18</i>	<i>1520</i>	<i>W</i>				<i>2</i>				<i>✓</i>				<i>-06</i>				<i>1</i>			
<i>Dup-29-11018</i>				<i>11/1/18</i>	<i>---</i>	<i>W</i>				<i>2</i>				<i>✓</i>				<i>-07</i>				<i>0</i>			
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <i>[Signature]</i>				Date: <i>11/1/18</i>		Time: <i>1545</i>		Received By: <i>[Signature]</i>				Date: <i>11/1/18</i>		Time: <i>15:50</i>			
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:				Date:				Time:		Received By:				Date:		Time:					
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Per K/j</i>				Receipt Temp: <i>NA</i>				Thermometer #/ Exp. Date: <i>NA</i>				Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N									



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CHAIN OF CUSTODY

No. 10284

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Project Number: <i>MI001454.0002.0001C</i> PO Number:				Lab Work Order #: <i>V184408</i>				Report To:	
Project Name: <i>Ford LTP</i>				Preservation Codes				Company: <i>Arcadis of Michigan, LLC</i>	
Project Location (City, State): <i>Livonia, MI</i>				Analyses Requested				Address 1:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <i>VOCs</i>				Address 2:	
If Rush, Report Due Date:								E-mail Address:	
Sampled By (Print): <i>Austin Westhuis</i>								Invoice To:	
								Company:	
Sample Description				Collection Date Time				Address 1:	
								Comments	
<i>HPT-183-1-2-110118</i>				<i>11/1/18 1335 S 2</i>				<i>✓</i>	<i>-07 15:50</i>
<i>HPT-183-2-3-110118</i>				<i>11/1/18 1340 S 2</i>				<i>✓</i>	<i>-08</i>
<i>HPT-183-3-4-110118</i>				<i>11/1/18 1345 S 2</i>				<i>✓</i>	<i>-09</i>
<i>HPT-183-4-5-110118</i>				<i>11/1/18 1350 S 2</i>				<i>✓</i>	<i>-10</i>
<i>HPT-183-5-6-110118</i>				<i>11/1/18 1355 S 2</i>				<i>✓</i>	<i>-11</i>
<i>HPT-183-17-18-110118</i>				<i>11/1/18 1425 S 2</i>				<i>✓</i>	<i>-12</i>
<i>HPT-183-28-29-110118</i>				<i>11/1/18 1430 S 2</i>				<i>✓</i>	<i>-13</i>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>Austin Westhuis</i> Date: <i>11/1/18</i> Time: <i>1545</i>		Received By: <i>[Signature]</i> Date: <i>11/1/18</i> Time: <i>15:45</i>			
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Received By:			
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Walther</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>N/A</i>	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10287

Page: 2 of 2

Project Number: <u>ME001454.0002.0001C</u> PO Number:					Lab Work Order #: <u>1184409</u>					Report To:																																																																																																																																																																	
Project Name: <u>Ford LTP</u>					Preservation Codes					Company: <u>Arcadis of Michigan, LLC</u>																																																																																																																																																																	
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CHAIN OF CUSTODY

No. 10289

Page: 1 of 2

Project Number: <u>MF001454.0002.0001C</u> PO Number:				Lab Work Order #: <u>V184410</u>				Report To:			
Project Name: <u>Ford LTP</u>				Preservation Codes				Company: <u>Arcadis of Michigan, LLC</u>			
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>Austin Westhuis</u>				Total # of Containers				Invoice To:			
Sample Description								VOCs			
				Collection							
								Address 2:			
								Comments			
								Lab ID		Lab Receipt Time	
<u>HPT-186-1-2-110218</u>				<u>11/2/18 0945 S 2</u>				<u>-01</u>		<u>11:32</u>	
<u>HPT-186-2-3-110218</u>				<u>11/2/18 0950 S 2</u>				<u>-02</u>			
<u>HPT-186-3-4-110218</u>				<u>11/2/18 0955 S 2</u>				<u>-03</u>			
<u>HPT-186-4-5-110218</u>				<u>11/2/18 1000 S 2</u>				<u>-04</u>			
<u>HPT-186-5-6-110218</u>				<u>11/2/18 1005 S 2</u>				<u>-05</u>			
<u>HPT-186-18-19-110218</u>				<u>11/2/18 1025 S 2</u>				<u>-06</u>			
<u>HPT-186-28-29-110218</u>				<u>11/2/18 1030 S 2</u>				<u>-07</u>			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <u>[Signature]</u>		Date: <u>11/2/18</u> Time: <u>1132</u>	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:				Received By: <u>[Signature]</u>		Date: <u>11/2/18</u> Time: <u>1132</u>	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Watkin</u>				Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 10286

Page: 2 of 2

Project Number: <u>ME001454.0002.0001C</u> PO Number:				Lab Work Order #: <u>V184410</u>				Report To:					
Project Name: <u>Ford LTP</u>				Preservation Codes				Company: <u>Arcadis of Michigan, LLC</u>					
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs</u>				Address 2:					
If Rush, Report Due Date:								E-mail Address:					
Sampled By (Print): <u>Austin Westhuis</u>								Invoice To:					
								Company:					
Sample Description				Collection Date Time				Address 1:					
								Address 2:					
								Comments		Lab ID	Lab Receipt Time		
<u>SB-135-1-2-110218</u>				<u>11/2/18 1220</u>						<u>-08</u>	<u>14:21</u>		
<u>SB-135-2-3-110218</u>				<u>11/2/18 1225</u>						<u>-09</u>			
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<u>SB-135-4-5-110218</u>				<u>11/2/18 1235</u>						<u>-11</u>			
<u>SB-135-5-6-110218</u>				<u>11/2/18 1240</u>						<u>-12</u>			
<u>SB-135-19.5-20.5-110218</u>				<u>11/2/18 1300</u>						<u>-13</u>			
<u>SB-135-28-29-110218</u>				<u>11/2/18 1305</u>						<u>-14</u>			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments: Relinquished By: <u>Charles Westhuis</u> Date: <u>11/2/18</u> Time: <u>14:21</u> Relinquished By: _____ Date: _____ Time: _____				Received By: <u>[Signature]</u> Date: <u>11/2/18</u> Time: <u>14:21</u> Received By: _____ Date: _____ Time: _____					
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>N/A</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	


ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110362-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/17/2019 1:25:08 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Job ID: 240-110362-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110362-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/3/2019 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-210-13-17_040119 (240-110362-1), HPT-210-8-12_040119 (240-110362-2), HPT-210-3-7_040119 (240-110362-3) and TRIP BLANK (240-110362-9) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/12/2019.

Trichloroethene failed the recovery criteria low for the MS of sample HPT-210-3-7_040119MS (240-110362-3) in batch 240-376204. Refer to the QC report for details.

Samples HPT-210-8-12_040119 (240-110362-2)[142.86X] and HPT-210-3-7_040119 (240-110362-3)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The pH of the sample was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if sample is not preserved to a pH of 2: HPT-210-13-17_040119 (240-110362-1).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Job ID: 240-110362-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

VOLATILE ORGANIC COMPOUNDS

Samples HPT-211-1-2_040119 (240-110362-4), HPT-211-2-3_040119 (240-110362-5), HPT-211-3-4_040119 (240-110362-6), HPT-211-4-5_040119 (240-110362-7) and HPT-211-5-6_040119 (240-110362-8) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were prepared on 04/09/2019 and analyzed on 04/11/2019.

The continuing calibration verification (CCV) associated with batch 240-376132 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. HPT-211-1-2_040119 (240-110362-4), HPT-211-2-3_040119 (240-110362-5), HPT-211-3-4_040119 (240-110362-6), HPT-211-4-5_040119 (240-110362-7), HPT-211-5-6_040119 (240-110362-8) and (CCV 240-376132/7)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-210-13-17_040119 (240-110362-1), HPT-210-8-12_040119 (240-110362-2) and HPT-210-3-7_040119 (240-110362-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/10/2019 and 04/11/2019.

1,2-Dichloroethane-d4 (Surr) failed the surrogate recovery criteria high for HPT-210-8-12_040119 (240-110362-2). Refer to the QC report for details.

Surrogate recovery for the following sample was outside the upper control limit: HPT-210-8-12_040119 (240-110362-2). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

The following sample was diluted due to the nature of the sample matrix: HPT-210-8-12_040119 (240-110362-2) and HPT-210-3-7_040119 (240-110362-3). Elevated reporting limits (RLs) are provided.

The pH is greater than 2 for the following samples: HPT-210-13-17_040119 (240-110362-1) and HPT-210-3-7_040119 (240-110362-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-211-1-2_040119 (240-110362-4), HPT-211-2-3_040119 (240-110362-5), HPT-211-3-4_040119 (240-110362-6), HPT-211-4-5_040119 (240-110362-7) and HPT-211-5-6_040119 (240-110362-8) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/04/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN
5035	Closed System Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110362-1	HPT-210-13-17_040119	Water	04/01/19 18:25	04/03/19 08:30
240-110362-2	HPT-210-8-12_040119	Water	04/01/19 18:40	04/03/19 08:30
240-110362-3	HPT-210-3-7_040119	Water	04/01/19 18:55	04/03/19 08:30
240-110362-4	HPT-211-1-2_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-5	HPT-211-2-3_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-6	HPT-211-3-4_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-7	HPT-211-4-5_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-8	HPT-211-5-6_040119	Solid	04/01/19 17:00	04/03/19 08:30
240-110362-9	TRIP BLANK	Water	04/01/19 00:00	04/03/19 08:30



Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-13-17_040119

Lab Sample ID: 240-110362-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	7.1		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.8		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	6.3		1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-210-8-12_040119

Lab Sample ID: 240-110362-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	230		140	23	ug/L	142.86		8260B	Total/NA
trans-1,2-Dichloroethene	260		140	27	ug/L	142.86		8260B	Total/NA
Trichloroethene	4400		140	14	ug/L	142.86		8260B	Total/NA

Client Sample ID: HPT-210-3-7_040119

Lab Sample ID: 240-110362-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	48	J	50	8.0	ug/L	50		8260B	Total/NA
trans-1,2-Dichloroethene	58		50	9.5	ug/L	50		8260B	Total/NA
Trichloroethene	1400	F1	50	5.0	ug/L	50		8260B	Total/NA
Vinyl chloride	11	J	50	10	ug/L	50		8260B	Total/NA

Client Sample ID: HPT-211-1-2_040119

Lab Sample ID: 240-110362-4

No Detections.

Client Sample ID: HPT-211-2-3_040119

Lab Sample ID: 240-110362-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	17	J	64	17	ug/Kg	1		8260B MI	Total/NA

Client Sample ID: HPT-211-3-4_040119

Lab Sample ID: 240-110362-6

No Detections.

Client Sample ID: HPT-211-4-5_040119

Lab Sample ID: 240-110362-7

No Detections.

Client Sample ID: HPT-211-5-6_040119

Lab Sample ID: 240-110362-8

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110362-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.24	J	1.0	0.10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-13-17_040119

Lab Sample ID: 240-110362-1

Date Collected: 04/01/19 18:25

Matrix: Water

Date Received: 04/03/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 13:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 13:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 17:18	1
cis-1,2-Dichloroethene	7.1		1.0	0.16	ug/L			04/12/19 17:18	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/12/19 17:18	1
trans-1,2-Dichloroethene	1.8		1.0	0.19	ug/L			04/12/19 17:18	1
Trichloroethene	6.3		1.0	0.10	ug/L			04/12/19 17:18	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/12/19 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 121		04/12/19 17:18	1
4-Bromofluorobenzene (Surr)	64		59 - 120		04/12/19 17:18	1
Toluene-d8 (Surr)	81		70 - 123		04/12/19 17:18	1
Dibromofluoromethane (Surr)	112		75 - 128		04/12/19 17:18	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-8-12_040119

Lab Sample ID: 240-110362-2

Date Collected: 04/01/19 18:40

Matrix: Water

Date Received: 04/03/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	20	U	20	8.6	ug/L	-		04/10/19 22:38	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	126	X	63 - 125		04/10/19 22:38	10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	140	U	140	27	ug/L	-		04/12/19 17:40	142.86
cis-1,2-Dichloroethene	230		140	23	ug/L			04/12/19 17:40	142.86
Tetrachloroethene	140	U	140	21	ug/L			04/12/19 17:40	142.86
trans-1,2-Dichloroethene	260		140	27	ug/L			04/12/19 17:40	142.86
Trichloroethene	4400		140	14	ug/L			04/12/19 17:40	142.86
Vinyl chloride	140	U	140	29	ug/L			04/12/19 17:40	142.86

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 121		04/12/19 17:40	142.86
4-Bromofluorobenzene (Surr)	64		59 - 120		04/12/19 17:40	142.86
Toluene-d8 (Surr)	81		70 - 123		04/12/19 17:40	142.86
Dibromofluoromethane (Surr)	115		75 - 128		04/12/19 17:40	142.86

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-3-7_040119

Lab Sample ID: 240-110362-3

Date Collected: 04/01/19 18:55

Matrix: Water

Date Received: 04/03/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	20	U	20	8.6	ug/L			04/11/19 15:13	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/11/19 15:13	10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	9.5	ug/L			04/12/19 18:01	50
cis-1,2-Dichloroethene	48	J	50	8.0	ug/L			04/12/19 18:01	50
Tetrachloroethene	50	U	50	7.5	ug/L			04/12/19 18:01	50
trans-1,2-Dichloroethene	58		50	9.5	ug/L			04/12/19 18:01	50
Trichloroethene	1400	F1	50	5.0	ug/L			04/12/19 18:01	50
Vinyl chloride	11	J	50	10	ug/L			04/12/19 18:01	50

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 121		04/12/19 18:01	50
4-Bromofluorobenzene (Surr)	64		59 - 120		04/12/19 18:01	50
Toluene-d8 (Surr)	83		70 - 123		04/12/19 18:01	50
Dibromofluoromethane (Surr)	118		75 - 128		04/12/19 18:01	50

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-1-2_040119

Lab Sample ID: 240-110362-4

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 87.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1
1,4-Dioxane	15000	U	15000	1400	ug/Kg	☼	04/09/19 12:37	04/11/19 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/09/19 12:37	04/11/19 21:48	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/09/19 12:37	04/11/19 21:48	1
Toluene-d8 (Surr)	97		49 - 147	04/09/19 12:37	04/11/19 21:48	1
Dibromofluoromethane (Surr)	76		49 - 138	04/09/19 12:37	04/11/19 21:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.4		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	12.6		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-2-3_040119

Lab Sample ID: 240-110362-5

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 83.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	64	U	64	25	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
cis-1,2-Dichloroethene	64	U	64	14	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
Tetrachloroethene	64	U	64	29	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
trans-1,2-Dichloroethene	64	U	64	16	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
Trichloroethene	17	J	64	17	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
Vinyl chloride	51	U	51	19	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1
1,4-Dioxane	20000	U	20000	1700	ug/Kg	☼	04/09/19 12:37	04/11/19 22:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/09/19 12:37	04/11/19 22:10	1
4-Bromofluorobenzene (Surr)	96		48 - 151	04/09/19 12:37	04/11/19 22:10	1
Toluene-d8 (Surr)	97		49 - 147	04/09/19 12:37	04/11/19 22:10	1
Dibromofluoromethane (Surr)	84		49 - 138	04/09/19 12:37	04/11/19 22:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.4		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	16.6		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-3-4_040119

Lab Sample ID: 240-110362-6

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 81.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	65	U	65	26	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
cis-1,2-Dichloroethene	65	U	65	15	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
Tetrachloroethene	65	U	65	29	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
trans-1,2-Dichloroethene	65	U	65	16	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
Trichloroethene	65	U	65	18	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
Vinyl chloride	52	U	52	19	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1
1,4-Dioxane	20000	U	20000	1800	ug/Kg	☼	04/09/19 12:37	04/11/19 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		53 - 155	04/09/19 12:37	04/11/19 22:32	1
4-Bromofluorobenzene (Surr)	103		48 - 151	04/09/19 12:37	04/11/19 22:32	1
Toluene-d8 (Surr)	105		49 - 147	04/09/19 12:37	04/11/19 22:32	1
Dibromofluoromethane (Surr)	87		49 - 138	04/09/19 12:37	04/11/19 22:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.2		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	18.8		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-4-5_040119

Lab Sample ID: 240-110362-7

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 79.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	67	U	67	27	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
cis-1,2-Dichloroethene	67	U	67	15	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
Tetrachloroethene	67	U	67	30	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
trans-1,2-Dichloroethene	67	U	67	17	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
Trichloroethene	67	U	67	18	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
Vinyl chloride	54	U	54	20	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1
1,4-Dioxane	21000	U	21000	1800	ug/Kg	☼	04/09/19 12:37	04/11/19 22:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		53 - 155	04/09/19 12:37	04/11/19 22:54	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 12:37	04/11/19 22:54	1
Toluene-d8 (Surr)	101		49 - 147	04/09/19 12:37	04/11/19 22:54	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 12:37	04/11/19 22:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.1		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	20.9		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-5-6_040119

Lab Sample ID: 240-110362-8

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 80.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	63	U	63	25	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
cis-1,2-Dichloroethene	63	U	63	14	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
Tetrachloroethene	63	U	63	28	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
trans-1,2-Dichloroethene	63	U	63	16	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
Trichloroethene	63	U	63	17	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
Vinyl chloride	50	U	50	19	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1
1,4-Dioxane	20000	U	20000	1700	ug/Kg	☼	04/09/19 12:37	04/11/19 23:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		53 - 155	04/09/19 12:37	04/11/19 23:16	1
4-Bromofluorobenzene (Surr)	101		48 - 151	04/09/19 12:37	04/11/19 23:16	1
Toluene-d8 (Surr)	103		49 - 147	04/09/19 12:37	04/11/19 23:16	1
Dibromofluoromethane (Surr)	87		49 - 138	04/09/19 12:37	04/11/19 23:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80.5		0.1	0.1	%			04/04/19 14:22	1
Percent Moisture	19.5		0.1	0.1	%			04/04/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110362-9

Date Collected: 04/01/19 00:00

Matrix: Water

Date Received: 04/03/19 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 18:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/12/19 18:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/12/19 18:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 18:23	1
Trichloroethene	0.24	J	1.0	0.10	ug/L			04/12/19 18:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/12/19 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 121		04/12/19 18:23	1
4-Bromofluorobenzene (Surr)	68		59 - 120		04/12/19 18:23	1
Toluene-d8 (Surr)	84		70 - 123		04/12/19 18:23	1
Dibromofluoromethane (Surr)	127		75 - 128		04/12/19 18:23	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110362-1	HPT-210-13-17_040119	100	64	81	112
240-110362-2	HPT-210-8-12_040119	105	64	81	115
240-110362-3	HPT-210-3-7_040119	104	64	83	118
240-110362-3 MS	HPT-210-3-7_040119	94	95	98	112
240-110362-3 MSD	HPT-210-3-7_040119	95	94	98	111
240-110362-9	TRIP BLANK	111	68	84	127
LCS 240-376204/4	Lab Control Sample	96	98	100	113
MB 240-376204/6	Method Blank	111	79	94	123

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	TOL (49-147)	DBFM (49-138)
240-110362-4	HPT-211-1-2_040119	86	94	97	76
240-110362-5	HPT-211-2-3_040119	87	96	97	84
240-110362-6	HPT-211-3-4_040119	90	103	105	87
240-110362-7	HPT-211-4-5_040119	89	98	101	85
240-110362-8	HPT-211-5-6_040119	91	101	103	87
240-110665-B-18-A MS	Matrix Spike	91	95	102	87
240-110665-C-18-A MSD	Matrix Spike Duplicate	84	89	95	82
LCS 240-375550/2-A	Lab Control Sample	83	92	96	81
MB 240-375550/1-A	Method Blank	87	98	102	82

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-110362-1	HPT-210-13-17_040119	116
240-110362-2	HPT-210-8-12_040119	126 X
240-110362-3	HPT-210-3-7_040119	102
240-110458-C-3 MS	Matrix Spike	122
240-110458-C-3 MSD	Matrix Spike Duplicate	117
240-110662-A-3 MS	Matrix Spike	102
240-110662-A-3 MSD	Matrix Spike Duplicate	101
LCS 240-375762/4	Lab Control Sample	116

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
LCS 240-376059/4	Lab Control Sample	99
MB 240-375762/5	Method Blank	116
MB 240-376059/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376204/6
Matrix: Water
Analysis Batch: 376204

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 10:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/12/19 10:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/12/19 10:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/12/19 10:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/12/19 10:24	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/12/19 10:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 121		04/12/19 10:24	1
4-Bromofluorobenzene (Surr)	79		59 - 120		04/12/19 10:24	1
Toluene-d8 (Surr)	94		70 - 123		04/12/19 10:24	1
Dibromofluoromethane (Surr)	123		75 - 128		04/12/19 10:24	1

Lab Sample ID: LCS 240-376204/4
Matrix: Water
Analysis Batch: 376204

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.87		ug/L		99	65 - 139
cis-1,2-Dichloroethene	10.0	11.4		ug/L		114	76 - 128
Tetrachloroethene	10.0	11.6		ug/L		116	74 - 130
trans-1,2-Dichloroethene	10.0	12.6		ug/L		126	78 - 133
Trichloroethene	10.0	10.4		ug/L		104	76 - 125
Vinyl chloride	10.0	11.0		ug/L		110	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
4-Bromofluorobenzene (Surr)	98		59 - 120
Toluene-d8 (Surr)	100		70 - 123
Dibromofluoromethane (Surr)	113		75 - 128

Lab Sample ID: 240-110362-3 MS
Matrix: Water
Analysis Batch: 376204

Client Sample ID: HPT-210-3-7_040119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	50	U	500	451		ug/L		90	53 - 140
cis-1,2-Dichloroethene	48	J	500	569		ug/L		104	64 - 130
Tetrachloroethene	50	U	500	517		ug/L		103	51 - 136
trans-1,2-Dichloroethene	58		500	620		ug/L		112	68 - 133
Trichloroethene	1400	F1	500	1640	F1	ug/L		54	55 - 131
Vinyl chloride	11	J	500	524		ug/L		103	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	98		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110362-3 MS
Matrix: Water
Analysis Batch: 376204

Client Sample ID: HPT-210-3-7_040119
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	112		75 - 128

Lab Sample ID: 240-110362-3 MSD
Matrix: Water
Analysis Batch: 376204

Client Sample ID: HPT-210-3-7_040119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	50	U	500	467		ug/L		93	53 - 140	4	35
cis-1,2-Dichloroethene	48	J	500	581		ug/L		106	64 - 130	2	21
Tetrachloroethene	50	U	500	529		ug/L		106	51 - 136	2	23
trans-1,2-Dichloroethene	58		500	638		ug/L		116	68 - 133	3	24
Trichloroethene	1400	F1	500	1710		ug/L		67	55 - 131	4	23
Vinyl chloride	11	J	500	533		ug/L		104	43 - 154	2	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	98		70 - 123
Dibromofluoromethane (Surr)	111		75 - 128

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375550/1-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375550

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Trichloroethene	40	U	40	11	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Vinyl chloride	32	U	32	12	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/09/19 12:37	04/11/19 21:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/09/19 12:37	04/11/19 21:05	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 12:37	04/11/19 21:05	1
Toluene-d8 (Surr)	102		49 - 147	04/09/19 12:37	04/11/19 21:05	1
Dibromofluoromethane (Surr)	82		49 - 138	04/09/19 12:37	04/11/19 21:05	1

Lab Sample ID: LCS 240-375550/2-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1000	1080		ug/Kg		108	57 - 139
cis-1,2-Dichloroethene	1000	969		ug/Kg		97	74 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-375550/2-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	1000	958		ug/Kg		96	76 - 120
trans-1,2-Dichloroethene	1000	1090		ug/Kg		109	71 - 133
Trichloroethene	1000	915		ug/Kg		91	73 - 126
Vinyl chloride	1000	1140		ug/Kg		114	52 - 130
1,4-Dioxane	20000	19700		ug/Kg		98	51 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		53 - 155
4-Bromofluorobenzene (Surr)	92		48 - 151
Toluene-d8 (Surr)	96		49 - 147
Dibromofluoromethane (Surr)	81		49 - 138

Lab Sample ID: 240-110665-B-18-A MS
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	62	U	1380	1480		ug/Kg	☼	107	36 - 150
cis-1,2-Dichloroethene	62	U	1380	1370		ug/Kg	☼	100	50 - 128
Tetrachloroethene	62	U	1380	1270		ug/Kg	☼	92	20 - 151
trans-1,2-Dichloroethene	62	U	1380	1540		ug/Kg	☼	111	44 - 141
Trichloroethene	62	U	1380	1270		ug/Kg	☼	92	25 - 148
Vinyl chloride	50	U	1380	1510		ug/Kg	☼	110	31 - 148
1,4-Dioxane	19000	U	27600	29800		ug/Kg	☼	108	62 - 158

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		53 - 155
4-Bromofluorobenzene (Surr)	95		48 - 151
Toluene-d8 (Surr)	102		49 - 147
Dibromofluoromethane (Surr)	87		49 - 138

Lab Sample ID: 240-110665-C-18-A MSD
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	62	U	1340	1370		ug/Kg	☼	102	36 - 150	8	40
cis-1,2-Dichloroethene	62	U	1340	1290		ug/Kg	☼	97	50 - 128	6	40
Tetrachloroethene	62	U	1340	1170		ug/Kg	☼	87	20 - 151	9	40
trans-1,2-Dichloroethene	62	U	1340	1400		ug/Kg	☼	105	44 - 141	9	40
Trichloroethene	62	U	1340	1150		ug/Kg	☼	86	25 - 148	10	40
Vinyl chloride	50	U	1340	1420		ug/Kg	☼	106	31 - 148	7	37
1,4-Dioxane	19000	U	26700	28200		ug/Kg	☼	106	62 - 158	5	40

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		53 - 155
4-Bromofluorobenzene (Surr)	89		48 - 151
Toluene-d8 (Surr)	95		49 - 147

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110665-C-18-A MSD
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 375550

Surrogate	%Recovery	MSD Qualifier	MSD Limits
Dibromofluoromethane (Surr)	82		49 - 138

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375762/5
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 12:22	1

Surrogate	%Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 12:22	1

Lab Sample ID: LCS 240-375762/4
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.9		ug/L		119	59 - 131

Surrogate	%Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	116		63 - 125

Lab Sample ID: 240-110458-C-3 MS
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	68		10.0	82.4	4	ug/L		142	52 - 129

Surrogate	%Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	122		63 - 125

Lab Sample ID: 240-110458-C-3 MSD
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	68		10.0	79.6	4	ug/L		113	52 - 129	4	13

Surrogate	%Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	117		63 - 125

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-376059/5
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 14:21	1
Surrogate	%Recovery	MB Qualifier	Limits			D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125					04/11/19 14:21	1

Lab Sample ID: LCS 240-376059/4
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.5		ug/L		115	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		63 - 125				

Lab Sample ID: 240-110662-A-3 MS
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.9		ug/L		119	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	102		63 - 125						

Lab Sample ID: 240-110662-A-3 MSD
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.8		ug/L		118	52 - 129	1	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	101		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110389-A-25 DU
Matrix: Solid
Analysis Batch: 374788

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	82.8		79.2		%		4	20
Percent Moisture	17.2		20.8		%		19	20

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

GC/MS VOA

Prep Batch: 375550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-4	HPT-211-1-2_040119	Total/NA	Solid	5035	
240-110362-5	HPT-211-2-3_040119	Total/NA	Solid	5035	
240-110362-6	HPT-211-3-4_040119	Total/NA	Solid	5035	
240-110362-7	HPT-211-4-5_040119	Total/NA	Solid	5035	
240-110362-8	HPT-211-5-6_040119	Total/NA	Solid	5035	
MB 240-375550/1-A	Method Blank	Total/NA	Solid	5035	
LCS 240-375550/2-A	Lab Control Sample	Total/NA	Solid	5035	
240-110665-B-18-A MS	Matrix Spike	Total/NA	Solid	5035	
240-110665-C-18-A MSD	Matrix Spike Duplicate	Total/NA	Solid	5035	

Analysis Batch: 375762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-1	HPT-210-13-17_040119	Total/NA	Water	8260B SIM	
240-110362-2	HPT-210-8-12_040119	Total/NA	Water	8260B SIM	
MB 240-375762/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-375762/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110458-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110458-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-3	HPT-210-3-7_040119	Total/NA	Water	8260B SIM	
MB 240-376059/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376059/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110662-A-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110662-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-4	HPT-211-1-2_040119	Total/NA	Solid	8260B MI	375550
240-110362-5	HPT-211-2-3_040119	Total/NA	Solid	8260B MI	375550
240-110362-6	HPT-211-3-4_040119	Total/NA	Solid	8260B MI	375550
240-110362-7	HPT-211-4-5_040119	Total/NA	Solid	8260B MI	375550
240-110362-8	HPT-211-5-6_040119	Total/NA	Solid	8260B MI	375550
MB 240-375550/1-A	Method Blank	Total/NA	Solid	8260B MI	375550
LCS 240-375550/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	375550
240-110665-B-18-A MS	Matrix Spike	Total/NA	Solid	8260B MI	375550
240-110665-C-18-A MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B MI	375550

Analysis Batch: 376204

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-1	HPT-210-13-17_040119	Total/NA	Water	8260B	
240-110362-2	HPT-210-8-12_040119	Total/NA	Water	8260B	
240-110362-3	HPT-210-3-7_040119	Total/NA	Water	8260B	
240-110362-9	TRIP BLANK	Total/NA	Water	8260B	
MB 240-376204/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376204/4	Lab Control Sample	Total/NA	Water	8260B	
240-110362-3 MS	HPT-210-3-7_040119	Total/NA	Water	8260B	
240-110362-3 MSD	HPT-210-3-7_040119	Total/NA	Water	8260B	

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

General Chemistry

Analysis Batch: 374788

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110362-4	HPT-211-1-2_040119	Total/NA	Solid	Moisture	
240-110362-5	HPT-211-2-3_040119	Total/NA	Solid	Moisture	
240-110362-6	HPT-211-3-4_040119	Total/NA	Solid	Moisture	
240-110362-7	HPT-211-4-5_040119	Total/NA	Solid	Moisture	
240-110362-8	HPT-211-5-6_040119	Total/NA	Solid	Moisture	
240-110389-A-25 DU	Duplicate	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-210-13-17_040119

Lab Sample ID: 240-110362-1

Date Collected: 04/01/19 18:25

Matrix: Water

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376204	04/12/19 17:18	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 13:13	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 13:13	SAM	TAL CAN

Client Sample ID: HPT-210-8-12_040119

Lab Sample ID: 240-110362-2

Date Collected: 04/01/19 18:40

Matrix: Water

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		142.86	376204	04/12/19 17:40	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		10	375762	04/10/19 22:38	SAM	TAL CAN

Client Sample ID: HPT-210-3-7_040119

Lab Sample ID: 240-110362-3

Date Collected: 04/01/19 18:55

Matrix: Water

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		50	376204	04/12/19 18:01	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		10	376059	04/11/19 15:13	SAM	TAL CAN

Client Sample ID: HPT-211-1-2_040119

Lab Sample ID: 240-110362-4

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Client Sample ID: HPT-211-1-2_040119

Lab Sample ID: 240-110362-4

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 87.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 21:48	TJL1	TAL CAN

Client Sample ID: HPT-211-2-3_040119

Lab Sample ID: 240-110362-5

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-2-3_040119

Lab Sample ID: 240-110362-5

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 83.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 22:10	TJL1	TAL CAN

Client Sample ID: HPT-211-3-4_040119

Lab Sample ID: 240-110362-6

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Client Sample ID: HPT-211-3-4_040119

Lab Sample ID: 240-110362-6

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 81.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 22:32	TJL1	TAL CAN

Client Sample ID: HPT-211-4-5_040119

Lab Sample ID: 240-110362-7

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Client Sample ID: HPT-211-4-5_040119

Lab Sample ID: 240-110362-7

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 79.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 22:54	TJL1	TAL CAN

Client Sample ID: HPT-211-5-6_040119

Lab Sample ID: 240-110362-8

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374788	04/04/19 14:22	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Client Sample ID: HPT-211-5-6_040119

Lab Sample ID: 240-110362-8

Date Collected: 04/01/19 17:00

Matrix: Solid

Date Received: 04/03/19 08:30

Percent Solids: 80.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			375550	04/09/19 12:37	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 23:16	TJL1	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110362-9

Date Collected: 04/01/19 00:00

Matrix: Water

Date Received: 04/03/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376204	04/12/19 18:23	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110362-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9386 Fax (330) 497-0772

MICHIGAN
190

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information Client Contact: Caitlin O'Neill Company: ARCADIS U.S. Inc. Address: 28550 Cabot Drive Suite 500 City: Novi State: MI 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: ONSITE		Lab Info Lab Name: DelMonico, Michael E-Mail: michael.delmonico@tactamc.com		Carrier Tracking Info DOC No: 240-59411-25360.1 Page: Page 1 of 4 Job #:	
Due Date Requested: TAT Requested (days): 10-DAY (STD)		Analysis Requested 8268B - MI - VOCs (Short List) 8268B - MI - VOCs (Short List) 8268B - VOCs (Short List)		Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaOHSC4 F - MeOH G - Ampher H - Acetic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Sample Identification Sample ID: HPT-210-13-17-040119 HPT-210-08-12-040119 HPT-210-3-7-040119 HPT-211-1-2-040119 HPT-211-2-3-040119 HPT-211-3-4-040119 HPT-211-4-5-040119 HPT-211-5-6-040119 Trip Blank		Sample Date 4/11/19 1825 4/11/19 1810 4/11/19 1855 4/11/19 1700 4/11/19 1700 4/11/19 1700 4/11/19 1700 4/11/19 1700		Sample Type (C=Comp, G=grab) G G G G G G G G - -	
Matrix (H=Water, S=Soil, O=Other, B=Blank) Water Water Water Water Water Water Solid Solid Solid Solid Solid		Field Filtered Sample (Yes or No) No No No No No No No No No No		Special Instructions/Note: Dry collected Dry collected Dry collected Dry collected Dry collected Dry collected	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Special Instructions/QC Requirements:	
Relinquished by: Christina Wehren Relinquished for: [Signature] Relinquished by: [Signature]		Date: 4/11/19 2000 4/12/19 1830 4/12/19 1811		Received by: [Signature] Received by: [Signature] Received by: [Signature]	
Company: ARCADIS U.S. Inc. City: Novi State: MI 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: ONSITE		Company: ARCADIS U.S. Inc. City: Novi State: MI 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: ONSITE		Company: ARCADIS U.S. Inc. City: Novi State: MI 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: ONSITE	



TestAmerica Canton Sample Receipt Form/Narrative

Login #: 110362

Canton Facility

Client Arcadi's Site Name Cooler unpacked by: Cooler Received on 4-3-19 Opened on 4-3-19 FedEx: 1st Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other Packing material used Bubble Wrap Foam Elastic Bag None Other COOLANT: Wet Ice Blue Ice Dry Ice Water None

- 1. Cooler temperature upon receipt IR GUN# IR-8 (CF: -0.2°C) Observed Cooler Temp 3.8°C Corrected Cooler Temp 3.6°C IR GUN #36 (CF: +0.7°C) Observed Cooler Temp Corrected Cooler Temp
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1
3. Shippers' packing slip attached to the cooler(s)?
4. Did custody papers accompany the sample(s)?
5. Were the custody papers relinquished & signed in the appropriate place?
6. Was/were the person(s) who collected the samples clearly identified on the COC?
7. Did all bottles arrive in good condition (Unbroken)?
8. Could all bottle labels be reconciled with the COC?
9. Were correct bottle(s) used for the test(s) indicated?
10. Sufficient quantity received to perform indicated analyses?
11. Are these work share samples?
12. Were all preserved sample(s) at the correct pH upon receipt?
13. Were VOAs on the COC?
14. Were air bubbles >6 mm in any VOA vials?
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # D828801VB
16. Was a LL Hg or Me Hg trip blank present?

Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC

Contacted PM Date by via Verbal Voice Mail Other Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: MS

18. SAMPLE CONDITION

19. SAMPLE PRESERVATION

Sample(s) were received after the recommended holding time had expired. Sample(s) were received in a broken container. Sample(s) were received with bubble >6 mm in diameter. (Notify PM) Sample(s) were further preserved in the laboratory. Time preserved: Preservative(s) added/Lot number(s): VOA Sample Preservation - Date/Time VOAs Frozen:

DATA VERIFICATION REPORT



April 29, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 110996-1

Sample date: 2019-04-14

Report received by CADENA: 2019-04-29

Initial Data Verification completed by CADENA: 2019-04-29

Number of Samples: 23

Sample Matrices: Soil

Test Categories: GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC and SIM VOC samples -005, -008 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect. The SIM VOC preservation non-compliance for -002MSD did not result in the qualification of data.

GCMS VOC QC batch MS/MSD issues as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110996-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401109961	LIFHP-132_17-21_041419	4/14/2019	10:40:00	X	X	
24011099610	LIFHP-130_6-10_041419	4/14/2019	5:10:00	X	X	
24011099611	LIFHP-129_15-19_041419	4/14/2019	7:35:00	X	X	
24011099612	LIFHP-131_29-30_041419	4/14/2019	1:40:00	X		
24011099613	LIFHP-130_1-2_041419	4/14/2019	3:15:00	X		
24011099614	LIFHP-130_2-3_041419	4/14/2019	3:15:00	X		
24011099615	LIFHP-130_3-4_041419	4/14/2019	3:15:00	X		
24011099616	LIFHP-130_4-5_041419	4/14/2019	3:15:00	X		
24011099617	LIFHP-130_5-6_041419	4/14/2019	3:15:00	X		
24011099618	LIFHP-130_29-30_041419	4/14/2019	4:25:00	X		
24011099619	LIFHP-129_1-2_041419	4/14/2019	6:00:00	X		
2401109962	LIFHP-132_12-16_041419	4/14/2019	11:00:00	X	X	
24011099620	LIFHP-129_2-3_041419	4/14/2019	6:00:00	X		
24011099621	LIFHP-129_3-4_041419	4/14/2019	6:00:00	X		
24011099622	LIFHP-129_4-5_041419	4/14/2019	6:00:00	X		
24011099623	LIFHP-132_1-2_041419	4/14/2019	11:20:00	X		
24011099624	LIFHP-132_3-4_041419	4/14/2019	11:20:00	X		
24011099625	LIFHP-132_4-5_041419	4/14/2019	11:20:00	X		
24011099626	LIFHP-132_5-6_041419	4/14/2019	11:20:00	X		
24011099627	LIFHP-132_6-7_041419	4/14/2019	11:20:00	X		
24011099628	LIFHP-132_29-30_041419	4/14/2019	11:10:00	X		
24011099629	LIFHP-131_1-2_041419	4/14/2019	12:00:00	X		
2401109963	LIFHP-132_7-11_041419	4/14/2019	11:15:00	X	X	
24011099630	LIFHP-131_2-3_041419	4/14/2019	12:00:00	X		
24011099631	LIFHP-131_3-4_041419	4/14/2019	12:00:00	X		
24011099632	LIFHP-131_4-5_041419	4/14/2019	12:00:00	X		
24011099633	LIFHP-131_5-6_041419	4/14/2019	12:00:00	X		
24011099634	LIFHP-129_10-14_041419	4/14/2019	7:55:00	X	X	
24011099635	LIFHP-129_5-9_041419	4/14/2019	8:05:00	X	X	
24011099636	LIFHP-129_29-30_041419	4/14/2019	7:05:00	X		
24011099637	DUP-06	4/14/2019	12:00:00	X	X	
24011099638	TRIP BLANK	4/14/2019	12:00:00	X		
24011099639	TRIP BLANK	4/14/2019	12:00:00	X		
2401109965	LIFHP-131_16-20_041419	4/14/2019	1:55:00	X	X	
2401109966	LIFHP-131_11-15_041419	4/14/2019	2:10:00	X	X	
2401109967	LIFHP-131_6-10_041419	4/14/2019	2:25:00	X	X	
2401109968	LIFHP-130_16-20_041419	4/14/2019	4:45:00	X	X	
2401109969	LIFHP-130_11-15_041419	4/14/2019	5:00:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110996-1

Sample Name:	LIFHP-131_16-20_041419	LIFHP-130_16-20_041419
Lab Sample ID:	2401109965	2401109968
Sample Date:	4/14/2019	4/14/2019

Analyte	Cas No.	Report		Units	Valid		Report		Valid	
		Result	Limit		Qualifier	Result	Limit	Units	Qualifier	
GC/MS VOC										
<u>OSW-8260B</u>										
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	
Vinyl chloride	75-01-4	0.83	1.0	ug/l	J	1.5	1.0	ug/l	J	
<u>OSW-8260BBSim</u>										
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 110996-1

Analyte	Cas No.	DUP-06 24011099637 4/14/2019			TRIP BLANK 24011099638 4/14/2019			TRIP BLANK 24011099639 4/14/2019			LIFHP-131_16-20_041419 24011099665 4/14/2019			LIFHP-131_11-15_041419 24011099666 4/14/2019			LIFHP-131_6-10_041419 24011099667 4/14/2019			LIFHP-130_16-20_041419 24011099668 4/14/2019			LIFHP-130_11-15_041419 24011099669 4/14/2019						
		Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid										
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier				
GC/MS VOC																													
<u>ODW-82608</u>																													
1,1-Dichloroethene	75-35-4	ND	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	ND	2.5	ug/l	--	ND	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
cis-1,2-Dichloroethene	156-59-2	38	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	34	2.5	ug/l	--	37	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
Tetrachloroethene	127-18-4	ND	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	ND	2.5	ug/l	--	ND	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
trans-1,2-Dichloroethene	156-60-5	ND	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	ND	2.5	ug/l	--	ND	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
Trichloroethene	79-01-6	ND	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	UJ	ND	2.5	ug/l	--	ND	2.5	ug/l	--	ND	1.0	ug/l	UJ	ND	1.0	ug/l	--
Vinyl chloride	75-01-4	80	2.5	ug/l	--	ND	1.0	ug/l	--	ND	1.0	ug/l	J	79	2.5	ug/l	--	63	2.5	ug/l	--	1.5	1.0	ug/l	J	1.4	1.0	ug/l	--
<u>ODW-82608Sim</u>																													
1,4-Dioxane	123-91-1	ND	2.0	ug/l	--					ND	2.0	ug/l	UJ	ND	2.0	ug/l	--	0.97	2.0	ug/l	J	ND	2.0	ug/l	UJ	ND	2.0	ug/l	--

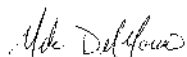
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110999-1
Client Project/Site: Ford LTP Livonia MI - E203728

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/29/2019 4:50:27 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Job ID: 240-110999-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-110999-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/16/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-224A_21-25_041219 (240-110999-1), HPT-224A_16-20_041219 (240-110999-2), HPT-224A_11-15_041219 (240-110999-3), HPT-224A_6-10_041219 (240-110999-4), TRIP BLANK (240-110999-5) and DUP-05 (240-110999-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/19/2019 and 04/22/2019.

Dibromofluoromethane (Surr) failed the surrogate recovery criteria high for HPT-224A_21-25_041219 (240-110999-1) and HPT-224A_11-15_041219 (240-110999-3). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-224A_21-25_041219 (240-110999-1), HPT-224A_16-20_041219 (240-110999-2), HPT-224A_11-15_041219 (240-110999-3), HPT-224A_6-10_041219 (240-110999-4) and DUP-05 (240-110999-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/17/2019.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Job ID: 240-110999-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

The pH is greater than 2 for the following sample: HPT-224A_6-10_041219 (240-110999-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110999-1	HPT-224A_21-25_041219	Water	04/12/19 10:00	04/16/19 10:00
240-110999-2	HPT-224A_16-20_041219	Water	04/12/19 10:15	04/16/19 10:00
240-110999-3	HPT-224A_11-15_041219	Water	04/12/19 10:30	04/16/19 10:00
240-110999-4	HPT-224A_6-10_041219	Water	04/12/19 10:45	04/16/19 10:00
240-110999-5	TRIP BLANK	Water	04/12/19 00:00	04/16/19 10:00
240-110999-6	DUP-05	Water	04/12/19 00:00	04/16/19 10:00



Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Client Sample ID: HPT-224A_21-25_041219

Lab Sample ID: 240-110999-1

No Detections.

Client Sample ID: HPT-224A_16-20_041219

Lab Sample ID: 240-110999-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.32	J	1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-224A_11-15_041219

Lab Sample ID: 240-110999-3

No Detections.

Client Sample ID: HPT-224A_6-10_041219

Lab Sample ID: 240-110999-4

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110999-5

No Detections.

Client Sample ID: DUP-05

Lab Sample ID: 240-110999-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Client Sample ID: HPT-224A_21-25_041219

Lab Sample ID: 240-110999-1

Date Collected: 04/12/19 10:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		04/17/19 13:51	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 20:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/19/19 20:00	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/19/19 20:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 20:00	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/19/19 20:00	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/19/19 20:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 121		04/19/19 20:00	1
4-Bromofluorobenzene (Surr)	77		59 - 120		04/19/19 20:00	1
Toluene-d8 (Surr)	97		70 - 123		04/19/19 20:00	1
Dibromofluoromethane (Surr)	130	X	75 - 128		04/19/19 20:00	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Client Sample ID: HPT-224A_16-20_041219

Lab Sample ID: 240-110999-2

Date Collected: 04/12/19 10:15

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 14:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 125		04/17/19 14:17	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/19/19 21:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		04/19/19 21:40	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		04/19/19 21:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/19/19 21:40	1
Trichloroethene	0.32	J	1.0	0.10	ug/L	-		04/19/19 21:40	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		04/19/19 21:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 121		04/19/19 21:40	1
4-Bromofluorobenzene (Surr)	70		59 - 120		04/19/19 21:40	1
Toluene-d8 (Surr)	92		70 - 123		04/19/19 21:40	1
Dibromofluoromethane (Surr)	122		75 - 128		04/19/19 21:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Client Sample ID: HPT-224A_11-15_041219

Lab Sample ID: 240-110999-3

Date Collected: 04/12/19 10:30

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 14:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 14:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 15:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 15:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 15:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 15:02	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 15:02	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 15:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		04/22/19 15:02	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/22/19 15:02	1
Toluene-d8 (Surr)	97		70 - 123		04/22/19 15:02	1
Dibromofluoromethane (Surr)	130	X	75 - 128		04/22/19 15:02	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Client Sample ID: HPT-224A_6-10_041219

Lab Sample ID: 240-110999-4

Date Collected: 04/12/19 10:45

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 15:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/17/19 15:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 15:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 15:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 15:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 15:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 15:24	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 121		04/22/19 15:24	1
4-Bromofluorobenzene (Surr)	77		59 - 120		04/22/19 15:24	1
Toluene-d8 (Surr)	95		70 - 123		04/22/19 15:24	1
Dibromofluoromethane (Surr)	125		75 - 128		04/22/19 15:24	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110999-5

Date Collected: 04/12/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 15:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 15:46	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 15:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 15:46	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 15:46	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 15:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		04/22/19 15:46	1
4-Bromofluorobenzene (Surr)	77		59 - 120		04/22/19 15:46	1
Toluene-d8 (Surr)	99		70 - 123		04/22/19 15:46	1
Dibromofluoromethane (Surr)	127		75 - 128		04/22/19 15:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Client Sample ID: DUP-05

Lab Sample ID: 240-110999-6

Date Collected: 04/12/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 15:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 15:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 16:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 16:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 16:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 16:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		04/22/19 16:08	1
4-Bromofluorobenzene (Surr)	72		59 - 120		04/22/19 16:08	1
Toluene-d8 (Surr)	94		70 - 123		04/22/19 16:08	1
Dibromofluoromethane (Surr)	125		75 - 128		04/22/19 16:08	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110950-E-2 MS	Matrix Spike	95	99	107	115
240-110950-E-2 MSD	Matrix Spike Duplicate	91	98	104	113
240-110973-G-1 MSD	Matrix Spike Duplicate	89	91	104	106
240-110973-H-1 MS	Matrix Spike	98	99	106	115
240-110999-1	HPT-224A_21-25_041219	112	77	97	130 X
240-110999-2	HPT-224A_16-20_041219	105	70	92	122
240-110999-3	HPT-224A_11-15_041219	110	75	97	130 X
240-110999-4	HPT-224A_6-10_041219	109	77	95	125
240-110999-5	TRIP BLANK	110	77	99	127
240-110999-6	DUP-05	107	72	94	125
LCS 240-377344/4	Lab Control Sample	91	100	108	112
LCS 240-377602/4	Lab Control Sample	96	101	111	119
MB 240-377344/6	Method Blank	104	78	98	121
MB 240-377602/35	Method Blank	106	75	96	120

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-110996-A-2 MS	Matrix Spike	107
240-110996-A-2 MSD	Matrix Spike Duplicate	103
240-110999-1	HPT-224A_21-25_041219	100
240-110999-2	HPT-224A_16-20_041219	105
240-110999-3	HPT-224A_11-15_041219	104
240-110999-4	HPT-224A_6-10_041219	102
240-110999-6	DUP-05	104
LCS 240-376915/4	Lab Control Sample	99
MB 240-376915/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-377344/6
Matrix: Water
Analysis Batch: 377344

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 12:18	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/19/19 12:18	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/19/19 12:18	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 12:18	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/19/19 12:18	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/19/19 12:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 121		04/19/19 12:18	1
4-Bromofluorobenzene (Surr)	78		59 - 120		04/19/19 12:18	1
Toluene-d8 (Surr)	98		70 - 123		04/19/19 12:18	1
Dibromofluoromethane (Surr)	121		75 - 128		04/19/19 12:18	1

Lab Sample ID: LCS 240-377344/4
Matrix: Water
Analysis Batch: 377344

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.0		ug/L		100	65 - 139
cis-1,2-Dichloroethene	10.0	11.4		ug/L		114	76 - 128
Tetrachloroethene	10.0	12.0		ug/L		120	74 - 130
trans-1,2-Dichloroethene	10.0	12.5		ug/L		125	78 - 133
Trichloroethene	10.0	9.92		ug/L		99	76 - 125
Vinyl chloride	10.0	10.6		ug/L		106	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 121
4-Bromofluorobenzene (Surr)	100		59 - 120
Toluene-d8 (Surr)	108		70 - 123
Dibromofluoromethane (Surr)	112		75 - 128

Lab Sample ID: 240-110973-G-1 MSD
Matrix: Water
Analysis Batch: 377344

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	8.70		ug/L		87	53 - 140	2	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.74		ug/L		97	64 - 130	1	21
Tetrachloroethene	1.0	U	10.0	9.82		ug/L		98	51 - 136	2	23
trans-1,2-Dichloroethene	1.0	U	10.0	10.9		ug/L		109	68 - 133	2	24
Trichloroethene	0.21	J	10.0	8.73		ug/L		85	55 - 131	3	23
Vinyl chloride	1.0	U	10.0	9.87		ug/L		99	43 - 154	8	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		70 - 121
4-Bromofluorobenzene (Surr)	91		59 - 120
Toluene-d8 (Surr)	104		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110973-G-1 MSD
Matrix: Water
Analysis Batch: 377344

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
Dibromofluoromethane (Surr)	106		75 - 128

Lab Sample ID: 240-110973-H-1 MS
Matrix: Water
Analysis Batch: 377344

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	8.52		ug/L		85	53 - 140
cis-1,2-Dichloroethene	1.0	U	10.0	9.84		ug/L		98	64 - 130
Tetrachloroethene	1.0	U	10.0	9.63		ug/L		96	51 - 136
trans-1,2-Dichloroethene	1.0	U	10.0	11.1		ug/L		111	68 - 133
Trichloroethene	0.21	J	10.0	8.44		ug/L		82	55 - 131
Vinyl chloride	1.0	U	10.0	10.6		ug/L		106	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		70 - 121
4-Bromofluorobenzene (Surr)	99		59 - 120
Toluene-d8 (Surr)	106		70 - 123
Dibromofluoromethane (Surr)	115		75 - 128

Lab Sample ID: MB 240-377602/35
Matrix: Water
Analysis Batch: 377602

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 13:00	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 13:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:00	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 13:00	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 13:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		04/22/19 13:00	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/22/19 13:00	1
Toluene-d8 (Surr)	96		70 - 123		04/22/19 13:00	1
Dibromofluoromethane (Surr)	120		75 - 128		04/22/19 13:00	1

Lab Sample ID: LCS 240-377602/4
Matrix: Water
Analysis Batch: 377602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.97		ug/L		100	65 - 139
cis-1,2-Dichloroethene	10.0	11.5		ug/L		115	76 - 128
Tetrachloroethene	10.0	11.9		ug/L		119	74 - 130
trans-1,2-Dichloroethene	10.0	12.7		ug/L		127	78 - 133
Trichloroethene	10.0	10.2		ug/L		102	76 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-377602/4

Matrix: Water

Analysis Batch: 377602

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	10.0		ug/L		100	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
4-Bromofluorobenzene (Surr)	101		59 - 120
Toluene-d8 (Surr)	111		70 - 123
Dibromofluoromethane (Surr)	119		75 - 128

Lab Sample ID: 240-110950-E-2 MS

Matrix: Water

Analysis Batch: 377602

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10	U	100	82.0		ug/L		82	53 - 140
cis-1,2-Dichloroethene	270		100	359		ug/L		90	64 - 130
Tetrachloroethene	10	U	100	84.8		ug/L		85	51 - 136
trans-1,2-Dichloroethene	120		100	232		ug/L		110	68 - 133
Trichloroethene	42		100	120		ug/L		78	55 - 131
Vinyl chloride	10	U	100	104		ug/L		104	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 121
4-Bromofluorobenzene (Surr)	99		59 - 120
Toluene-d8 (Surr)	107		70 - 123
Dibromofluoromethane (Surr)	115		75 - 128

Lab Sample ID: 240-110950-E-2 MSD

Matrix: Water

Analysis Batch: 377602

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	10	U	100	91.6		ug/L		92	53 - 140	11	35
cis-1,2-Dichloroethene	270		100	360		ug/L		91	64 - 130	0	21
Tetrachloroethene	10	U	100	100		ug/L		100	51 - 136	17	23
trans-1,2-Dichloroethene	120		100	239		ug/L		117	68 - 133	3	24
Trichloroethene	42		100	128		ug/L		85	55 - 131	6	23
Vinyl chloride	10	U	100	109		ug/L		109	43 - 154	5	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 121
4-Bromofluorobenzene (Surr)	98		59 - 120
Toluene-d8 (Surr)	104		70 - 123
Dibromofluoromethane (Surr)	113		75 - 128

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376915/5
Matrix: Water
Analysis Batch: 376915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 12:59	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125					04/17/19 12:59	1

Lab Sample ID: LCS 240-376915/4
Matrix: Water
Analysis Batch: 376915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		63 - 125				

Lab Sample ID: 240-110996-A-2 MS
Matrix: Water
Analysis Batch: 376915

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	10.8		ug/L		108	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	107		63 - 125						

Lab Sample ID: 240-110996-A-2 MSD
Matrix: Water
Analysis Batch: 376915

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.1		ug/L		111	52 - 129	4	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	103		63 - 125								

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

GC/MS VOA

Analysis Batch: 376915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110999-1	HPT-224A_21-25_041219	Total/NA	Water	8260B SIM	
240-110999-2	HPT-224A_16-20_041219	Total/NA	Water	8260B SIM	
240-110999-3	HPT-224A_11-15_041219	Total/NA	Water	8260B SIM	
240-110999-4	HPT-224A_6-10_041219	Total/NA	Water	8260B SIM	
240-110999-6	DUP-05	Total/NA	Water	8260B SIM	
MB 240-376915/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376915/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110996-A-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110996-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 377344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110999-1	HPT-224A_21-25_041219	Total/NA	Water	8260B	
240-110999-2	HPT-224A_16-20_041219	Total/NA	Water	8260B	
MB 240-377344/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377344/4	Lab Control Sample	Total/NA	Water	8260B	
240-110973-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-110973-H-1 MS	Matrix Spike	Total/NA	Water	8260B	

Analysis Batch: 377602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110999-3	HPT-224A_11-15_041219	Total/NA	Water	8260B	
240-110999-4	HPT-224A_6-10_041219	Total/NA	Water	8260B	
240-110999-5	TRIP BLANK	Total/NA	Water	8260B	
240-110999-6	DUP-05	Total/NA	Water	8260B	
MB 240-377602/35	Method Blank	Total/NA	Water	8260B	
LCS 240-377602/4	Lab Control Sample	Total/NA	Water	8260B	
240-110950-E-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-110950-E-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Client Sample ID: HPT-224A_21-25_041219

Lab Sample ID: 240-110999-1

Date Collected: 04/12/19 10:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377344	04/19/19 20:00	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 13:51	SAM	TAL CAN

Client Sample ID: HPT-224A_16-20_041219

Lab Sample ID: 240-110999-2

Date Collected: 04/12/19 10:15

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377344	04/19/19 21:40	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 14:17	SAM	TAL CAN

Client Sample ID: HPT-224A_11-15_041219

Lab Sample ID: 240-110999-3

Date Collected: 04/12/19 10:30

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377602	04/22/19 15:02	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 14:42	SAM	TAL CAN

Client Sample ID: HPT-224A_6-10_041219

Lab Sample ID: 240-110999-4

Date Collected: 04/12/19 10:45

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377602	04/22/19 15:24	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 15:08	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110999-5

Date Collected: 04/12/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377602	04/22/19 15:46	LEE	TAL CAN

Client Sample ID: DUP-05

Lab Sample ID: 240-110999-6

Date Collected: 04/12/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377602	04/22/19 16:08	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 15:33	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110999-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.


TestAmerica Canton
 4101 Shuffel Street NW
 North Canton, OH 44720
 Phone (330) 497-9386 Fax (330) 497-0772

Chain of Custody Record

MICHIGAN
 100

TestAmerica

Client Information		Lab City		Center Tracking Note		COC No.					
ARCADIS U.S. Inc		DelMonico, Michael		240-5382-253416		Page 1 of 2					
Address: 26550 Cabot Drive Suite 500		E-Mail: michael.delmonico@testamericant.com		Job #		Preservation Codes:					
City: Novi		State: MI		TAT Requested (days): 14 (10 DAY STD)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - Hail/SDA F - NaOH G - Ammonia H - Acetic Acid I - Ice J - DI Water K - EDTA L - EDA Others:					
Phone: 248-722-2411		PO #: M1001318 0002 00002		Field Filtration Sample (Yes or No)		Special Instructions/Note:					
Email: Caitlin.O'Neill@arcadis.com		Cadena #: E203631		Form MS/MSD (Yes or No)		Total Number of Containers					
Project Name: Ford LTP Livonia MI - E203631		Project #: 24015553		8560B, 8569B, SIM		8560B - VOCs (Short List)					
Site:		SCAN#:		8560B, MI - VOCs (Short List)		8560B - VOCs (Short List)					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (Water, Swab, Grab)	Preservation Code	Field Filtration Sample (Yes or No)	Form MS/MSD (Yes or No)	8560B, 8569B, SIM	8560B, MI - VOCs (Short List)	8560B - VOCs (Short List)	Analysis Requested
HPT-224A 21-25 - CH1219	4/12/19	1000	6	Water	AM303	X					
HPT-224A 16-20 - CH1219	4/12/19	1015	6	Water	AM303	X					
HPT-224A 11-15 - CH1219	4/12/19	1030	6	Water	AM303	X					
HPT-224A 6-10 - CH1219	4/12/19	1045	6	Water	AM303	X					
TOP BLANK	4/12/19	---	---	Water	---						
DUP-05	4/12/19	---	6	Water	AM303						
				Water							
				Water							
				Water							
				Water							
				Water							
				Water							



240-110899 Chain of Custody

Possible Hazard Identification		Sample Disposal (A)	
<input checked="" type="checkbox"/> Non-Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Return To Client	<input type="checkbox"/> Archive For (Month)
<input type="checkbox"/> Deliverable Requested: I, II, III (Other (specify))	<input type="checkbox"/> Skin Irritant	Special Instructions/OC Requirements: <u>Submit all results through central at jayfrancisco@arcadis.com # 22338</u>	

Empty Kit Relinquished by:		Time:	
Requesting by: <u>Christina Weller</u>	Date/Time: 4/12/19 1900	Company: Arcadis	Date/Time: 4/12/19 1900
Relinquished by: <u>Christina Weller</u>	Date/Time: 4/15/19 0900	Company: Arcadis	Date/Time: 4/15/19 0910
Relinquished by: <u>Christina Weller</u>	Date/Time: 4/15/19 0900	Company: Arcadis	Date/Time: 4/15/19 0900

Custody Seal No. 1000

Order Temperature: 1000

TestAmerica Canton Sample Receipt Form/Narrative

Login #: 110999

Canton Facility

Client: Accedis Site Name: Cooler unpacked by: [Signature]
Cooler Received on: 4/16/19 Opened on: 4/16/19
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler #: TA Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None

- 1. Cooler temperature upon receipt. IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. 1.8 °C Corrected Cooler Temp. 1.6 °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # N/A Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving: VOAs Oil and Grease TOC

Contacted PM Date by via Verbal Voice Mail Other
Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: JR

18. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:

DATA VERIFICATION REPORT



April 29, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008

Event Specific Scope of Work References: Sample COC

Laboratory: Test America - North Canton

Laboratory submittal: 110999-1

Sample date: 2019-04-12

Report received by CADENA: 2019-04-29

Initial Data Verification completed by CADENA: 2019-04-29

Number of Samples: 6

Sample Matrices: Water

Test Categories: GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC SIM sample -004 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

GCMS VOC samples -001, -003 SURROGATE recoveries were outliers biased high for at least 1 surrogate. Associated client sample results were non-detect so qualification was not required based on these high bias QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110999-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401109991	HPT-224A_21-25_041219	4/12/2019	10:00:00	X	X	
2401109992	HPT-224A_16-20_041219	4/12/2019	10:15:00	X	X	
2401109993	HPT-224A_11-15_041219	4/12/2019	10:30:00	X	X	
2401109994	HPT-224A_6-10_041219	4/12/2019	10:45:00	X	X	
2401109995	TRIP BLANK	4/12/2019	12:00:00	X		
2401109996	DUP-05	4/12/2019	12:00:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110999-1

Sample Name: HPT-224A_6-10_041219

Lab Sample ID: 2401109994

Sample Date: 4/12/2019

Analyte	Cas No.	Result	Report		Valid
			Limit	Units	

GC/MS VOC

OSW-8260BBSim

1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ
-------------	----------	----	-----	------	----

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110999-1

Sample Name: HPT-224A_21-25_041219	HPT-224A_16-20_041219	HPT-224A_11-15_041219	HPT-224A_6-10_041219	TRIP BLANK	DUP-05
Lab Sample ID: 2401109991	2401109992	2401109993	2401109994	2401109995	2401109996
Sample Date: 4/12/2019	4/12/2019	4/12/2019	4/12/2019	4/12/2019	4/12/2019

Analyte	Cas No.	Report				Report				Report				Report				Report						
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier			
GC/MS VOC																								
<u>OSW-8260B</u>																								
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---			
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---			
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---			
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---			
Trichloroethene	79-01-6	ND	1.0	ug/l	---	0.32	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---			
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---			
<u>OSW-8260BBSim</u>																								
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	UJ				ND	2.0	ug/l	---

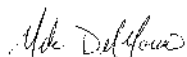
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-125186-1
Client Project/Site: Ford LTP

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
1/28/2020 4:59:09 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Job ID: 240-125186-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP

Report Number: 240-125186-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/21/2020 11:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-125186-1), LIFHP-133_15-19_011920 (240-125186-2) and LIFHP-133_10-14_011920 (240-125186-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/22/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples LIFHP-133_1-2_011920 (240-125186-4), LIFHP-133_4-5_011920 (240-125186-5), LIFHP-133_6-7_011920 (240-125186-6), LIFHP-133_7-8_011920 (240-125186-7) and LIFHP-133_8-9_011920 (240-125186-8) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/23/2020.

Dibromofluoromethane (Surr) failed the surrogate recovery criteria high for LIFHP-133_1-2_011920 (240-125186-4) and LIFHP-133_4-5_011920 (240-125186-5). Refer to the QC report for details.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Job ID: 240-125186-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

240-420043 and analytical batch 240-420016.

The continuing calibration verification (CCV) associated with batch 240-420016 recovered above the upper control limit for Vinyl Chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: LIFHP-133_1-2_011920 (240-125186-4), LIFHP-133_4-5_011920 (240-125186-5), LIFHP-133_6-7_011920 (240-125186-6), LIFHP-133_7-8_011920 (240-125186-7), LIFHP-133_8-9_011920 (240-125186-8) and (CCVIS 240-420016/3).

Surrogate recovery for the following samples were outside the upper control limit: LIFHP-133_1-2_011920 (240-125186-4) and LIFHP-133_4-5_011920 (240-125186-5). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-133_15-19_011920 (240-125186-2) and LIFHP-133_10-14_011920 (240-125186-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 01/27/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples LIFHP-133_1-2_011920 (240-125186-4), LIFHP-133_4-5_011920 (240-125186-5), LIFHP-133_6-7_011920 (240-125186-6), LIFHP-133_7-8_011920 (240-125186-7) and LIFHP-133_8-9_011920 (240-125186-8) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 01/21/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125186-1	TRIP BLANK	Water	01/19/20 00:00	01/21/20 11:30	
240-125186-2	LIFHP-133_15-19_011920	Water	01/19/20 16:55	01/21/20 11:30	
240-125186-3	LIFHP-133_10-14_011920	Water	01/19/20 00:00	01/21/20 11:30	
240-125186-4	LIFHP-133_1-2_011920	Solid	01/19/20 13:08	01/21/20 11:30	
240-125186-5	LIFHP-133_4-5_011920	Solid	01/19/20 13:10	01/21/20 11:30	
240-125186-6	LIFHP-133_6-7_011920	Solid	01/19/20 13:12	01/21/20 11:30	
240-125186-7	LIFHP-133_7-8_011920	Solid	01/19/20 13:14	01/21/20 11:30	
240-125186-8	LIFHP-133_8-9_011920	Solid	01/19/20 13:16	01/21/20 11:30	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125186-1

No Detections.

Client Sample ID: LIFHP-133_15-19_011920

Lab Sample ID: 240-125186-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.1		1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-133_10-14_011920

Lab Sample ID: 240-125186-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.37	J	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-133_1-2_011920

Lab Sample ID: 240-125186-4

No Detections.

Client Sample ID: LIFHP-133_4-5_011920

Lab Sample ID: 240-125186-5

No Detections.

Client Sample ID: LIFHP-133_6-7_011920

Lab Sample ID: 240-125186-6

No Detections.

Client Sample ID: LIFHP-133_7-8_011920

Lab Sample ID: 240-125186-7

No Detections.

Client Sample ID: LIFHP-133_8-9_011920

Lab Sample ID: 240-125186-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125186-1

Date Collected: 01/19/20 00:00

Matrix: Water

Date Received: 01/21/20 11:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 17:04	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/22/20 17:04	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/22/20 17:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 17:04	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/22/20 17:04	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/22/20 17:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 130		01/22/20 17:04	1
4-Bromofluorobenzene (Surr)	75		47 - 134		01/22/20 17:04	1
Toluene-d8 (Surr)	96		69 - 122		01/22/20 17:04	1
Dibromofluoromethane (Surr)	115		78 - 129		01/22/20 17:04	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_15-19_011920

Lab Sample ID: 240-125186-2

Date Collected: 01/19/20 16:55

Matrix: Water

Date Received: 01/21/20 11:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		01/27/20 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		01/27/20 19:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/22/20 17:28	1
cis-1,2-Dichloroethene	1.1		1.0	0.16	ug/L			01/22/20 17:28	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/22/20 17:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 17:28	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/22/20 17:28	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/22/20 17:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		01/22/20 17:28	1
4-Bromofluorobenzene (Surr)	69		47 - 134		01/22/20 17:28	1
Toluene-d8 (Surr)	98		69 - 122		01/22/20 17:28	1
Dibromofluoromethane (Surr)	111		78 - 129		01/22/20 17:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_10-14_011920

Lab Sample ID: 240-125186-3

Date Collected: 01/19/20 00:00

Matrix: Water

Date Received: 01/21/20 11:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		01/27/20 19:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		01/27/20 19:58	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/22/20 17:51	1
cis-1,2-Dichloroethene	0.37	J	1.0	0.16	ug/L	-		01/22/20 17:51	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		01/22/20 17:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/22/20 17:51	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		01/22/20 17:51	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		01/22/20 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/22/20 17:51	1
4-Bromofluorobenzene (Surr)	72		47 - 134		01/22/20 17:51	1
Toluene-d8 (Surr)	92		69 - 122		01/22/20 17:51	1
Dibromofluoromethane (Surr)	108		78 - 129		01/22/20 17:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_1-2_011920

Lab Sample ID: 240-125186-4

Date Collected: 01/19/20 13:08

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 85.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
Trichloroethene	53	U	53	15	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	01/23/20 11:16	01/23/20 16:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	123		47 - 136	01/23/20 11:16	01/23/20 16:59	1
4-Bromofluorobenzene (Surr)	101		51 - 124	01/23/20 11:16	01/23/20 16:59	1
Dibromofluoromethane (Surr)	128	X	49 - 122	01/23/20 11:16	01/23/20 16:59	1
Toluene-d8 (Surr)	109		55 - 123	01/23/20 11:16	01/23/20 16:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.7		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	14.3		0.1	0.1	%			01/21/20 15:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_4-5_011920

Lab Sample ID: 240-125186-5

Date Collected: 01/19/20 13:10

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 86.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
1,4-Dioxane	17000	U	17000	1400	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
Trichloroethene	53	U	53	15	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	01/23/20 11:16	01/23/20 17:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		47 - 136	01/23/20 11:16	01/23/20 17:21	1
4-Bromofluorobenzene (Surr)	100		51 - 124	01/23/20 11:16	01/23/20 17:21	1
Dibromofluoromethane (Surr)	126	X	49 - 122	01/23/20 11:16	01/23/20 17:21	1
Toluene-d8 (Surr)	109		55 - 123	01/23/20 11:16	01/23/20 17:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.1		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	13.9		0.1	0.1	%			01/21/20 15:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_6-7_011920

Lab Sample ID: 240-125186-6

Date Collected: 01/19/20 13:12

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 88.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/23/20 11:16	01/23/20 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		47 - 136	01/23/20 11:16	01/23/20 17:44	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/23/20 11:16	01/23/20 17:44	1
Dibromofluoromethane (Surr)	113		49 - 122	01/23/20 11:16	01/23/20 17:44	1
Toluene-d8 (Surr)	97		55 - 123	01/23/20 11:16	01/23/20 17:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.6		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	11.4		0.1	0.1	%			01/21/20 15:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_7-8_011920

Lab Sample ID: 240-125186-7

Date Collected: 01/19/20 13:14

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 91.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
cis-1,2-Dichloroethene	48	U	48	11	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
Tetrachloroethene	48	U	48	21	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
Trichloroethene	48	U	48	13	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	01/23/20 11:16	01/23/20 18:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		47 - 136	01/23/20 11:16	01/23/20 18:06	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/23/20 11:16	01/23/20 18:06	1
Dibromofluoromethane (Surr)	107		49 - 122	01/23/20 11:16	01/23/20 18:06	1
Toluene-d8 (Surr)	93		55 - 123	01/23/20 11:16	01/23/20 18:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.3		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	8.7		0.1	0.1	%			01/21/20 15:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_8-9_011920

Lab Sample ID: 240-125186-8

Date Collected: 01/19/20 13:16

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 89.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/23/20 11:16	01/23/20 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		47 - 136	01/23/20 11:16	01/23/20 18:29	1
4-Bromofluorobenzene (Surr)	95		51 - 124	01/23/20 11:16	01/23/20 18:29	1
Dibromofluoromethane (Surr)	112		49 - 122	01/23/20 11:16	01/23/20 18:29	1
Toluene-d8 (Surr)	102		55 - 123	01/23/20 11:16	01/23/20 18:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.0		0.1	0.1	%			01/21/20 15:10	1
Percent Moisture	11.0		0.1	0.1	%			01/21/20 15:10	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-125186-1	TRIP BLANK	98	75	96	115
240-125186-2	LIFHP-133_15-19_011920	96	69	98	111
240-125186-3	LIFHP-133_10-14_011920	94	72	92	108
LCS 240-419869/4	Lab Control Sample	82	95	102	98
MB 240-419869/7	Method Blank	94	73	94	109

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (47-136)	BFB (51-124)	DBFM (49-122)	TOL (55-123)
240-125186-4	LIFHP-133_1-2_011920	123	101	128 X	109
240-125186-5	LIFHP-133_4-5_011920	120	100	126 X	109
240-125186-6	LIFHP-133_6-7_011920	113	88	113	97
240-125186-7	LIFHP-133_7-8_011920	106	88	107	93
240-125186-8	LIFHP-133_8-9_011920	111	95	112	102
LCS 240-420043/2-A	Lab Control Sample	95	79	102	87
MB 240-420043/1-A	Method Blank	95	75	99	82

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-125084-C-4 MS	Matrix Spike	101
240-125084-C-4 MSD	Matrix Spike Duplicate	101
240-125186-2	LIFHP-133_15-19_011920	101
240-125186-3	LIFHP-133_10-14_011920	100
LCS 240-420320/4	Lab Control Sample	96
MB 240-420320/5	Method Blank	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-419869/7
Matrix: Water
Analysis Batch: 419869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 14:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/22/20 14:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/22/20 14:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/22/20 14:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/22/20 14:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/22/20 14:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/22/20 14:41	1
4-Bromofluorobenzene (Surr)	73		47 - 134		01/22/20 14:41	1
Toluene-d8 (Surr)	94		69 - 122		01/22/20 14:41	1
Dibromofluoromethane (Surr)	109		78 - 129		01/22/20 14:41	1

Lab Sample ID: LCS 240-419869/4
Matrix: Water
Analysis Batch: 419869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.4		ug/L		104	73 - 129
cis-1,2-Dichloroethene	10.0	10.5		ug/L		105	75 - 124
Tetrachloroethene	10.0	9.89		ug/L		99	70 - 125
trans-1,2-Dichloroethene	10.0	11.1		ug/L		111	74 - 130
Trichloroethene	10.0	10.2		ug/L		102	71 - 121
Vinyl chloride	10.0	7.88		ug/L		79	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	102		69 - 122
Dibromofluoromethane (Surr)	98		78 - 129

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420043/1-A
Matrix: Solid
Analysis Batch: 420016

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420043

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
Tetrachloroethene	40	U	40	18	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
Trichloroethene	40	U	40	11	ug/Kg		01/23/20 11:16	01/23/20 15:52	1
Vinyl chloride	32	U	32	12	ug/Kg		01/23/20 11:16	01/23/20 15:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		47 - 136	01/23/20 11:16	01/23/20 15:52	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-420043/1-A
Matrix: Solid
Analysis Batch: 420016

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420043

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	75		51 - 124	01/23/20 11:16	01/23/20 15:52	1
Dibromofluoromethane (Surr)	99		49 - 122	01/23/20 11:16	01/23/20 15:52	1
Toluene-d8 (Surr)	82		55 - 123	01/23/20 11:16	01/23/20 15:52	1

Lab Sample ID: LCS 240-420043/2-A
Matrix: Solid
Analysis Batch: 420016

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,4-Dioxane	20000	26900		ug/Kg		135	44 - 154
cis-1,2-Dichloroethene	1000	1120		ug/Kg		112	76 - 120
Tetrachloroethene	1000	917		ug/Kg		92	75 - 124
trans-1,2-Dichloroethene	1000	1060		ug/Kg		106	74 - 125
Trichloroethene	1000	1120		ug/Kg		112	75 - 123
Vinyl chloride	1000	1060		ug/Kg		106	39 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		47 - 136
4-Bromofluorobenzene (Surr)	79		51 - 124
Dibromofluoromethane (Surr)	102		49 - 122
Toluene-d8 (Surr)	87		55 - 123

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420320/5
Matrix: Water
Analysis Batch: 420320

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/27/20 11:23	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	97		63 - 125		01/27/20 11:23	1

Lab Sample ID: LCS 240-420320/4
Matrix: Water
Analysis Batch: 420320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		63 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125084-C-4 MS
Matrix: Water
Analysis Batch: 420320

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	8.8		10.0	17.5		ug/L		87	52 - 129
Surrogate	%Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	101		63 - 125						

Lab Sample ID: 240-125084-C-4 MSD
Matrix: Water
Analysis Batch: 420320

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	8.8		10.0	17.7		ug/L		89	52 - 129	1	13
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	101		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-125186-4 DU
Matrix: Solid
Analysis Batch: 419761

Client Sample ID: LIFHP-133_1-2_011920
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	85.7		86.3		%			20
Percent Moisture	14.3		13.7		%			20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

GC/MS VOA

Analysis Batch: 419869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-1	TRIP BLANK	Total/NA	Water	8260B	
240-125186-2	LIFHP-133_15-19_011920	Total/NA	Water	8260B	
240-125186-3	LIFHP-133_10-14_011920	Total/NA	Water	8260B	
MB 240-419869/7	Method Blank	Total/NA	Water	8260B	
LCS 240-419869/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 420016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-4	LIFHP-133_1-2_011920	Total/NA	Solid	8260B MI	420043
240-125186-5	LIFHP-133_4-5_011920	Total/NA	Solid	8260B MI	420043
240-125186-6	LIFHP-133_6-7_011920	Total/NA	Solid	8260B MI	420043
240-125186-7	LIFHP-133_7-8_011920	Total/NA	Solid	8260B MI	420043
240-125186-8	LIFHP-133_8-9_011920	Total/NA	Solid	8260B MI	420043
MB 240-420043/1-A	Method Blank	Total/NA	Solid	8260B MI	420043
LCS 240-420043/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420043

Prep Batch: 420043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-4	LIFHP-133_1-2_011920	Total/NA	Solid	5030B	
240-125186-5	LIFHP-133_4-5_011920	Total/NA	Solid	5030B	
240-125186-6	LIFHP-133_6-7_011920	Total/NA	Solid	5030B	
240-125186-7	LIFHP-133_7-8_011920	Total/NA	Solid	5030B	
240-125186-8	LIFHP-133_8-9_011920	Total/NA	Solid	5030B	
MB 240-420043/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420043/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 420320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-2	LIFHP-133_15-19_011920	Total/NA	Water	8260B SIM	
240-125186-3	LIFHP-133_10-14_011920	Total/NA	Water	8260B SIM	
MB 240-420320/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-420320/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125084-C-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-125084-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

General Chemistry

Analysis Batch: 419761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125186-4	LIFHP-133_1-2_011920	Total/NA	Solid	Moisture	
240-125186-5	LIFHP-133_4-5_011920	Total/NA	Solid	Moisture	
240-125186-6	LIFHP-133_6-7_011920	Total/NA	Solid	Moisture	
240-125186-7	LIFHP-133_7-8_011920	Total/NA	Solid	Moisture	
240-125186-8	LIFHP-133_8-9_011920	Total/NA	Solid	Moisture	
240-125186-4 DU	LIFHP-133_1-2_011920	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125186-1

Date Collected: 01/19/20 00:00

Matrix: Water

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	419869	01/22/20 17:04	LRW	TAL CAN

Client Sample ID: LIFHP-133_15-19_011920

Lab Sample ID: 240-125186-2

Date Collected: 01/19/20 16:55

Matrix: Water

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	419869	01/22/20 17:28	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420320	01/27/20 19:33	SAM	TAL CAN

Client Sample ID: LIFHP-133_10-14_011920

Lab Sample ID: 240-125186-3

Date Collected: 01/19/20 00:00

Matrix: Water

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	419869	01/22/20 17:51	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420320	01/27/20 19:58	SAM	TAL CAN

Client Sample ID: LIFHP-133_1-2_011920

Lab Sample ID: 240-125186-4

Date Collected: 01/19/20 13:08

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Client Sample ID: LIFHP-133_1-2_011920

Lab Sample ID: 240-125186-4

Date Collected: 01/19/20 13:08

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 85.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 16:59	HMB	TAL CAN

Client Sample ID: LIFHP-133_4-5_011920

Lab Sample ID: 240-125186-5

Date Collected: 01/19/20 13:10

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_4-5_011920

Lab Sample ID: 240-125186-5

Date Collected: 01/19/20 13:10

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 86.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 17:21	HMB	TAL CAN

Client Sample ID: LIFHP-133_6-7_011920

Lab Sample ID: 240-125186-6

Date Collected: 01/19/20 13:12

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Client Sample ID: LIFHP-133_6-7_011920

Lab Sample ID: 240-125186-6

Date Collected: 01/19/20 13:12

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 88.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 17:44	HMB	TAL CAN

Client Sample ID: LIFHP-133_7-8_011920

Lab Sample ID: 240-125186-7

Date Collected: 01/19/20 13:14

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Client Sample ID: LIFHP-133_7-8_011920

Lab Sample ID: 240-125186-7

Date Collected: 01/19/20 13:14

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 91.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 18:06	HMB	TAL CAN

Client Sample ID: LIFHP-133_8-9_011920

Lab Sample ID: 240-125186-8

Date Collected: 01/19/20 13:16

Matrix: Solid

Date Received: 01/21/20 11:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	419761	01/21/20 15:10	AGC	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Client Sample ID: LIFHP-133_8-9_011920

Lab Sample ID: 240-125186-8

Date Collected: 01/19/20 13:16

Matrix: Solid

Date Received: 01/21/20 11:30

Percent Solids: 89.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420043	01/23/20 11:16	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420016	01/23/20 18:29	HMB	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

- 1
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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-125186-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Chain of Custody Record 378428 eurofins

MICHIGAN
190

Environment Testing
TestAmerica

Regulatory Program: DW APDES RCRA CERCLA TCE/PCB

Client Contact: **ACADIS**
 Company Name: **ACADIS**
 Address: **2850 CABOT DR, STE 500**
 City/State/Zip: **NOVI MI 48377**
 Phone: **248-414-2290**
 Fax: _____
 Project Name: **FORD LIP**
 Site: **FORD LIP**
 P.O.#: _____

Site Contact: **PAUL PERRY** Date: **01/14/2020**
 Lab Contact: **MIKE DELORENZO** Carrier: _____
 Tel/Email: **248-519-5462**
 Analysis Turnaround Time: _____
 CALENDAR DAYS WORKING DAYS
 TAT # different from below: **5 DAY**
 2 weeks
 1 week
 2 days
 1 day

Sample Identification	Sample Date	Sample Time	Sample Type (G-Camp, G-Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Carrier	COC No.	Sampler	For Lab Use Only: Walk-in Client, Lab Sampling, Job / SDG No.	Sample Specific Notes
TRIP BLANK				AQ	2	N	N					TRIP BLANK
LIFHP-133-15-19-011920	01/19/20	16:55	G	GW	6	N	N	3				
LIFHP-133-10-14-011920		0000	G	GW	6	N	N	3				
000000												
LIFHP-133-12-011920	12/08		G	S	2	N	N	1				
LIFHP-133-45-011920	13/10		G	S	2	N	N	1				
LIFHP-133-67-011920	13/12		G	S	2	N	N	1				
LIFHP-133-78-011920	13/14		G	S	2	N	N	1				
LIFHP-133-39-011920	13/16		G	S	2	N	N	1				
00000000												



Preservation Used: Ice HC H2SO4 HNO3 NaOH Other: **None**
 Possible Hazard Identification: _____
 Are any samples from a listed EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Resorbable Skin Irritant Poison B Volatile
 Special Instructions/IQC Requirements & Comments:
SUBMIT ALL RESULTS THROUGH CADEMA AT JIM TOMALIA@CADEMA.COM
 CADERNA #E203728
 Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): _____
 Return to Client Dispose by Lab Archive for _____ Months

Relinquished by	Company	Date/Time	Received by	Company	Date/Time	Cover Temp. (C)	Obs'd	Coord	Therm ID No.
<i>Cathy Croco</i>	ACADIS	01/14/20 2:30	NDVI	COLD STORAGE	ACADIS				01/14/20 3:00
<i>Mike Perry</i>	ACADIS	1/20/20 1:30			ETA				1-20-20 1:30
<i>Mike Perry</i>	ACADIS	1-20-20 12:20			ETA				



Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login #: 125186

Canton Facility

Client: Accell Site Name: _____

Cooler unpacked by:

Cooler Received on: 1-21-20 Opened on: 1-21-20

Adrian Gortez

FedEx: (Grd) Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # 1 Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7°C) Observed Cooler Temp. 15 °C Corrected Cooler Temp. 2.2 °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364

13. Were VOAs on the COC? Yes NA

14. Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot# 0117701E Yes No NA

16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



January 28, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30016346.0001B - onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 125186-1

Sample date: 2020-01-19

Report received by CADENA: 2020-01-28

Initial Data Verification completed by CADENA: 2020-01-28

Number of Samples:5

Sample Matrices:Soil

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

GCMS VOC samples -004, -005 SURROGATE recoveries were outliers biased high for at least 1 surrogate. Associated client sample results were non-detect so qualification was not required based on these high bias QC outliers.

GCMS VOC QC batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 125186-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401251861	TRIP BLANK	1/19/2020	12:00:00	X		
2401251862	LIFHP-133_15-19_011920	1/19/2020	4:55:00	X	X	
2401251863	LIFHP-133_10-14_011920	1/19/2020	12:00:00	X	X	
2401251864	LIFHP-133_1-2_011920	1/19/2020	1:08:00	X		
2401251865	LIFHP-133_4-5_011920	1/19/2020	1:10:00	X		
2401251866	LIFHP-133_6-7_011920	1/19/2020	1:12:00	X		
2401251867	LIFHP-133_7-8_011920	1/19/2020	1:14:00	X		
2401251868	LIFHP-133_8-9_011920	1/19/2020	1:16:00	X		

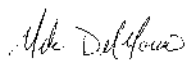
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-125446-1
Client Project/Site: Ford LTP Livonia MI
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/5/2020 2:21:53 PM

Michael DelMonico, Project Manager I
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Job ID: 240-125446-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI

Report Number: 240-125446-1

Revision

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Report revised on 2/5/2020 to correct the ID on sample 9

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/28/2020 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.2° C and 2.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-125446-1), LIFHP-134_18-22_012620 (240-125446-7), LIFHP-134_13-17_012620 (240-125446-8) and LIFHP-134_8-12_012620 (240-125446-9) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/29/2020 and 01/30/2020.

The following sample submitted for volatiles analysis was received with insufficient preservation (pH >2): LIFHP-134_18-22_012620 (240-125446-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Job ID: 240-125446-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Samples LIFHP-134_1-2_012620 (240-125446-2), LIFHP-134_3-4_012620 (240-125446-3), LIFHP-134_4-5_012620 (240-125446-4), LIFHP-134_5-6_012620 (240-125446-5) and LIFHP-134_6-7_012620 (240-125446-6) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/30/2020.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-420691 and analytical batch 240-420880.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-134_18-22_012620 (240-125446-7), LIFHP-134_13-17_012620 (240-125446-8) and LIFHP-134_8-12_012620 (240-125446-9) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 01/29/2020.

The following sample was submitted for volatile analysis with insufficient preservation (pH>2): LIFHP-134_18-22_012620 (240-125446-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples LIFHP-134_1-2_012620 (240-125446-2), LIFHP-134_3-4_012620 (240-125446-3), LIFHP-134_4-5_012620 (240-125446-4), LIFHP-134_5-6_012620 (240-125446-5) and LIFHP-134_6-7_012620 (240-125446-6) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 01/28/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125446-1	TRIP BLANK	Water	01/26/20 00:00	01/28/20 08:20	
240-125446-2	LIFHP-134_1-2_012620	Solid	01/26/20 08:32	01/28/20 08:20	
240-125446-3	LIFHP-134_3-4_012620	Solid	01/26/20 08:34	01/28/20 08:20	
240-125446-4	LIFHP-134_4-5_012620	Solid	01/26/20 08:36	01/28/20 08:20	
240-125446-5	LIFHP-134_5-6_012620	Solid	01/26/20 08:38	01/28/20 08:20	
240-125446-6	LIFHP-134_6-7_012620	Solid	01/26/20 08:40	01/28/20 08:20	
240-125446-7	LIFHP-134_18-22_012620	Water	01/26/20 10:08	01/28/20 08:20	
240-125446-8	LIFHP-134_13-17_012620	Water	01/26/20 10:22	01/28/20 08:20	
240-125446-9	LIFHP-134_8-12_012620	Water	01/26/20 10:32	01/28/20 08:20	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125446-1

No Detections.

Client Sample ID: LIFHP-134_1-2_012620

Lab Sample ID: 240-125446-2

No Detections.

Client Sample ID: LIFHP-134_3-4_012620

Lab Sample ID: 240-125446-3

No Detections.

Client Sample ID: LIFHP-134_4-5_012620

Lab Sample ID: 240-125446-4

No Detections.

Client Sample ID: LIFHP-134_5-6_012620

Lab Sample ID: 240-125446-5

No Detections.

Client Sample ID: LIFHP-134_6-7_012620

Lab Sample ID: 240-125446-6

No Detections.

Client Sample ID: LIFHP-134_18-22_012620

Lab Sample ID: 240-125446-7

No Detections.

Client Sample ID: LIFHP-134_13-17_012620

Lab Sample ID: 240-125446-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	6.3		2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: LIFHP-134_8-12_012620

Lab Sample ID: 240-125446-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.94	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	9.5		1.0	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125446-1

Date Collected: 01/26/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 18:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 18:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:01	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 18:01	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 18:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		01/29/20 18:01	1
4-Bromofluorobenzene (Surr)	99		47 - 134		01/29/20 18:01	1
Toluene-d8 (Surr)	94		69 - 122		01/29/20 18:01	1
Dibromofluoromethane (Surr)	86		78 - 129		01/29/20 18:01	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_1-2_012620

Lab Sample ID: 240-125446-2

Date Collected: 01/26/20 08:32

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 89.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/29/20 11:09	01/30/20 21:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		47 - 136	01/29/20 11:09	01/30/20 21:19	1
4-Bromofluorobenzene (Surr)	108		51 - 124	01/29/20 11:09	01/30/20 21:19	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 11:09	01/30/20 21:19	1
Toluene-d8 (Surr)	105		55 - 123	01/29/20 11:09	01/30/20 21:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.3		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	10.7		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_3-4_012620

Lab Sample ID: 240-125446-3

Date Collected: 01/26/20 08:34

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
cis-1,2-Dichloroethene	48	U	48	11	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
Tetrachloroethene	48	U	48	21	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
Trichloroethene	48	U	48	13	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	01/29/20 11:09	01/30/20 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		47 - 136	01/29/20 11:09	01/30/20 21:43	1
4-Bromofluorobenzene (Surr)	115		51 - 124	01/29/20 11:09	01/30/20 21:43	1
Dibromofluoromethane (Surr)	105		49 - 122	01/29/20 11:09	01/30/20 21:43	1
Toluene-d8 (Surr)	111		55 - 123	01/29/20 11:09	01/30/20 21:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.4		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	8.6		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_4-5_012620

Lab Sample ID: 240-125446-4

Date Collected: 01/26/20 08:36

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	19	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
cis-1,2-Dichloroethene	49	U	49	11	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
trans-1,2-Dichloroethene	49	U	49	12	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
Trichloroethene	49	U	49	13	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	01/29/20 11:09	01/30/20 22:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		47 - 136	01/29/20 11:09	01/30/20 22:08	1
4-Bromofluorobenzene (Surr)	110		51 - 124	01/29/20 11:09	01/30/20 22:08	1
Dibromofluoromethane (Surr)	104		49 - 122	01/29/20 11:09	01/30/20 22:08	1
Toluene-d8 (Surr)	107		55 - 123	01/29/20 11:09	01/30/20 22:08	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.1		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	9.9		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_5-6_012620

Lab Sample ID: 240-125446-5

Date Collected: 01/26/20 08:38

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 93.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	45	U	45	18	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
1,4-Dioxane	14000	U	14000	1200	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
cis-1,2-Dichloroethene	45	U	45	10	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
Tetrachloroethene	45	U	45	20	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
trans-1,2-Dichloroethene	45	U	45	11	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
Trichloroethene	45	U	45	12	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1
Vinyl chloride	36	U	36	14	ug/Kg	☼	01/29/20 11:09	01/30/20 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		47 - 136	01/29/20 11:09	01/30/20 22:32	1
4-Bromofluorobenzene (Surr)	101		51 - 124	01/29/20 11:09	01/30/20 22:32	1
Dibromofluoromethane (Surr)	97		49 - 122	01/29/20 11:09	01/30/20 22:32	1
Toluene-d8 (Surr)	99		55 - 123	01/29/20 11:09	01/30/20 22:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.8		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	6.2		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_6-7_012620

Lab Sample ID: 240-125446-6

Date Collected: 01/26/20 08:40

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 89.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	20	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
cis-1,2-Dichloroethene	49	U	49	11	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
trans-1,2-Dichloroethene	49	U	49	12	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
Trichloroethene	49	U	49	13	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	01/29/20 11:09	01/30/20 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		47 - 136	01/29/20 11:09	01/30/20 22:56	1
4-Bromofluorobenzene (Surr)	99		51 - 124	01/29/20 11:09	01/30/20 22:56	1
Dibromofluoromethane (Surr)	97		49 - 122	01/29/20 11:09	01/30/20 22:56	1
Toluene-d8 (Surr)	98		55 - 123	01/29/20 11:09	01/30/20 22:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.9		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	10.1		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_18-22_012620

Lab Sample ID: 240-125446-7

Date Collected: 01/26/20 10:08

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		01/29/20 18:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		01/29/20 18:39	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/29/20 18:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		01/29/20 18:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		01/29/20 18:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/29/20 18:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		01/29/20 18:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		01/29/20 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		01/29/20 18:26	1
4-Bromofluorobenzene (Surr)	103		47 - 134		01/29/20 18:26	1
Toluene-d8 (Surr)	100		69 - 122		01/29/20 18:26	1
Dibromofluoromethane (Surr)	88		78 - 129		01/29/20 18:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_13-17_012620

Lab Sample ID: 240-125446-8

Date Collected: 01/26/20 10:22

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	6.3		2.0	0.86	ug/L			01/29/20 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		01/29/20 19:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 16:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 16:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 16:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 16:23	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 16:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 16:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/30/20 16:23	1
4-Bromofluorobenzene (Surr)	101		47 - 134		01/30/20 16:23	1
Toluene-d8 (Surr)	98		69 - 122		01/30/20 16:23	1
Dibromofluoromethane (Surr)	86		78 - 129		01/30/20 16:23	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_8-12_012620

Lab Sample ID: 240-125446-9

Date Collected: 01/26/20 10:32

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.94	J	2.0	0.86	ug/L	-		01/29/20 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		01/29/20 19:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/30/20 16:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		01/30/20 16:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		01/30/20 16:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/30/20 16:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		01/30/20 16:48	1
Vinyl chloride	9.5		1.0	0.20	ug/L	-		01/30/20 16:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/30/20 16:48	1
4-Bromofluorobenzene (Surr)	103		47 - 134		01/30/20 16:48	1
Toluene-d8 (Surr)	99		69 - 122		01/30/20 16:48	1
Dibromofluoromethane (Surr)	89		78 - 129		01/30/20 16:48	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-125366-C-1 MS	Matrix Spike	97	99	98	88
240-125366-C-1 MSD	Matrix Spike Duplicate	95	97	98	86
240-125417-A-2 MS	Matrix Spike	95	100	100	89
240-125417-C-2 MSD	Matrix Spike Duplicate	93	101	100	91
240-125446-1	TRIP BLANK	93	99	94	86
240-125446-7	LIFHP-134_18-22_012620	92	103	100	88
240-125446-8	LIFHP-134_13-17_012620	94	101	98	86
240-125446-9	LIFHP-134_8-12_012620	95	103	99	89
LCS 240-420726/4	Lab Control Sample	93	102	97	88
LCS 240-420869/4	Lab Control Sample	93	107	97	88
MB 240-420726/7	Method Blank	93	104	97	86
MB 240-420869/7	Method Blank	95	105	100	89

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (47-136)	BFB (51-124)	DBFM (49-122)	TOL (55-123)
240-125446-2	LIFHP-134_1-2_012620	111	108	100	105
240-125446-3	LIFHP-134_3-4_012620	116	115	105	111
240-125446-4	LIFHP-134_4-5_012620	114	110	104	107
240-125446-5	LIFHP-134_5-6_012620	107	101	97	99
240-125446-6	LIFHP-134_6-7_012620	107	99	97	98
LCS 240-420691/2-A	Lab Control Sample	86	88	83	88
MB 240-420691/1-A	Method Blank	86	84	78	82

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-125446-7	LIFHP-134_18-22_012620	99
240-125446-8	LIFHP-134_13-17_012620	100
240-125446-9	LIFHP-134_8-12_012620	99
240-125447-A-8 MS	Matrix Spike	97
240-125447-A-8 MSD	Matrix Spike Duplicate	100
LCS 240-420655/4	Lab Control Sample	96

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
MB 240-420655/5	Method Blank	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420726/7
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 14:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 14:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 14:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		01/29/20 14:39	1
4-Bromofluorobenzene (Surr)	104		47 - 134		01/29/20 14:39	1
Toluene-d8 (Surr)	97		69 - 122		01/29/20 14:39	1
Dibromofluoromethane (Surr)	86		78 - 129		01/29/20 14:39	1

Lab Sample ID: LCS 240-420726/4
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124
Tetrachloroethene	10.0	10.1		ug/L		101	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.48		ug/L		95	71 - 121
Vinyl chloride	10.0	10.1		ug/L		101	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	68 - 121
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	69 - 126
Trichloroethene	1.0	U	10.0	9.24		ug/L		92	56 - 124
Vinyl chloride	1.0	U	10.0	9.77		ug/L		98	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	100		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	89		78 - 129

Lab Sample ID: 240-125417-C-2 MSD
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 132	3	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.0		ug/L		100	68 - 121	3	35
Tetrachloroethene	1.0	U	10.0	9.78		ug/L		98	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	69 - 126	0	35
Trichloroethene	1.0	U	10.0	8.91		ug/L		89	56 - 124	4	35
Vinyl chloride	1.0	U	10.0	10.7		ug/L		107	49 - 136	9	35

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	93		75 - 130
<i>4-Bromofluorobenzene (Surr)</i>	101		47 - 134
<i>Toluene-d8 (Surr)</i>	100		69 - 122
<i>Dibromofluoromethane (Surr)</i>	91		78 - 129

Lab Sample ID: MB 240-420869/7
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 15:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 15:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 15:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 15:34	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	95		75 - 130		01/30/20 15:34	1
<i>4-Bromofluorobenzene (Surr)</i>	105		47 - 134		01/30/20 15:34	1
<i>Toluene-d8 (Surr)</i>	100		69 - 122		01/30/20 15:34	1
<i>Dibromofluoromethane (Surr)</i>	89		78 - 129		01/30/20 15:34	1

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.2		ug/L		102	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.67		ug/L		97	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	9.71		ug/L		97	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125366-C-1 MS
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	100	U	1000	886		ug/L		89	64 - 132
cis-1,2-Dichloroethene	58	J	1000	1070		ug/L		101	68 - 121
Tetrachloroethene	100	U	1000	850		ug/L		85	52 - 129
trans-1,2-Dichloroethene	100	U	1000	948		ug/L		95	69 - 126
Trichloroethene	100	U	1000	848		ug/L		85	56 - 124
Vinyl chloride	100	U	1000	904		ug/L		90	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125366-C-1 MSD
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	100	U	1000	922		ug/L		92	64 - 132	4	35
cis-1,2-Dichloroethene	58	J	1000	1080		ug/L		102	68 - 121	1	35
Tetrachloroethene	100	U	1000	854		ug/L		85	52 - 129	0	35
trans-1,2-Dichloroethene	100	U	1000	1010		ug/L		101	69 - 126	6	35
Trichloroethene	100	U	1000	836		ug/L		84	56 - 124	1	35
Vinyl chloride	100	U	1000	985		ug/L		98	49 - 136	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	97		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420691/1-A
Matrix: Solid
Analysis Batch: 420880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420691

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
Tetrachloroethene	40	U	40	18	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
Trichloroethene	40	U	40	11	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1
Vinyl chloride	32	U	32	12	ug/Kg	-	01/29/20 11:09	01/30/20 14:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		47 - 136	01/29/20 11:09	01/30/20 14:51	1
4-Bromofluorobenzene (Surr)	84		51 - 124	01/29/20 11:09	01/30/20 14:51	1
Dibromofluoromethane (Surr)	78		49 - 122	01/29/20 11:09	01/30/20 14:51	1
Toluene-d8 (Surr)	82		55 - 123	01/29/20 11:09	01/30/20 14:51	1

Lab Sample ID: LCS 240-420691/2-A
Matrix: Solid
Analysis Batch: 420880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420691

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1000	939		ug/Kg	-	94	48 - 140
1,4-Dioxane	20000	18600		ug/Kg	-	93	44 - 154
cis-1,2-Dichloroethene	1000	936		ug/Kg	-	94	76 - 120
Tetrachloroethene	1000	946		ug/Kg	-	95	75 - 124
trans-1,2-Dichloroethene	1000	932		ug/Kg	-	93	74 - 125
Trichloroethene	1000	942		ug/Kg	-	94	75 - 123
Vinyl chloride	1000	789		ug/Kg	-	79	39 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		47 - 136
4-Bromofluorobenzene (Surr)	88		51 - 124
Dibromofluoromethane (Surr)	83		49 - 122
Toluene-d8 (Surr)	88		55 - 123

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420655/5
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		01/29/20 11:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 125		01/29/20 11:49	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420655/4
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.75		ug/L		98	59 - 131
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	96		63 - 125				

Lab Sample ID: 240-125447-A-8 MS
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.1	J	10.0	10.9		ug/L		98	52 - 129
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		63 - 125						

Lab Sample ID: 240-125447-A-8 MSD
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.1	J	10.0	10.2		ug/L		91	52 - 129	6	13
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	100		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-125448-B-11 DU
Matrix: Solid
Analysis Batch: 420559

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	91.6		91.0		%		0.7	20
Percent Moisture	8.4		9.0		%		7	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

GC/MS VOA

Analysis Batch: 420655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-7	LIFHP-134_18-22_012620	Total/NA	Water	8260B SIM	
240-125446-8	LIFHP-134_13-17_012620	Total/NA	Water	8260B SIM	
240-125446-9	LIFHP-134_8-12_012620	Total/NA	Water	8260B SIM	
MB 240-420655/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-420655/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125447-A-8 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-125447-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Prep Batch: 420691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-2	LIFHP-134_1-2_012620	Total/NA	Solid	5030B	
240-125446-3	LIFHP-134_3-4_012620	Total/NA	Solid	5030B	
240-125446-4	LIFHP-134_4-5_012620	Total/NA	Solid	5030B	
240-125446-5	LIFHP-134_5-6_012620	Total/NA	Solid	5030B	
240-125446-6	LIFHP-134_6-7_012620	Total/NA	Solid	5030B	
MB 240-420691/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420691/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 420726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-1	TRIP BLANK	Total/NA	Water	8260B	
240-125446-7	LIFHP-134_18-22_012620	Total/NA	Water	8260B	
MB 240-420726/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420726/4	Lab Control Sample	Total/NA	Water	8260B	
240-125417-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-125417-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 420869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-8	LIFHP-134_13-17_012620	Total/NA	Water	8260B	
240-125446-9	LIFHP-134_8-12_012620	Total/NA	Water	8260B	
MB 240-420869/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420869/4	Lab Control Sample	Total/NA	Water	8260B	
240-125366-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-125366-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 420880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-2	LIFHP-134_1-2_012620	Total/NA	Solid	8260B MI	420691
240-125446-3	LIFHP-134_3-4_012620	Total/NA	Solid	8260B MI	420691
240-125446-4	LIFHP-134_4-5_012620	Total/NA	Solid	8260B MI	420691
240-125446-5	LIFHP-134_5-6_012620	Total/NA	Solid	8260B MI	420691
240-125446-6	LIFHP-134_6-7_012620	Total/NA	Solid	8260B MI	420691
MB 240-420691/1-A	Method Blank	Total/NA	Solid	8260B MI	420691
LCS 240-420691/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420691

General Chemistry

Analysis Batch: 420559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-2	LIFHP-134_1-2_012620	Total/NA	Solid	Moisture	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

General Chemistry (Continued)

Analysis Batch: 420559 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125446-3	LIFHP-134_3-4_012620	Total/NA	Solid	Moisture	
240-125446-4	LIFHP-134_4-5_012620	Total/NA	Solid	Moisture	
240-125446-5	LIFHP-134_5-6_012620	Total/NA	Solid	Moisture	
240-125446-6	LIFHP-134_6-7_012620	Total/NA	Solid	Moisture	
240-125448-B-11 DU	Duplicate	Total/NA	Solid	Moisture	

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125446-1

Date Collected: 01/26/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420726	01/29/20 18:01	LRW	TAL CAN

Client Sample ID: LIFHP-134_1-2_012620

Lab Sample ID: 240-125446-2

Date Collected: 01/26/20 08:32

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_1-2_012620

Lab Sample ID: 240-125446-2

Date Collected: 01/26/20 08:32

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 89.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 21:19	HMB	TAL CAN

Client Sample ID: LIFHP-134_3-4_012620

Lab Sample ID: 240-125446-3

Date Collected: 01/26/20 08:34

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_3-4_012620

Lab Sample ID: 240-125446-3

Date Collected: 01/26/20 08:34

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 21:43	HMB	TAL CAN

Client Sample ID: LIFHP-134_4-5_012620

Lab Sample ID: 240-125446-4

Date Collected: 01/26/20 08:36

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_4-5_012620

Lab Sample ID: 240-125446-4

Date Collected: 01/26/20 08:36

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 22:08	HMB	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_5-6_012620

Lab Sample ID: 240-125446-5

Date Collected: 01/26/20 08:38

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_5-6_012620

Lab Sample ID: 240-125446-5

Date Collected: 01/26/20 08:38

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 93.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 22:32	HMB	TAL CAN

Client Sample ID: LIFHP-134_6-7_012620

Lab Sample ID: 240-125446-6

Date Collected: 01/26/20 08:40

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-134_6-7_012620

Lab Sample ID: 240-125446-6

Date Collected: 01/26/20 08:40

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 89.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 22:56	HMB	TAL CAN

Client Sample ID: LIFHP-134_18-22_012620

Lab Sample ID: 240-125446-7

Date Collected: 01/26/20 10:08

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420726	01/29/20 18:26	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 18:39	SAM	TAL CAN

Client Sample ID: LIFHP-134_13-17_012620

Lab Sample ID: 240-125446-8

Date Collected: 01/26/20 10:22

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 16:23	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 19:04	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Client Sample ID: LIFHP-134_8-12_012620

Lab Sample ID: 240-125446-9

Date Collected: 01/26/20 10:32

Matrix: Water

Date Received: 01/28/20 08:20

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	8260B		1	420869	01/30/20 16:48	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 19:30	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125446-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20 *
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Address:

Regulatory Program: DW HSPDES RCRA DDEP

Project Manager: KRISTY HINSKEY Tel/Email: 269-571-5402		Site Contact: IAN SPAST Lab Contact: MIKE DELMONICO		Date: 01/26/2020 Carrier:		COC No. _____ of _____ COCs	
Company Name: ARCADIS Address: 28550 CABOT DR, STE 500 City/State/Zip: NW 1/MI 48317 Phone: 248-734-2240 Fax: _____ Project Name: FORD LTP Site: FORD LTP P.O.F. _____		Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS TAT is different from below: 5 DAY <input type="checkbox"/> 3 weeks <input type="checkbox"/> RUSH <input type="checkbox"/> 2 weeks <input type="checkbox"/> TAT <input type="checkbox"/> 1 day <input type="checkbox"/>		Filtered Sample (Y/N) _____ Perform MS/MSD (Y/N) _____		Sample Specific Notes: TRIP BLANK	
Sample Date	Sample Time	Sample Type (G=Comp, G=Grab)	Matrix	# of Cont.	Job/SDG No.	Sampler	For Lab Use Only: Walk-in Client Lab Sampling
			AG	1			
	08:32	G	SO	2			
	08:34	G	SO	2			
	08:56	G	SO	2			
	08:58	G	SO	2			
	08:40	G	SO	2			
	10:08	G	GW	6			
	10:22	G	GW	6			
	10:52	G	GW	6			



Preservation Used: Ice, HCl, H2SO4, HNO3, NaOH, Other

Possible Hazaro Identification: _____
 Are any samples from a listed EPA Hazarodous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazaro Flammable Skin Irritant Poison B Diverter

Special Instructions/IC Requirements & Comments:
SUBMIT ALL RESULTS TO FORD LTP AT JIM TOMALIA@ARCADIS.COM

Custody Seal No. _____	Received by: ARCADIS	Date/Time: 01/27/20 14:10	Company: ARCADIS	Received by: NIM CAD STORAGE	Date/Time: 01/26/20	Company: ARCADIS
	Relinquished by: Leathia Custer	Date/Time: _____	Company: ARCADIS	Received by: Molly Maxwell	Date/Time: 01/27/20 12:00	Company: ARCADIS
	Relinquished by: Leathia Custer	Date/Time: _____	Company: ARCADIS	Received by: Leathia Custer	Date/Time: 01/27/20 15:00	Company: ARCADIS



Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login #: 175446

Canton Facility

Client: Arcadis Site Name: _____ Cooler unpacked by: Adam Gannett
 Cooler Received on: 1-28-20 Opened on: 1-29-20
 FedEx: 1st ~~Grd~~ ~~Exp~~ UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other
 Packing material used: Bubble Wrap Foam Plastic Bag None Other
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN # IR-10 (CF: +0.7 °C) Observed Cooler Temp: _____ °C Corrected Cooler Temp: _____ °C
 IR GUN # IR-11 (CF: +0.9 °C) Observed Cooler Temp: _____ °C Corrected Cooler Temp: _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ea Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
 13. Were VOAs on the COC? Yes No
 14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0177015 Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: AG

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

DATA VERIFICATION REPORT



February 05, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30016346.0001B - onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 125446-1

Sample date: 2020-01-26

Report received by CADENA: 2020-02-04

Initial Data Verification completed by CADENA: 2020-02-04

Number of Samples:5

Sample Matrices:Soil

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

This report was revised to change a sample name.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOL and SIM sample -007 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

GCMS VOC QC batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 125446-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401254461	TRIP BLANK	1/26/2020	12:00:00	X		
2401254462	LIFHP-134_1-2_012620	1/26/2020	8:32:00	X		
2401254463	LIFHP-134_3-4_012620	1/26/2020	8:34:00	X		
2401254464	LIFHP-134_4-5_012620	1/26/2020	8:36:00	X		
2401254465	LIFHP-134_5-6_012620	1/26/2020	8:38:00	X		
2401254466	LIFHP-134_6-7_012620	1/26/2020	8:40:00	X		
2401254467	LIFHP-134_18-22_012620	1/26/2020	10:08:00	X	X	
2401254468	LIFHP-134_13-17_012620	1/26/2020	10:22:00	X	X	
2401254469	LIFHP-134_8-12_012620	1/26/2020	10:32:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 125446-1

Sample Name: LIFHP-134_18-22_012620

Lab Sample ID: 2401254467

Sample Date: 1/26/2020

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units	Qualifier	
GC/MS VOC						
<u>OSW-8260B</u>						
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ	
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ	
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	
Vinyl chloride	75-01-4	ND	1.0	ug/l	UJ	
<u>OSW-8260BBSim</u>						
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-125447-1
Client Project/Site: Ford LTP Livonia MI

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/4/2020 9:46:20 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Job ID: 240-125447-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI

Report Number: 240-125447-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/28/2020 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.2° C and 2.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-125447-1), LIFHP-135_16-20_012620 (240-125447-7) and LIFHP-135_11-15_012620 (240-125447-8) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/29/2020 and 01/30/2020.

The following sample was submitted for volatile analysis with insufficient preservation (pH>2): LIFHP-135_16-20_012620 (240-125447-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples LIFHP-135_1-2_012620 (240-125447-2), LIFHP-135_3-4_012620 (240-125447-3), LIFHP-135_5-6_012620 (240-125447-4), LIFHP-135_6-7_012620 (240-125447-5) and LIFHP-135_7-8_012620 (240-125447-6) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/30/2020.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Job ID: 240-125447-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-135_16-20_012620 (240-125447-7) and LIFHP-135_11-15_012620 (240-125447-8) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 01/29/2020.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-420691 and analytical batch 240-420880.

The following sample was submitted for volatile analysis with insufficient preservation (pH>2): LIFHP-135_16-20_012620 (240-125447-7).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples LIFHP-135_1-2_012620 (240-125447-2), LIFHP-135_3-4_012620 (240-125447-3), LIFHP-135_5-6_012620 (240-125447-4), LIFHP-135_6-7_012620 (240-125447-5) and LIFHP-135_7-8_012620 (240-125447-6) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 01/28/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125447-1	TRIP BLANK	Water	01/25/20 00:00	01/28/20 08:20	
240-125447-2	LIFHP-135_1-2_012620	Solid	01/25/20 16:57	01/28/20 08:20	
240-125447-3	LIFHP-135_3-4_012620	Solid	01/25/20 17:02	01/28/20 08:20	
240-125447-4	LIFHP-135_5-6_012620	Solid	01/25/20 17:06	01/28/20 08:20	
240-125447-5	LIFHP-135_6-7_012620	Solid	01/25/20 17:13	01/28/20 08:20	
240-125447-6	LIFHP-135_7-8_012620	Solid	01/25/20 17:16	01/28/20 08:20	
240-125447-7	LIFHP-135_16-20_012620	Water	01/25/20 18:50	01/28/20 08:20	
240-125447-8	LIFHP-135_11-15_012620	Water	01/25/20 19:00	01/28/20 08:20	

Detection Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: TRIP BLANK **Lab Sample ID: 240-125447-1**

No Detections.

Client Sample ID: LIFHP-135_1-2_012620 **Lab Sample ID: 240-125447-2**

No Detections.

Client Sample ID: LIFHP-135_3-4_012620 **Lab Sample ID: 240-125447-3**

No Detections.

Client Sample ID: LIFHP-135_5-6_012620 **Lab Sample ID: 240-125447-4**

No Detections.

Client Sample ID: LIFHP-135_6-7_012620 **Lab Sample ID: 240-125447-5**

No Detections.

Client Sample ID: LIFHP-135_7-8_012620 **Lab Sample ID: 240-125447-6**

No Detections.

Client Sample ID: LIFHP-135_16-20_012620 **Lab Sample ID: 240-125447-7**

No Detections.

Client Sample ID: LIFHP-135_11-15_012620 **Lab Sample ID: 240-125447-8**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125447-1

Date Collected: 01/25/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 18:51	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 18:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 18:51	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 18:51	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 18:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		01/29/20 18:51	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/29/20 18:51	1
Toluene-d8 (Surr)	98		69 - 122		01/29/20 18:51	1
Dibromofluoromethane (Surr)	89		78 - 129		01/29/20 18:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_1-2_012620

Lab Sample ID: 240-125447-2

Date Collected: 01/25/20 16:57

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/29/20 11:09	01/30/20 23:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		47 - 136	01/29/20 11:09	01/30/20 23:21	1
4-Bromofluorobenzene (Surr)	109		51 - 124	01/29/20 11:09	01/30/20 23:21	1
Dibromofluoromethane (Surr)	70		49 - 122	01/29/20 11:09	01/30/20 23:21	1
Toluene-d8 (Surr)	103		55 - 123	01/29/20 11:09	01/30/20 23:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.5		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	9.5		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_3-4_012620

Lab Sample ID: 240-125447-3

Date Collected: 01/25/20 17:02

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 94.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	52	U	52	21	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
cis-1,2-Dichloroethene	52	U	52	12	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
Tetrachloroethene	52	U	52	23	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
trans-1,2-Dichloroethene	52	U	52	13	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
Trichloroethene	52	U	52	14	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	01/29/20 13:47	01/30/20 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		47 - 136	01/29/20 13:47	01/30/20 20:10	1
4-Bromofluorobenzene (Surr)	87		51 - 124	01/29/20 13:47	01/30/20 20:10	1
Dibromofluoromethane (Surr)	98		49 - 122	01/29/20 13:47	01/30/20 20:10	1
Toluene-d8 (Surr)	100		55 - 123	01/29/20 13:47	01/30/20 20:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94.6		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	5.4		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_5-6_012620

Lab Sample ID: 240-125447-4

Date Collected: 01/25/20 17:06

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 92.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
Trichloroethene	50	U	50	14	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	01/29/20 13:47	01/30/20 20:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		47 - 136	01/29/20 13:47	01/30/20 20:33	1
4-Bromofluorobenzene (Surr)	90		51 - 124	01/29/20 13:47	01/30/20 20:33	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 13:47	01/30/20 20:33	1
Toluene-d8 (Surr)	101		55 - 123	01/29/20 13:47	01/30/20 20:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.8		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	7.2		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_6-7_012620

Lab Sample ID: 240-125447-5

Date Collected: 01/25/20 17:13

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 95.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	46	U	46	18	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
1,4-Dioxane	14000	U	14000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
cis-1,2-Dichloroethene	46	U	46	10	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
Tetrachloroethene	46	U	46	21	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
trans-1,2-Dichloroethene	46	U	46	12	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
Trichloroethene	46	U	46	13	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1
Vinyl chloride	37	U	37	14	ug/Kg	☼	01/29/20 13:47	01/30/20 20:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		47 - 136	01/29/20 13:47	01/30/20 20:55	1
4-Bromofluorobenzene (Surr)	84		51 - 124	01/29/20 13:47	01/30/20 20:55	1
Dibromofluoromethane (Surr)	93		49 - 122	01/29/20 13:47	01/30/20 20:55	1
Toluene-d8 (Surr)	96		55 - 123	01/29/20 13:47	01/30/20 20:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95.8		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	4.2		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_7-8_012620

Lab Sample ID: 240-125447-6

Date Collected: 01/25/20 17:16

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 94.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	46	U	46	18	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
1,4-Dioxane	14000	U	14000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
cis-1,2-Dichloroethene	46	U	46	10	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
Tetrachloroethene	46	U	46	21	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
trans-1,2-Dichloroethene	46	U	46	12	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
Trichloroethene	46	U	46	13	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1
Vinyl chloride	37	U	37	14	ug/Kg	☼	01/29/20 13:47	01/30/20 21:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		47 - 136	01/29/20 13:47	01/30/20 21:18	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/29/20 13:47	01/30/20 21:18	1
Dibromofluoromethane (Surr)	98		49 - 122	01/29/20 13:47	01/30/20 21:18	1
Toluene-d8 (Surr)	95		55 - 123	01/29/20 13:47	01/30/20 21:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94.9		0.1	0.1	%			01/28/20 15:58	1
Percent Moisture	5.1		0.1	0.1	%			01/28/20 15:58	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_16-20_012620

Lab Sample ID: 240-125447-7

Date Collected: 01/25/20 18:50

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 14:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		01/29/20 14:23	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 17:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 17:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 17:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 17:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 17:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/30/20 17:12	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/30/20 17:12	1
Toluene-d8 (Surr)	100		69 - 122		01/30/20 17:12	1
Dibromofluoromethane (Surr)	90		78 - 129		01/30/20 17:12	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_11-15_012620

Lab Sample ID: 240-125447-8

Date Collected: 01/25/20 19:00

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1	J	2.0	0.86	ug/L	-		01/29/20 14:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		63 - 125		01/29/20 14:48	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/30/20 17:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		01/30/20 17:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		01/30/20 17:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		01/30/20 17:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		01/30/20 17:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		01/30/20 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/30/20 17:37	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/30/20 17:37	1
Toluene-d8 (Surr)	97		69 - 122		01/30/20 17:37	1
Dibromofluoromethane (Surr)	90		78 - 129		01/30/20 17:37	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-125366-C-1 MS	Matrix Spike	97	99	98	88
240-125366-C-1 MSD	Matrix Spike Duplicate	95	97	98	86
240-125417-A-2 MS	Matrix Spike	95	100	100	89
240-125417-C-2 MSD	Matrix Spike Duplicate	93	101	100	91
240-125447-1	TRIP BLANK	96	102	98	89
240-125447-7	LIFHP-135_16-20_012620	94	102	100	90
240-125447-8	LIFHP-135_11-15_012620	94	102	97	90
LCS 240-420726/4	Lab Control Sample	93	102	97	88
LCS 240-420869/4	Lab Control Sample	93	107	97	88
MB 240-420726/7	Method Blank	93	104	97	86
MB 240-420869/7	Method Blank	95	105	100	89

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (47-136)	BFB (51-124)	DBFM (49-122)	TOL (55-123)
240-125447-2	LIFHP-135_1-2_012620	109	109	70	103
240-125447-3	LIFHP-135_3-4_012620	98	87	98	100
240-125447-4	LIFHP-135_5-6_012620	103	90	100	101
240-125447-5	LIFHP-135_6-7_012620	94	84	93	96
240-125447-6	LIFHP-135_7-8_012620	101	88	98	95
240-125448-B-6-A MS	Matrix Spike	101	94	104	102
240-125448-C-6-A MSD	Matrix Spike Duplicate	94	87	97	97
LCS 240-420691/2-A	Lab Control Sample	86	88	83	88
LCS 240-420730/2-A	Lab Control Sample	93	86	95	94
LCSD 240-420730/3-A	Lab Control Sample Dup	90	85	95	92
MB 240-420691/1-A	Method Blank	86	84	78	82
MB 240-420730/1-A	Method Blank	89	78	91	88

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-125447-7	LIFHP-135_16-20_012620	99
240-125447-8	LIFHP-135_11-15_012620	98

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-125447-8 MS	LIFHP-135_11-15_012620	97
240-125447-8 MSD	LIFHP-135_11-15_012620	100
LCS 240-420655/4	Lab Control Sample	96
MB 240-420655/5	Method Blank	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420726/7
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 14:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 14:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 14:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		01/29/20 14:39	1
4-Bromofluorobenzene (Surr)	104		47 - 134		01/29/20 14:39	1
Toluene-d8 (Surr)	97		69 - 122		01/29/20 14:39	1
Dibromofluoromethane (Surr)	86		78 - 129		01/29/20 14:39	1

Lab Sample ID: LCS 240-420726/4
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124
Tetrachloroethene	10.0	10.1		ug/L		101	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.48		ug/L		95	71 - 121
Vinyl chloride	10.0	10.1		ug/L		101	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	68 - 121
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	69 - 126
Trichloroethene	1.0	U	10.0	9.24		ug/L		92	56 - 124
Vinyl chloride	1.0	U	10.0	9.77		ug/L		98	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	100		69 - 122

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-125417-C-2 MSD
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 132	3	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.0		ug/L		100	68 - 121	3	35
Tetrachloroethene	1.0	U	10.0	9.78		ug/L		98	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	69 - 126	0	35
Trichloroethene	1.0	U	10.0	8.91		ug/L		89	56 - 124	4	35
Vinyl chloride	1.0	U	10.0	10.7		ug/L		107	49 - 136	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	101		47 - 134
Toluene-d8 (Surr)	100		69 - 122
Dibromofluoromethane (Surr)	91		78 - 129

Lab Sample ID: MB 240-420869/7
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 15:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 15:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 15:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 15:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/30/20 15:34	1
4-Bromofluorobenzene (Surr)	105		47 - 134		01/30/20 15:34	1
Toluene-d8 (Surr)	100		69 - 122		01/30/20 15:34	1
Dibromofluoromethane (Surr)	89		78 - 129		01/30/20 15:34	1

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.2		ug/L		102	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.67		ug/L		97	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420869/4

Matrix: Water

Analysis Batch: 420869

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	9.71		ug/L		97	61 - 134
Surrogate							
	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	93		75 - 130				
4-Bromofluorobenzene (Surr)	107		47 - 134				
Toluene-d8 (Surr)	97		69 - 122				
Dibromofluoromethane (Surr)	88		78 - 129				

Lab Sample ID: 240-125366-C-1 MS

Matrix: Water

Analysis Batch: 420869

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	100	U	1000	886		ug/L		89	64 - 132
cis-1,2-Dichloroethene	58	J	1000	1070		ug/L		101	68 - 121
Tetrachloroethene	100	U	1000	850		ug/L		85	52 - 129
trans-1,2-Dichloroethene	100	U	1000	948		ug/L		95	69 - 126
Trichloroethene	100	U	1000	848		ug/L		85	56 - 124
Vinyl chloride	100	U	1000	904		ug/L		90	49 - 136
Surrogate									
	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		75 - 130						
4-Bromofluorobenzene (Surr)	99		47 - 134						
Toluene-d8 (Surr)	98		69 - 122						
Dibromofluoromethane (Surr)	88		78 - 129						

Lab Sample ID: 240-125366-C-1 MSD

Matrix: Water

Analysis Batch: 420869

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	100	U	1000	922		ug/L		92	64 - 132	4	35
cis-1,2-Dichloroethene	58	J	1000	1080		ug/L		102	68 - 121	1	35
Tetrachloroethene	100	U	1000	854		ug/L		85	52 - 129	0	35
trans-1,2-Dichloroethene	100	U	1000	1010		ug/L		101	69 - 126	6	35
Trichloroethene	100	U	1000	836		ug/L		84	56 - 124	1	35
Vinyl chloride	100	U	1000	985		ug/L		98	49 - 136	9	35
Surrogate											
	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	95		75 - 130								
4-Bromofluorobenzene (Surr)	97		47 - 134								
Toluene-d8 (Surr)	98		69 - 122								
Dibromofluoromethane (Surr)	86		78 - 129								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420691/1-A
Matrix: Solid
Analysis Batch: 420880

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420691

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	40	U	40	16	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
Tetrachloroethene	40	U	40	18	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
Trichloroethene	40	U	40	11	ug/Kg		01/29/20 11:09	01/30/20 14:51	1
Vinyl chloride	32	U	32	12	ug/Kg		01/29/20 11:09	01/30/20 14:51	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	86		47 - 136	01/29/20 11:09	01/30/20 14:51	1
4-Bromofluorobenzene (Surr)	84		51 - 124	01/29/20 11:09	01/30/20 14:51	1
Dibromofluoromethane (Surr)	78		49 - 122	01/29/20 11:09	01/30/20 14:51	1
Toluene-d8 (Surr)	82		55 - 123	01/29/20 11:09	01/30/20 14:51	1

Lab Sample ID: LCS 240-420691/2-A
Matrix: Solid
Analysis Batch: 420880

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420691

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
1,1-Dichloroethene	1000	939		ug/Kg		94	48 - 140
1,4-Dioxane	20000	18600		ug/Kg		93	44 - 154
cis-1,2-Dichloroethene	1000	936		ug/Kg		94	76 - 120
Tetrachloroethene	1000	946		ug/Kg		95	75 - 124
trans-1,2-Dichloroethene	1000	932		ug/Kg		93	74 - 125
Trichloroethene	1000	942		ug/Kg		94	75 - 123
Vinyl chloride	1000	789		ug/Kg		79	39 - 140

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	86		47 - 136
4-Bromofluorobenzene (Surr)	88		51 - 124
Dibromofluoromethane (Surr)	83		49 - 122
Toluene-d8 (Surr)	88		55 - 123

Lab Sample ID: MB 240-420730/1-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420730

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	40	U	40	16	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Tetrachloroethene	40	U	40	18	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Trichloroethene	40	U	40	11	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Vinyl chloride	32	U	32	12	ug/Kg		01/29/20 13:47	01/30/20 19:02	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-420730/1-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420730

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	89		47 - 136	01/29/20 13:47	01/30/20 19:02	1
4-Bromofluorobenzene (Surr)	78		51 - 124	01/29/20 13:47	01/30/20 19:02	1
Dibromofluoromethane (Surr)	91		49 - 122	01/29/20 13:47	01/30/20 19:02	1
Toluene-d8 (Surr)	88		55 - 123	01/29/20 13:47	01/30/20 19:02	1

Lab Sample ID: LCS 240-420730/2-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1000	1070		ug/Kg		107	48 - 140
1,4-Dioxane	20000	20100		ug/Kg		101	44 - 154
cis-1,2-Dichloroethene	1000	1020		ug/Kg		102	76 - 120
Tetrachloroethene	1000	953		ug/Kg		95	75 - 124
trans-1,2-Dichloroethene	1000	1050		ug/Kg		105	74 - 125
Trichloroethene	1000	984		ug/Kg		98	75 - 123
Vinyl chloride	1000	892		ug/Kg		89	39 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	93		47 - 136
4-Bromofluorobenzene (Surr)	86		51 - 124
Dibromofluoromethane (Surr)	95		49 - 122
Toluene-d8 (Surr)	94		55 - 123

Lab Sample ID: LCSD 240-420730/3-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1-Dichloroethene	1000	1090		ug/Kg		109	48 - 140	2	40
1,4-Dioxane	20000	17300		ug/Kg		87	44 - 154	15	40
cis-1,2-Dichloroethene	1000	1040		ug/Kg		104	76 - 120	2	40
Tetrachloroethene	1000	954		ug/Kg		95	75 - 124	0	40
trans-1,2-Dichloroethene	1000	1070		ug/Kg		107	74 - 125	2	40
Trichloroethene	1000	1030		ug/Kg		103	75 - 123	5	40
Vinyl chloride	1000	887		ug/Kg		89	39 - 140	1	40

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		47 - 136
4-Bromofluorobenzene (Surr)	85		51 - 124
Dibromofluoromethane (Surr)	95		49 - 122
Toluene-d8 (Surr)	92		55 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125448-B-6-A MS
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 420730
%Rec.

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	65	U	1430	1580		ug/Kg	☼	110	20 - 150
1,4-Dioxane	20000	U F2	28600	21100	J	ug/Kg	☼	74	48 - 149
cis-1,2-Dichloroethene	65	U	1430	1630		ug/Kg	☼	114	35 - 130
Tetrachloroethene	65	U	1430	1460		ug/Kg	☼	102	13 - 144
trans-1,2-Dichloroethene	65	U	1430	1650		ug/Kg	☼	115	31 - 138
Trichloroethene	65	U	1430	1610		ug/Kg	☼	113	10 - 162
Vinyl chloride	52	U	1430	1260		ug/Kg	☼	88	15 - 150
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	101		47 - 136						
4-Bromofluorobenzene (Surr)	94		51 - 124						
Dibromofluoromethane (Surr)	104		49 - 122						
Toluene-d8 (Surr)	102		55 - 123						

Lab Sample ID: 240-125448-C-6-A MSD
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 420730
%Rec.

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1-Dichloroethene	65	U	1340	1350		ug/Kg	☼	101	20 - 150	16	40
1,4-Dioxane	20000	U F2	26700	34500	F2	ug/Kg	☼	129	48 - 149	48	40
cis-1,2-Dichloroethene	65	U	1340	1420		ug/Kg	☼	106	35 - 130	14	40
Tetrachloroethene	65	U	1340	1220		ug/Kg	☼	92	13 - 144	18	40
trans-1,2-Dichloroethene	65	U	1340	1400		ug/Kg	☼	105	31 - 138	17	40
Trichloroethene	65	U	1340	1440		ug/Kg	☼	108	10 - 162	11	40
Vinyl chloride	52	U	1340	1040		ug/Kg	☼	78	15 - 150	19	40
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	94		47 - 136								
4-Bromofluorobenzene (Surr)	87		51 - 124								
Dibromofluoromethane (Surr)	97		49 - 122								
Toluene-d8 (Surr)	97		55 - 123								

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420655/5
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 11:49	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		63 - 125						
							Prepared	Analyzed	Dil Fac
								01/29/20 11:49	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420655/4
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.75		ug/L		98	59 - 131
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	96		63 - 125				

Lab Sample ID: 240-125447-8 MS
Matrix: Water
Analysis Batch: 420655

Client Sample ID: LIFHP-135_11-15_012620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.1	J	10.0	10.9		ug/L		98	52 - 129
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		63 - 125						

Lab Sample ID: 240-125447-8 MSD
Matrix: Water
Analysis Batch: 420655

Client Sample ID: LIFHP-135_11-15_012620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,4-Dioxane	1.1	J	10.0	10.2		ug/L		91	52 - 129	6	13
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	100		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-125447-2 DU
Matrix: Solid
Analysis Batch: 420559

Client Sample ID: LIFHP-135_1-2_012620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Solids	90.5		89.6		%		1	20
Percent Moisture	9.5		10.4		%		9	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

GC/MS VOA

Analysis Batch: 420655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-7	LIFHP-135_16-20_012620	Total/NA	Water	8260B SIM	
240-125447-8	LIFHP-135_11-15_012620	Total/NA	Water	8260B SIM	
MB 240-420655/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-420655/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125447-8 MS	LIFHP-135_11-15_012620	Total/NA	Water	8260B SIM	
240-125447-8 MSD	LIFHP-135_11-15_012620	Total/NA	Water	8260B SIM	

Prep Batch: 420691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-2	LIFHP-135_1-2_012620	Total/NA	Solid	5030B	
MB 240-420691/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420691/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 420726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-1	TRIP BLANK	Total/NA	Water	8260B	
MB 240-420726/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420726/4	Lab Control Sample	Total/NA	Water	8260B	
240-125417-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-125417-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Prep Batch: 420730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-3	LIFHP-135_3-4_012620	Total/NA	Solid	5030B	
240-125447-4	LIFHP-135_5-6_012620	Total/NA	Solid	5030B	
240-125447-5	LIFHP-135_6-7_012620	Total/NA	Solid	5030B	
240-125447-6	LIFHP-135_7-8_012620	Total/NA	Solid	5030B	
MB 240-420730/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420730/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 240-420730/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
240-125448-B-6-A MS	Matrix Spike	Total/NA	Solid	5030B	
240-125448-C-6-A MSD	Matrix Spike Duplicate	Total/NA	Solid	5030B	

Analysis Batch: 420869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-7	LIFHP-135_16-20_012620	Total/NA	Water	8260B	
240-125447-8	LIFHP-135_11-15_012620	Total/NA	Water	8260B	
MB 240-420869/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420869/4	Lab Control Sample	Total/NA	Water	8260B	
240-125366-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-125366-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 420880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-2	LIFHP-135_1-2_012620	Total/NA	Solid	8260B MI	420691
MB 240-420691/1-A	Method Blank	Total/NA	Solid	8260B MI	420691
LCS 240-420691/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420691

Analysis Batch: 420938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-3	LIFHP-135_3-4_012620	Total/NA	Solid	8260B MI	420730

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

GC/MS VOA (Continued)

Analysis Batch: 420938 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-4	LIFHP-135_5-6_012620	Total/NA	Solid	8260B MI	420730
240-125447-5	LIFHP-135_6-7_012620	Total/NA	Solid	8260B MI	420730
240-125447-6	LIFHP-135_7-8_012620	Total/NA	Solid	8260B MI	420730
MB 240-420730/1-A	Method Blank	Total/NA	Solid	8260B MI	420730
LCS 240-420730/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420730
LCSD 240-420730/3-A	Lab Control Sample Dup	Total/NA	Solid	8260B MI	420730
240-125448-B-6-A MS	Matrix Spike	Total/NA	Solid	8260B MI	420730
240-125448-C-6-A MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B MI	420730

General Chemistry

Analysis Batch: 420559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125447-2	LIFHP-135_1-2_012620	Total/NA	Solid	Moisture	
240-125447-3	LIFHP-135_3-4_012620	Total/NA	Solid	Moisture	
240-125447-4	LIFHP-135_5-6_012620	Total/NA	Solid	Moisture	
240-125447-5	LIFHP-135_6-7_012620	Total/NA	Solid	Moisture	
240-125447-6	LIFHP-135_7-8_012620	Total/NA	Solid	Moisture	
240-125447-2 DU	LIFHP-135_1-2_012620	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125447-1

Date Collected: 01/25/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420726	01/29/20 18:51	LRW	TAL CAN

Client Sample ID: LIFHP-135_1-2_012620

Lab Sample ID: 240-125447-2

Date Collected: 01/25/20 16:57

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-135_1-2_012620

Lab Sample ID: 240-125447-2

Date Collected: 01/25/20 16:57

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420691	01/29/20 11:09	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420880	01/30/20 23:21	HMB	TAL CAN

Client Sample ID: LIFHP-135_3-4_012620

Lab Sample ID: 240-125447-3

Date Collected: 01/25/20 17:02

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-135_3-4_012620

Lab Sample ID: 240-125447-3

Date Collected: 01/25/20 17:02

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 94.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 20:10	TJL1	TAL CAN

Client Sample ID: LIFHP-135_5-6_012620

Lab Sample ID: 240-125447-4

Date Collected: 01/25/20 17:06

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-135_5-6_012620

Lab Sample ID: 240-125447-4

Date Collected: 01/25/20 17:06

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 92.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 20:33	TJL1	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Client Sample ID: LIFHP-135_6-7_012620

Lab Sample ID: 240-125447-5

Date Collected: 01/25/20 17:13

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-135_6-7_012620

Lab Sample ID: 240-125447-5

Date Collected: 01/25/20 17:13

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 95.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 20:55	TJL1	TAL CAN

Client Sample ID: LIFHP-135_7-8_012620

Lab Sample ID: 240-125447-6

Date Collected: 01/25/20 17:16

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:58	BLW	TAL CAN

Client Sample ID: LIFHP-135_7-8_012620

Lab Sample ID: 240-125447-6

Date Collected: 01/25/20 17:16

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 94.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 21:18	TJL1	TAL CAN

Client Sample ID: LIFHP-135_16-20_012620

Lab Sample ID: 240-125447-7

Date Collected: 01/25/20 18:50

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 17:12	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 14:23	SAM	TAL CAN

Client Sample ID: LIFHP-135_11-15_012620

Lab Sample ID: 240-125447-8

Date Collected: 01/25/20 19:00

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 17:37	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 14:48	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125447-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

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Phone: 810.229.2763 Fax: 412.963.2478

MICHIGAN
190

Chain of Custody Record

221043

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (6/13)

Regulatory Program: RCRA SWDES Other

Client Contact		Project Manager: 1553 MONSIEY		Site Contact: IAN BOST		Date: 1/25/20		COC No: 125120	
Company Name: ARCADIS		Tel/Fax: 269-579-5402		Lab Contact: ANNE TRAVINSKY		Carrier:		Sampler:	
Address: 28550 Cabot Dr Ste 500		Analysis Turnaround Time		Vial Contact: ANNE TRAVINSKY		For Lab Use Only:		Walk-in Client	
City/State/Zip: Ann Arbor MI 48106		CALENDAR DAYS		Vial Contact: ANNE TRAVINSKY		Lab Sampling		Job / SDG No:	
Phone: 734-394-1340		WEEKEND DAYS		Vial Contact: ANNE TRAVINSKY		Sample Specific Notes:			
Fax:		TAT (delivered from lab)		Vial Contact: ANNE TRAVINSKY					
Project Name: FSD GTP		3 weeks		Vial Contact: ANNE TRAVINSKY					
Site: FSD GTP		2 weeks		Vial Contact: ANNE TRAVINSKY					
PO#:		1 day		Vial Contact: ANNE TRAVINSKY					

Sample Identification	Sample Date	Sample Time	Sample Type (IC-comp, GC, etc)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Other
Top Blank								
LIFHP-135-1-2-012520	1/25/20	1657	G	S	2	NA	X	Included Dry Weight
LIFHP-135-3-4-012520	1/25/20	1702	G	S	2	NA	X	"
LIFHP-135-5-6-012520	1/25/20	1706	G	S	2	NA	X	"
LIFHP-135-6-7-012520	1/25/20	1713	G	S	2	NA	X	"
LIFHP-135-7-8-012520	1/25/20	1716	G	S	2	NA	X	"
LIFHP-135-9-10-012520	1/25/20	1720	G	S	2	NA	X	"
LIFHP-135-11-12-012520	1/25/20	1850	G	GW	6	NA	X	"
LIFHP-135-11-15-012520	1/25/20	1900	G	SW	6	NA	X	"

Preservation Used: IC-2-HCl H2SO4 HNO3 H2O2 Other: **None**

Possible Hazard Identification: **None**

Are any samples from a listed EPA Hazardous Waste? Yes No

Comments: Section 1 of the lab is to dispose of the sample.

Return to Client Disposal by Lab Archive for _____ Months

Special Instructions/ICC Requirements & Comments: **SEND ALL RESULTS THROUGH CADEVA @ JAM TOMLIN@CADEVA.COM**
CADEVA # E203720

Customary Seal No. Yes No

Relinquished by: **Heather Thomas** Date/Time: **01/25/20 12:00** Company: **ARCADIS**

Relinquished by: **Cathy Green** Date/Time: **01/27/20 12:00** Company: **ARCADIS**

Relinquished by: **Molly Maxwell** Date/Time: **1/27/20 15:00** Company: **ARCADIS**

Relinquished by: **Molly Maxwell** Date/Time: **1/28/20 09:20** Company: **ARCADIS**



Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: Adam Gant
 Cooler Received on 1-29-20 Opened on 1-29-20
 FedEx: 1st Grd UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box _____ Client Cooler _____ Box _____ Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None _____ Other _____
 COOLANT: Wet Ice Blue Ice _____ Dry Ice _____ Water _____ None _____

1. Cooler temperature upon receipt: See Multiple Cooler Form
 IR GUN #IR-10 (CF +0.7 °C) Observed Cooler Temp: _____ °C Corrected Cooler Temp: _____ °C
 IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp: _____ °C Corrected Cooler Temp: _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ea Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 017761E Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM: _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: AG

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 04, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30016346.0001B - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 125447-1
Sample date: 2020-01-25
Report received by CADENA: 2020-02-04
Initial Data Verification completed by CADENA: 2020-02-04
Number of Samples:5
Sample Matrices:Soil
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOL and SIM sample -007 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

GCMS VOC QC batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

GCMS VOC QC batch MS/MSD recovery outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 125447-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401254471	TRIP BLANK	1/25/2020	12:00:00	X		
2401254472	LIFHP-135_1-2_012620	1/25/2020	4:57:00	X		
2401254473	LIFHP-135_3-4_012620	1/25/2020	5:02:00	X		
2401254474	LIFHP-135_5-6_012620	1/25/2020	5:06:00	X		
2401254475	LIFHP-135_6-7_012620	1/25/2020	5:13:00	X		
2401254476	LIFHP-135_7-8_012620	1/25/2020	5:16:00	X		
2401254477	LIFHP-135_16-20_012620	1/25/2020	6:50:00	X	X	
2401254478	LIFHP-135_11-15_012620	1/25/2020	7:00:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 125447-1

Sample Name: LIFHP-135_16-20_012620

Lab Sample ID: 2401254477

Sample Date: 1/25/2020

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units	Qualifier	
GC/MS VOC						
<u>OSW-8260B</u>						
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ	
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ	
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	
Vinyl chloride	75-01-4	ND	1.0	ug/l	UJ	
<u>OSW-8260BBSim</u>						
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 125447-1

Sample Name: TRIP BLANK	LIFHP-135_1-2_012620	LIFHP-135_3-4_012620	LIFHP-135_5-6_012620	LIFHP-135_6-7_012620	LIFHP-135_7-8_012620	LIFHP-135_16-20_012620	LIFHP-135_11-15_012620
Lab Sample ID: 2401254471	2401254472	2401254473	2401254474	2401254475	2401254476	2401254477	2401254478
Sample Date: 1/25/2020	1/25/2020	1/25/2020	1/25/2020	1/25/2020	1/25/2020	1/25/2020	1/25/2020

Analyte	Cas No.	LIFHP-135_1-2_012620				LIFHP-135_3-4_012620				LIFHP-135_5-6_012620				LIFHP-135_6-7_012620				LIFHP-135_7-8_012620				LIFHP-135_16-20_012620				LIFHP-135_11-15_012620							
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier				
GC/MS VOC																																	
<u>OSW-8260B</u>																																	
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
1,4-Dioxane	123-91-1					ND	16000	ug/kg	---	ND	16000	ug/kg	---	ND	16000	ug/kg	---	ND	14000	ug/kg	---	ND	14000	ug/kg	---								
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	50	ug/kg	---	ND	52	ug/kg	---	ND	50	ug/kg	---	ND	46	ug/kg	---	ND	46	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	40	ug/kg	---	ND	41	ug/kg	---	ND	40	ug/kg	---	ND	37	ug/kg	---	ND	37	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-125448-1
Client Project/Site: Ford LTP Livonia MI

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/3/2020 11:26:26 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Job ID: 240-125448-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI

Report Number: 240-125448-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/28/2020 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.2° C and 2.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples LIFHP-137_21-25_012620 (240-125448-7), LIFHP-137_13-17_012620 (240-125448-8), LIFHP-137_8-12_012620 (240-125448-9), LIFHP-136_11-15_012620 (240-125448-15), LIFHP-136_16-20_012620 (240-125448-16), LIFHP-136_21-25_012620 (240-125448-17) and TRIP BLANK (240-125448-18) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/29/2020 and 01/30/2020.

The following samples were submitted for volatile analysis with insufficient preservation (pH>2): LIFHP-137_21-25_012620 (240-125448-7), LIFHP-137_8-12_012620 (240-125448-9) and LIFHP-136_11-15_012620 (240-125448-15).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples DUP-01_012620 (240-125448-1), LIFHP-137_1-2_012620 (240-125448-2), LIFHP-137_5-6_012620 (240-125448-3), LIFHP-137_6-7_012620 (240-125448-4), LIFHP-137_22-23_012620 (240-125448-5), LIFHP-137_24-25_012620 (240-125448-6), LIFHP-136_1-2_012620 (240-125448-10), LIFHP-136_3-4_012620 (240-125448-11), LIFHP-136_9-10_012620 (240-125448-12), LIFHP-136_20-21_012620 (240-125448-13) and LIFHP-136_21-22_012620 (240-125448-14) were analyzed for volatile organic

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Job ID: 240-125448-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/30/2020 and 01/31/2020.

1,4-Dioxane exceeded the RPD limit for the MSD of sample LIFHP-137_24-25_012620MSD (240-125448-6) in batch 240-420938. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-137_21-25_012620 (240-125448-7), LIFHP-137_13-17_012620 (240-125448-8), LIFHP-137_8-12_012620 (240-125448-9), LIFHP-136_11-15_012620 (240-125448-15), LIFHP-136_16-20_012620 (240-125448-16) and LIFHP-136_21-25_012620 (240-125448-17) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 01/29/2020.

The pH is greater than 2 for the following samples LIFHP-137_21-25_012620 (240-125448-7), LIFHP-136_16-20_012620 (240-125448-16) and LIFHP-136_21-25_012620 (240-125448-17).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples DUP-01_012620 (240-125448-1), LIFHP-137_1-2_012620 (240-125448-2), LIFHP-137_5-6_012620 (240-125448-3), LIFHP-137_6-7_012620 (240-125448-4), LIFHP-137_22-23_012620 (240-125448-5), LIFHP-137_24-25_012620 (240-125448-6), LIFHP-136_1-2_012620 (240-125448-10), LIFHP-136_3-4_012620 (240-125448-11), LIFHP-136_9-10_012620 (240-125448-12), LIFHP-136_20-21_012620 (240-125448-13) and LIFHP-136_21-22_012620 (240-125448-14) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 01/28/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125448-1	DUP-01_012620	Solid	01/26/20 00:00	01/28/20 08:20	
240-125448-2	LIFHP-137_1-2_012620	Solid	01/26/20 16:40	01/28/20 08:20	
240-125448-3	LIFHP-137_5-6_012620	Solid	01/26/20 16:50	01/28/20 08:20	
240-125448-4	LIFHP-137_6-7_012620	Solid	01/26/20 16:52	01/28/20 08:20	
240-125448-5	LIFHP-137_22-23_012620	Solid	01/26/20 17:30	01/28/20 08:20	
240-125448-6	LIFHP-137_24-25_012620	Solid	01/26/20 17:35	01/28/20 08:20	
240-125448-7	LIFHP-137_21-25_012620	Water	01/26/20 18:05	01/28/20 08:20	
240-125448-8	LIFHP-137_13-17_012620	Water	01/26/20 18:15	01/28/20 08:20	
240-125448-9	LIFHP-137_8-12_012620	Water	01/26/20 18:35	01/28/20 08:20	
240-125448-10	LIFHP-136_1-2_012620	Solid	01/26/20 13:53	01/28/20 08:20	
240-125448-11	LIFHP-136_3-4_012620	Solid	01/26/20 13:56	01/28/20 08:20	
240-125448-12	LIFHP-136_9-10_012620	Solid	01/26/20 14:03	01/28/20 08:20	
240-125448-13	LIFHP-136_20-21_012620	Solid	01/26/20 14:39	01/28/20 08:20	
240-125448-14	LIFHP-136_21-22_012620	Solid	01/26/20 14:41	01/28/20 08:20	
240-125448-15	LIFHP-136_11-15_012620	Water	01/26/20 16:10	01/28/20 08:20	
240-125448-16	LIFHP-136_16-20_012620	Water	01/26/20 15:36	01/28/20 08:20	
240-125448-17	LIFHP-136_21-25_012620	Water	01/26/20 15:25	01/28/20 08:20	
240-125448-18	TRIP BLANK	Water	01/26/20 00:00	01/28/20 08:20	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: DUP-01_012620

Lab Sample ID: 240-125448-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	450		49	11	ug/Kg	1	☼	8260B MI	Total/NA
trans-1,2-Dichloroethene	49		49	12	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	1800		49	13	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-137_1-2_012620

Lab Sample ID: 240-125448-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	220		49	11	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	420		49	13	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-137_5-6_012620

Lab Sample ID: 240-125448-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	75		48	11	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	210		48	13	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-137_6-7_012620

Lab Sample ID: 240-125448-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	390		47	11	ug/Kg	1	☼	8260B MI	Total/NA
trans-1,2-Dichloroethene	36	J	47	12	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	1500		47	13	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-137_22-23_012620

Lab Sample ID: 240-125448-5

No Detections.

Client Sample ID: LIFHP-137_24-25_012620

Lab Sample ID: 240-125448-6

No Detections.

Client Sample ID: LIFHP-137_21-25_012620

Lab Sample ID: 240-125448-7

No Detections.

Client Sample ID: LIFHP-137_13-17_012620

Lab Sample ID: 240-125448-8

No Detections.

Client Sample ID: LIFHP-137_8-12_012620

Lab Sample ID: 240-125448-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.3	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	13		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.1		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	0.28	J	1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	6.6		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-136_1-2_012620

Lab Sample ID: 240-125448-10

No Detections.

Client Sample ID: LIFHP-136_3-4_012620

Lab Sample ID: 240-125448-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	38	J	48	11	ug/Kg	1	☼	8260B MI	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_9-10_012620

Lab Sample ID: 240-125448-12

No Detections.

Client Sample ID: LIFHP-136_20-21_012620

Lab Sample ID: 240-125448-13

No Detections.

Client Sample ID: LIFHP-136_21-22_012620

Lab Sample ID: 240-125448-14

No Detections.

Client Sample ID: LIFHP-136_11-15_012620

Lab Sample ID: 240-125448-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.66	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.30	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-136_16-20_012620

Lab Sample ID: 240-125448-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: LIFHP-136_21-25_012620

Lab Sample ID: 240-125448-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.3	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125448-18

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: DUP-01_012620

Lab Sample ID: 240-125448-1

Date Collected: 01/26/20 00:00

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	20	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
cis-1,2-Dichloroethene	450		49	11	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
trans-1,2-Dichloroethene	49		49	12	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
Trichloroethene	1800		49	13	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	01/29/20 13:47	01/30/20 21:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		47 - 136	01/29/20 13:47	01/30/20 21:40	1
4-Bromofluorobenzene (Surr)	93		51 - 124	01/29/20 13:47	01/30/20 21:40	1
Dibromofluoromethane (Surr)	99		49 - 122	01/29/20 13:47	01/30/20 21:40	1
Toluene-d8 (Surr)	97		55 - 123	01/29/20 13:47	01/30/20 21:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.5		0.1	0.1	%			01/28/20 15:26	1
Percent Moisture	9.5		0.1	0.1	%			01/28/20 15:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_1-2_012620

Lab Sample ID: 240-125448-2

Date Collected: 01/26/20 16:40

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	19	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
cis-1,2-Dichloroethene	220		49	11	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
trans-1,2-Dichloroethene	49	U	49	12	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
Trichloroethene	420		49	13	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	01/29/20 13:47	01/30/20 22:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		47 - 136	01/29/20 13:47	01/30/20 22:02	1
4-Bromofluorobenzene (Surr)	96		51 - 124	01/29/20 13:47	01/30/20 22:02	1
Dibromofluoromethane (Surr)	104		49 - 122	01/29/20 13:47	01/30/20 22:02	1
Toluene-d8 (Surr)	102		55 - 123	01/29/20 13:47	01/30/20 22:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.3		0.1	0.1	%			01/28/20 15:26	1
Percent Moisture	9.7		0.1	0.1	%			01/28/20 15:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_5-6_012620

Lab Sample ID: 240-125448-3

Date Collected: 01/26/20 16:50

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
cis-1,2-Dichloroethene	75		48	11	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
Tetrachloroethene	48	U	48	22	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
Trichloroethene	210		48	13	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1
Vinyl chloride	39	U	39	14	ug/Kg	☼	01/29/20 13:47	01/30/20 22:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		47 - 136	01/29/20 13:47	01/30/20 22:25	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/29/20 13:47	01/30/20 22:25	1
Dibromofluoromethane (Surr)	95		49 - 122	01/29/20 13:47	01/30/20 22:25	1
Toluene-d8 (Surr)	94		55 - 123	01/29/20 13:47	01/30/20 22:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.6		0.1	0.1	%			01/28/20 15:26	1
Percent Moisture	8.4		0.1	0.1	%			01/28/20 15:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_6-7_012620

Lab Sample ID: 240-125448-4

Date Collected: 01/26/20 16:52

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 93.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	47	U	47	19	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
cis-1,2-Dichloroethene	390		47	11	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
Tetrachloroethene	47	U	47	21	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
trans-1,2-Dichloroethene	36	J	47	12	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
Trichloroethene	1500		47	13	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	01/29/20 13:47	01/30/20 22:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		47 - 136	01/29/20 13:47	01/30/20 22:47	1
4-Bromofluorobenzene (Surr)	91		51 - 124	01/29/20 13:47	01/30/20 22:47	1
Dibromofluoromethane (Surr)	98		49 - 122	01/29/20 13:47	01/30/20 22:47	1
Toluene-d8 (Surr)	101		55 - 123	01/29/20 13:47	01/30/20 22:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.7		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	6.3		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_22-23_012620

Lab Sample ID: 240-125448-5

Date Collected: 01/26/20 17:30

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 83.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	58	U	58	23	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
cis-1,2-Dichloroethene	58	U	58	13	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
Tetrachloroethene	58	U	58	26	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
trans-1,2-Dichloroethene	58	U	58	15	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
Trichloroethene	58	U	58	16	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1
Vinyl chloride	47	U	47	17	ug/Kg	☼	01/29/20 13:47	01/30/20 23:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		47 - 136	01/29/20 13:47	01/30/20 23:10	1
4-Bromofluorobenzene (Surr)	92		51 - 124	01/29/20 13:47	01/30/20 23:10	1
Dibromofluoromethane (Surr)	103		49 - 122	01/29/20 13:47	01/30/20 23:10	1
Toluene-d8 (Surr)	100		55 - 123	01/29/20 13:47	01/30/20 23:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.1		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	16.9		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_24-25_012620

Lab Sample ID: 240-125448-6

Date Collected: 01/26/20 17:35

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 79.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	65	U	65	26	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
1,4-Dioxane	20000	U F2	20000	1800	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
cis-1,2-Dichloroethene	65	U	65	15	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
Tetrachloroethene	65	U	65	29	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
trans-1,2-Dichloroethene	65	U	65	16	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
Trichloroethene	65	U	65	18	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1
Vinyl chloride	52	U	52	19	ug/Kg	☼	01/29/20 13:47	01/30/20 23:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		47 - 136	01/29/20 13:47	01/30/20 23:32	1
4-Bromofluorobenzene (Surr)	92		51 - 124	01/29/20 13:47	01/30/20 23:32	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 13:47	01/30/20 23:32	1
Toluene-d8 (Surr)	100		55 - 123	01/29/20 13:47	01/30/20 23:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.2		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	20.8		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_21-25_012620

Lab Sample ID: 240-125448-7

Date Collected: 01/26/20 18:05

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 16:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		01/29/20 16:06	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 18:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 18:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 18:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 18:02	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 18:02	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 18:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		75 - 130		01/30/20 18:02	1
4-Bromofluorobenzene (Surr)	100		47 - 134		01/30/20 18:02	1
Toluene-d8 (Surr)	97		69 - 122		01/30/20 18:02	1
Dibromofluoromethane (Surr)	87		78 - 129		01/30/20 18:02	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_13-17_012620

Lab Sample ID: 240-125448-8

Date Collected: 01/26/20 18:15

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 16:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		01/29/20 16:31	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 18:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 18:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 18:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 18:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 18:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		01/30/20 18:26	1
4-Bromofluorobenzene (Surr)	103		47 - 134		01/30/20 18:26	1
Toluene-d8 (Surr)	98		69 - 122		01/30/20 18:26	1
Dibromofluoromethane (Surr)	87		78 - 129		01/30/20 18:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_8-12_012620

Lab Sample ID: 240-125448-9

Date Collected: 01/26/20 18:35

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.3	J	2.0	0.86	ug/L			01/29/20 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		01/29/20 16:57	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 18:51	1
cis-1,2-Dichloroethene	13		1.0	0.16	ug/L			01/30/20 18:51	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 18:51	1
trans-1,2-Dichloroethene	1.1		1.0	0.19	ug/L			01/30/20 18:51	1
Trichloroethene	0.28	J	1.0	0.10	ug/L			01/30/20 18:51	1
Vinyl chloride	6.6		1.0	0.20	ug/L			01/30/20 18:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		01/30/20 18:51	1
4-Bromofluorobenzene (Surr)	100		47 - 134		01/30/20 18:51	1
Toluene-d8 (Surr)	101		69 - 122		01/30/20 18:51	1
Dibromofluoromethane (Surr)	91		78 - 129		01/30/20 18:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_1-2_012620

Lab Sample ID: 240-125448-10

Date Collected: 01/26/20 13:53

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 95.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	45	U	45	18	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
1,4-Dioxane	14000	U	14000	1200	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
cis-1,2-Dichloroethene	45	U	45	10	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
Tetrachloroethene	45	U	45	20	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
trans-1,2-Dichloroethene	45	U	45	11	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
Trichloroethene	45	U	45	12	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1
Vinyl chloride	36	U	36	14	ug/Kg	☼	01/29/20 13:47	01/31/20 00:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		47 - 136	01/29/20 13:47	01/31/20 00:39	1
4-Bromofluorobenzene (Surr)	90		51 - 124	01/29/20 13:47	01/31/20 00:39	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 13:47	01/31/20 00:39	1
Toluene-d8 (Surr)	102		55 - 123	01/29/20 13:47	01/31/20 00:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95.7		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	4.3		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_3-4_012620

Lab Sample ID: 240-125448-11

Date Collected: 01/26/20 13:56

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
cis-1,2-Dichloroethene	38	J	48	11	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
Tetrachloroethene	48	U	48	21	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
Trichloroethene	48	U	48	13	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	01/29/20 13:47	01/31/20 01:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		47 - 136	01/29/20 13:47	01/31/20 01:02	1
4-Bromofluorobenzene (Surr)	88		51 - 124	01/29/20 13:47	01/31/20 01:02	1
Dibromofluoromethane (Surr)	103		49 - 122	01/29/20 13:47	01/31/20 01:02	1
Toluene-d8 (Surr)	101		55 - 123	01/29/20 13:47	01/31/20 01:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.6		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	8.4		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_9-10_012620

Lab Sample ID: 240-125448-12

Date Collected: 01/26/20 14:03

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 84.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
Trichloroethene	55	U	55	15	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1
Vinyl chloride	44	U	44	16	ug/Kg	☼	01/29/20 13:47	01/31/20 01:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		47 - 136	01/29/20 13:47	01/31/20 01:24	1
4-Bromofluorobenzene (Surr)	91		51 - 124	01/29/20 13:47	01/31/20 01:24	1
Dibromofluoromethane (Surr)	98		49 - 122	01/29/20 13:47	01/31/20 01:24	1
Toluene-d8 (Surr)	101		55 - 123	01/29/20 13:47	01/31/20 01:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.1		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	15.9		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_20-21_012620

Lab Sample ID: 240-125448-13

Date Collected: 01/26/20 14:39

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 79.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	62	U	62	25	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
cis-1,2-Dichloroethene	62	U	62	14	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
Tetrachloroethene	62	U	62	28	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
trans-1,2-Dichloroethene	62	U	62	15	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
Trichloroethene	62	U	62	17	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1
Vinyl chloride	49	U	49	19	ug/Kg	☼	01/29/20 13:47	01/31/20 01:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		47 - 136	01/29/20 13:47	01/31/20 01:47	1
4-Bromofluorobenzene (Surr)	95		51 - 124	01/29/20 13:47	01/31/20 01:47	1
Dibromofluoromethane (Surr)	103		49 - 122	01/29/20 13:47	01/31/20 01:47	1
Toluene-d8 (Surr)	106		55 - 123	01/29/20 13:47	01/31/20 01:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.8		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	20.2		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_21-22_012620

Lab Sample ID: 240-125448-14

Date Collected: 01/26/20 14:41

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 81.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
1,4-Dioxane	19000	U	19000	1600	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
Tetrachloroethene	59	U	59	27	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
Trichloroethene	59	U	59	16	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	01/29/20 13:47	01/31/20 02:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		47 - 136	01/29/20 13:47	01/31/20 02:09	1
4-Bromofluorobenzene (Surr)	90		51 - 124	01/29/20 13:47	01/31/20 02:09	1
Dibromofluoromethane (Surr)	100		49 - 122	01/29/20 13:47	01/31/20 02:09	1
Toluene-d8 (Surr)	99		55 - 123	01/29/20 13:47	01/31/20 02:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.0		0.1	0.1	%			01/28/20 15:45	1
Percent Moisture	19.0		0.1	0.1	%			01/28/20 15:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_11-15_012620

Lab Sample ID: 240-125448-15

Date Collected: 01/26/20 16:10

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.8	J	2.0	0.86	ug/L			01/29/20 17:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		01/29/20 17:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 19:16	1
cis-1,2-Dichloroethene	0.66	J	1.0	0.16	ug/L			01/30/20 19:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 19:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 19:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 19:16	1
Vinyl chloride	0.30	J	1.0	0.20	ug/L			01/30/20 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 130		01/30/20 19:16	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/30/20 19:16	1
Toluene-d8 (Surr)	101		69 - 122		01/30/20 19:16	1
Dibromofluoromethane (Surr)	93		78 - 129		01/30/20 19:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_16-20_012620

Lab Sample ID: 240-125448-16

Date Collected: 01/26/20 15:36

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1	J	2.0	0.86	ug/L			01/29/20 17:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		01/29/20 17:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 19:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 19:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 19:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 19:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 19:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 19:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/30/20 19:41	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/30/20 19:41	1
Toluene-d8 (Surr)	98		69 - 122		01/30/20 19:41	1
Dibromofluoromethane (Surr)	88		78 - 129		01/30/20 19:41	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_21-25_012620

Lab Sample ID: 240-125448-17

Date Collected: 01/26/20 15:25

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.3	J	2.0	0.86	ug/L			01/29/20 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		01/29/20 18:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 20:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 20:06	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 20:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 20:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 20:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 20:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		75 - 130		01/30/20 20:06	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/30/20 20:06	1
Toluene-d8 (Surr)	99		69 - 122		01/30/20 20:06	1
Dibromofluoromethane (Surr)	87		78 - 129		01/30/20 20:06	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125448-18

Date Collected: 01/26/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 19:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 19:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 19:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 19:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 19:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 19:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/29/20 19:16	1
4-Bromofluorobenzene (Surr)	105		47 - 134		01/29/20 19:16	1
Toluene-d8 (Surr)	101		69 - 122		01/29/20 19:16	1
Dibromofluoromethane (Surr)	90		78 - 129		01/29/20 19:16	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-125366-C-1 MS	Matrix Spike	97	99	98	88
240-125366-C-1 MSD	Matrix Spike Duplicate	95	97	98	86
240-125417-A-2 MS	Matrix Spike	95	100	100	89
240-125417-C-2 MSD	Matrix Spike Duplicate	93	101	100	91
240-125448-7	LIFHP-137_21-25_012620	92	100	97	87
240-125448-8	LIFHP-137_13-17_012620	94	103	98	87
240-125448-9	LIFHP-137_8-12_012620	96	100	101	91
240-125448-15	LIFHP-136_11-15_012620	98	102	101	93
240-125448-16	LIFHP-136_16-20_012620	95	102	98	88
240-125448-17	LIFHP-136_21-25_012620	96	102	99	87
240-125448-18	TRIP BLANK	95	105	101	90
LCS 240-420726/4	Lab Control Sample	93	102	97	88
LCS 240-420869/4	Lab Control Sample	93	107	97	88
MB 240-420726/7	Method Blank	93	104	97	86
MB 240-420869/7	Method Blank	95	105	100	89

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (47-136)	BFB (51-124)	DBFM (49-122)	TOL (55-123)
240-125448-1	DUP-01_012620	98	93	99	97
240-125448-2	LIFHP-137_1-2_012620	103	96	104	102
240-125448-3	LIFHP-137_5-6_012620	95	88	95	94
240-125448-4	LIFHP-137_6-7_012620	100	91	98	101
240-125448-5	LIFHP-137_22-23_012620	105	92	103	100
240-125448-6	LIFHP-137_24-25_012620	103	92	100	100
240-125448-6 MS	LIFHP-137_24-25_012620	101	94	104	102
240-125448-6 MSD	LIFHP-137_24-25_012620	94	87	97	97
240-125448-10	LIFHP-136_1-2_012620	101	90	100	102
240-125448-11	LIFHP-136_3-4_012620	101	88	103	101
240-125448-12	LIFHP-136_9-10_012620	100	91	98	101
240-125448-13	LIFHP-136_20-21_012620	105	95	103	106
240-125448-14	LIFHP-136_21-22_012620	103	90	100	99
LCS 240-420730/2-A	Lab Control Sample	93	86	95	94
LCSD 240-420730/3-A	Lab Control Sample Dup	90	85	95	92
MB 240-420730/1-A	Method Blank	89	78	91	88

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-125447-A-8 MS	Matrix Spike	97
240-125447-A-8 MSD	Matrix Spike Duplicate	100
240-125448-7	LIFHP-137_21-25_012620	102
240-125448-8	LIFHP-137_13-17_012620	100
240-125448-9	LIFHP-137_8-12_012620	99
240-125448-15	LIFHP-136_11-15_012620	99
240-125448-16	LIFHP-136_16-20_012620	101
240-125448-17	LIFHP-136_21-25_012620	101
LCS 240-420655/4	Lab Control Sample	96
MB 240-420655/5	Method Blank	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420726/7
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/29/20 14:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/29/20 14:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/29/20 14:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/29/20 14:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/29/20 14:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		01/29/20 14:39	1
4-Bromofluorobenzene (Surr)	104		47 - 134		01/29/20 14:39	1
Toluene-d8 (Surr)	97		69 - 122		01/29/20 14:39	1
Dibromofluoromethane (Surr)	86		78 - 129		01/29/20 14:39	1

Lab Sample ID: LCS 240-420726/4
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124
Tetrachloroethene	10.0	10.1		ug/L		101	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.48		ug/L		95	71 - 121
Vinyl chloride	10.0	10.1		ug/L		101	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	68 - 121
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	69 - 126
Trichloroethene	1.0	U	10.0	9.24		ug/L		92	56 - 124
Vinyl chloride	1.0	U	10.0	9.77		ug/L		98	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	100		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125417-A-2 MS
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-125417-C-2 MSD
Matrix: Water
Analysis Batch: 420726

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 132	3	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.0		ug/L		100	68 - 121	3	35
Tetrachloroethene	1.0	U	10.0	9.78		ug/L		98	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	69 - 126	0	35
Trichloroethene	1.0	U	10.0	8.91		ug/L		89	56 - 124	4	35
Vinyl chloride	1.0	U	10.0	10.7		ug/L		107	49 - 136	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	101		47 - 134
Toluene-d8 (Surr)	100		69 - 122
Dibromofluoromethane (Surr)	91		78 - 129

Lab Sample ID: MB 240-420869/7
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/30/20 15:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			01/30/20 15:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/30/20 15:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/30/20 15:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/30/20 15:34	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		75 - 130		01/30/20 15:34	1
4-Bromofluorobenzene (Surr)	105		47 - 134		01/30/20 15:34	1
Toluene-d8 (Surr)	100		69 - 122		01/30/20 15:34	1
Dibromofluoromethane (Surr)	89		78 - 129		01/30/20 15:34	1

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.2		ug/L		102	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	10.3		ug/L		103	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.67		ug/L		97	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-420869/4
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	9.71		ug/L		97	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	97		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125366-C-1 MS
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	100	U	1000	886		ug/L		89	64 - 132
cis-1,2-Dichloroethene	58	J	1000	1070		ug/L		101	68 - 121
Tetrachloroethene	100	U	1000	850		ug/L		85	52 - 129
trans-1,2-Dichloroethene	100	U	1000	948		ug/L		95	69 - 126
Trichloroethene	100	U	1000	848		ug/L		85	56 - 124
Vinyl chloride	100	U	1000	904		ug/L		90	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-125366-C-1 MSD
Matrix: Water
Analysis Batch: 420869

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	100	U	1000	922		ug/L		92	64 - 132	4	35
cis-1,2-Dichloroethene	58	J	1000	1080		ug/L		102	68 - 121	1	35
Tetrachloroethene	100	U	1000	854		ug/L		85	52 - 129	0	35
trans-1,2-Dichloroethene	100	U	1000	1010		ug/L		101	69 - 126	6	35
Trichloroethene	100	U	1000	836		ug/L		84	56 - 124	1	35
Vinyl chloride	100	U	1000	985		ug/L		98	49 - 136	9	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	97		47 - 134
Toluene-d8 (Surr)	98		69 - 122
Dibromofluoromethane (Surr)	86		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420730/1-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420730

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	40	U	40	16	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Tetrachloroethene	40	U	40	18	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Trichloroethene	40	U	40	11	ug/Kg		01/29/20 13:47	01/30/20 19:02	1
Vinyl chloride	32	U	32	12	ug/Kg		01/29/20 13:47	01/30/20 19:02	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	89		47 - 136	01/29/20 13:47	01/30/20 19:02	1
4-Bromofluorobenzene (Surr)	78		51 - 124	01/29/20 13:47	01/30/20 19:02	1
Dibromofluoromethane (Surr)	91		49 - 122	01/29/20 13:47	01/30/20 19:02	1
Toluene-d8 (Surr)	88		55 - 123	01/29/20 13:47	01/30/20 19:02	1

Lab Sample ID: LCS 240-420730/2-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
1,1-Dichloroethene	1000	1070		ug/Kg		107	48 - 140
1,4-Dioxane	20000	20100		ug/Kg		101	44 - 154
cis-1,2-Dichloroethene	1000	1020		ug/Kg		102	76 - 120
Tetrachloroethene	1000	953		ug/Kg		95	75 - 124
trans-1,2-Dichloroethene	1000	1050		ug/Kg		105	74 - 125
Trichloroethene	1000	984		ug/Kg		98	75 - 123
Vinyl chloride	1000	892		ug/Kg		89	39 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	93		47 - 136
4-Bromofluorobenzene (Surr)	86		51 - 124
Dibromofluoromethane (Surr)	95		49 - 122
Toluene-d8 (Surr)	94		55 - 123

Lab Sample ID: LCSD 240-420730/3-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	Limits	RPD	
		Result	Qualifier					RPD	Limit
1,1-Dichloroethene	1000	1090		ug/Kg		109	48 - 140	2	40
1,4-Dioxane	20000	17300		ug/Kg		87	44 - 154	15	40
cis-1,2-Dichloroethene	1000	1040		ug/Kg		104	76 - 120	2	40
Tetrachloroethene	1000	954		ug/Kg		95	75 - 124	0	40
trans-1,2-Dichloroethene	1000	1070		ug/Kg		107	74 - 125	2	40
Trichloroethene	1000	1030		ug/Kg		103	75 - 123	5	40
Vinyl chloride	1000	887		ug/Kg		89	39 - 140	1	40

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 240-420730/3-A
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 420730

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		47 - 136
4-Bromofluorobenzene (Surr)	85		51 - 124
Dibromofluoromethane (Surr)	95		49 - 122
Toluene-d8 (Surr)	92		55 - 123

Lab Sample ID: 240-125448-6 MS
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: LIFHP-137_24-25_012620
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	65	U	1430	1580		ug/Kg	*	110	20 - 150
1,4-Dioxane	20000	U F2	28600	21100	J	ug/Kg	*	74	48 - 149
cis-1,2-Dichloroethene	65	U	1430	1630		ug/Kg	*	114	35 - 130
Tetrachloroethene	65	U	1430	1460		ug/Kg	*	102	13 - 144
trans-1,2-Dichloroethene	65	U	1430	1650		ug/Kg	*	115	31 - 138
Trichloroethene	65	U	1430	1610		ug/Kg	*	113	10 - 162
Vinyl chloride	52	U	1430	1260		ug/Kg	*	88	15 - 150

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	101		47 - 136
4-Bromofluorobenzene (Surr)	94		51 - 124
Dibromofluoromethane (Surr)	104		49 - 122
Toluene-d8 (Surr)	102		55 - 123

Lab Sample ID: 240-125448-6 MSD
Matrix: Solid
Analysis Batch: 420938

Client Sample ID: LIFHP-137_24-25_012620
Prep Type: Total/NA
Prep Batch: 420730

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1-Dichloroethene	65	U	1340	1350		ug/Kg	*	101	20 - 150	16	40
1,4-Dioxane	20000	U F2	26700	34500	F2	ug/Kg	*	129	48 - 149	48	40
cis-1,2-Dichloroethene	65	U	1340	1420		ug/Kg	*	106	35 - 130	14	40
Tetrachloroethene	65	U	1340	1220		ug/Kg	*	92	13 - 144	18	40
trans-1,2-Dichloroethene	65	U	1340	1400		ug/Kg	*	105	31 - 138	17	40
Trichloroethene	65	U	1340	1440		ug/Kg	*	108	10 - 162	11	40
Vinyl chloride	52	U	1340	1040		ug/Kg	*	78	15 - 150	19	40

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		47 - 136
4-Bromofluorobenzene (Surr)	87		51 - 124
Dibromofluoromethane (Surr)	97		49 - 122
Toluene-d8 (Surr)	97		55 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420655/5
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			01/29/20 11:49	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 125					01/29/20 11:49	1

Lab Sample ID: LCS 240-420655/4
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.75		ug/L		98	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	96		63 - 125				

Lab Sample ID: 240-125447-A-8 MS
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.1	J	10.0	10.9		ug/L		98	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	97		63 - 125						

Lab Sample ID: 240-125447-A-8 MSD
Matrix: Water
Analysis Batch: 420655

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.1	J	10.0	10.2		ug/L		91	52 - 129	6	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	100		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-125448-6 DU
Matrix: Solid
Analysis Batch: 420559

Client Sample ID: LIFHP-137_24-25_012620
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	79.2		80.1		%		1	20
Percent Moisture	20.8		19.9		%		5	20

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 240-125448-11 DU

Matrix: Solid

Analysis Batch: 420559

Client Sample ID: LIFHP-136_3-4_012620

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Solids	91.6		91.0		%		0.7	20
Percent Moisture	8.4		9.0		%		7	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

GC/MS VOA

Analysis Batch: 420655

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-7	LIFHP-137_21-25_012620	Total/NA	Water	8260B SIM	
240-125448-8	LIFHP-137_13-17_012620	Total/NA	Water	8260B SIM	
240-125448-9	LIFHP-137_8-12_012620	Total/NA	Water	8260B SIM	
240-125448-15	LIFHP-136_11-15_012620	Total/NA	Water	8260B SIM	
240-125448-16	LIFHP-136_16-20_012620	Total/NA	Water	8260B SIM	
240-125448-17	LIFHP-136_21-25_012620	Total/NA	Water	8260B SIM	
MB 240-420655/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-420655/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-125447-A-8 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-125447-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 420726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-18	TRIP BLANK	Total/NA	Water	8260B	
MB 240-420726/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420726/4	Lab Control Sample	Total/NA	Water	8260B	
240-125417-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-125417-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Prep Batch: 420730

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-1	DUP-01_012620	Total/NA	Solid	5030B	
240-125448-2	LIFHP-137_1-2_012620	Total/NA	Solid	5030B	
240-125448-3	LIFHP-137_5-6_012620	Total/NA	Solid	5030B	
240-125448-4	LIFHP-137_6-7_012620	Total/NA	Solid	5030B	
240-125448-5	LIFHP-137_22-23_012620	Total/NA	Solid	5030B	
240-125448-6	LIFHP-137_24-25_012620	Total/NA	Solid	5030B	
240-125448-10	LIFHP-136_1-2_012620	Total/NA	Solid	5030B	
240-125448-11	LIFHP-136_3-4_012620	Total/NA	Solid	5030B	
240-125448-12	LIFHP-136_9-10_012620	Total/NA	Solid	5030B	
240-125448-13	LIFHP-136_20-21_012620	Total/NA	Solid	5030B	
240-125448-14	LIFHP-136_21-22_012620	Total/NA	Solid	5030B	
MB 240-420730/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-420730/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 240-420730/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	
240-125448-6 MS	LIFHP-137_24-25_012620	Total/NA	Solid	5030B	
240-125448-6 MSD	LIFHP-137_24-25_012620	Total/NA	Solid	5030B	

Analysis Batch: 420869

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-7	LIFHP-137_21-25_012620	Total/NA	Water	8260B	
240-125448-8	LIFHP-137_13-17_012620	Total/NA	Water	8260B	
240-125448-9	LIFHP-137_8-12_012620	Total/NA	Water	8260B	
240-125448-15	LIFHP-136_11-15_012620	Total/NA	Water	8260B	
240-125448-16	LIFHP-136_16-20_012620	Total/NA	Water	8260B	
240-125448-17	LIFHP-136_21-25_012620	Total/NA	Water	8260B	
MB 240-420869/7	Method Blank	Total/NA	Water	8260B	
LCS 240-420869/4	Lab Control Sample	Total/NA	Water	8260B	
240-125366-C-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-125366-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

GC/MS VOA

Analysis Batch: 420938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-1	DUP-01_012620	Total/NA	Solid	8260B MI	420730
240-125448-2	LIFHP-137_1-2_012620	Total/NA	Solid	8260B MI	420730
240-125448-3	LIFHP-137_5-6_012620	Total/NA	Solid	8260B MI	420730
240-125448-4	LIFHP-137_6-7_012620	Total/NA	Solid	8260B MI	420730
240-125448-5	LIFHP-137_22-23_012620	Total/NA	Solid	8260B MI	420730
240-125448-6	LIFHP-137_24-25_012620	Total/NA	Solid	8260B MI	420730
240-125448-10	LIFHP-136_1-2_012620	Total/NA	Solid	8260B MI	420730
240-125448-11	LIFHP-136_3-4_012620	Total/NA	Solid	8260B MI	420730
240-125448-12	LIFHP-136_9-10_012620	Total/NA	Solid	8260B MI	420730
240-125448-13	LIFHP-136_20-21_012620	Total/NA	Solid	8260B MI	420730
240-125448-14	LIFHP-136_21-22_012620	Total/NA	Solid	8260B MI	420730
MB 240-420730/1-A	Method Blank	Total/NA	Solid	8260B MI	420730
LCS 240-420730/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	420730
LCSD 240-420730/3-A	Lab Control Sample Dup	Total/NA	Solid	8260B MI	420730
240-125448-6 MS	LIFHP-137_24-25_012620	Total/NA	Solid	8260B MI	420730
240-125448-6 MSD	LIFHP-137_24-25_012620	Total/NA	Solid	8260B MI	420730

General Chemistry

Analysis Batch: 420559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125448-1	DUP-01_012620	Total/NA	Solid	Moisture	
240-125448-2	LIFHP-137_1-2_012620	Total/NA	Solid	Moisture	
240-125448-3	LIFHP-137_5-6_012620	Total/NA	Solid	Moisture	
240-125448-4	LIFHP-137_6-7_012620	Total/NA	Solid	Moisture	
240-125448-5	LIFHP-137_22-23_012620	Total/NA	Solid	Moisture	
240-125448-6	LIFHP-137_24-25_012620	Total/NA	Solid	Moisture	
240-125448-10	LIFHP-136_1-2_012620	Total/NA	Solid	Moisture	
240-125448-11	LIFHP-136_3-4_012620	Total/NA	Solid	Moisture	
240-125448-12	LIFHP-136_9-10_012620	Total/NA	Solid	Moisture	
240-125448-13	LIFHP-136_20-21_012620	Total/NA	Solid	Moisture	
240-125448-14	LIFHP-136_21-22_012620	Total/NA	Solid	Moisture	
240-125448-6 DU	LIFHP-137_24-25_012620	Total/NA	Solid	Moisture	
240-125448-11 DU	LIFHP-136_3-4_012620	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: DUP-01_012620

Lab Sample ID: 240-125448-1

Date Collected: 01/26/20 00:00

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:26	BLW	TAL CAN

Client Sample ID: DUP-01_012620

Lab Sample ID: 240-125448-1

Date Collected: 01/26/20 00:00

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 21:40	TJL1	TAL CAN

Client Sample ID: LIFHP-137_1-2_012620

Lab Sample ID: 240-125448-2

Date Collected: 01/26/20 16:40

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:26	BLW	TAL CAN

Client Sample ID: LIFHP-137_1-2_012620

Lab Sample ID: 240-125448-2

Date Collected: 01/26/20 16:40

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 22:02	TJL1	TAL CAN

Client Sample ID: LIFHP-137_5-6_012620

Lab Sample ID: 240-125448-3

Date Collected: 01/26/20 16:50

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:26	BLW	TAL CAN

Client Sample ID: LIFHP-137_5-6_012620

Lab Sample ID: 240-125448-3

Date Collected: 01/26/20 16:50

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 22:25	TJL1	TAL CAN

Client Sample ID: LIFHP-137_6-7_012620

Lab Sample ID: 240-125448-4

Date Collected: 01/26/20 16:52

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_6-7_012620

Lab Sample ID: 240-125448-4

Date Collected: 01/26/20 16:52

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 93.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 22:47	TJL1	TAL CAN

Client Sample ID: LIFHP-137_22-23_012620

Lab Sample ID: 240-125448-5

Date Collected: 01/26/20 17:30

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-137_22-23_012620

Lab Sample ID: 240-125448-5

Date Collected: 01/26/20 17:30

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 83.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 23:10	TJL1	TAL CAN

Client Sample ID: LIFHP-137_24-25_012620

Lab Sample ID: 240-125448-6

Date Collected: 01/26/20 17:35

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-137_24-25_012620

Lab Sample ID: 240-125448-6

Date Collected: 01/26/20 17:35

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 79.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/30/20 23:32	TJL1	TAL CAN

Client Sample ID: LIFHP-137_21-25_012620

Lab Sample ID: 240-125448-7

Date Collected: 01/26/20 18:05

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 18:02	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 16:06	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-137_13-17_012620

Lab Sample ID: 240-125448-8

Date Collected: 01/26/20 18:15

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 18:26	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 16:31	SAM	TAL CAN

Client Sample ID: LIFHP-137_8-12_012620

Lab Sample ID: 240-125448-9

Date Collected: 01/26/20 18:35

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 18:51	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 16:57	SAM	TAL CAN

Client Sample ID: LIFHP-136_1-2_012620

Lab Sample ID: 240-125448-10

Date Collected: 01/26/20 13:53

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_1-2_012620

Lab Sample ID: 240-125448-10

Date Collected: 01/26/20 13:53

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 95.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 00:39	TJL1	TAL CAN

Client Sample ID: LIFHP-136_3-4_012620

Lab Sample ID: 240-125448-11

Date Collected: 01/26/20 13:56

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_3-4_012620

Lab Sample ID: 240-125448-11

Date Collected: 01/26/20 13:56

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 91.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 01:02	TJL1	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_9-10_012620

Lab Sample ID: 240-125448-12

Date Collected: 01/26/20 14:03

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_9-10_012620

Lab Sample ID: 240-125448-12

Date Collected: 01/26/20 14:03

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 01:24	TJL1	TAL CAN

Client Sample ID: LIFHP-136_20-21_012620

Lab Sample ID: 240-125448-13

Date Collected: 01/26/20 14:39

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_20-21_012620

Lab Sample ID: 240-125448-13

Date Collected: 01/26/20 14:39

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 79.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 01:47	TJL1	TAL CAN

Client Sample ID: LIFHP-136_21-22_012620

Lab Sample ID: 240-125448-14

Date Collected: 01/26/20 14:41

Matrix: Solid

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	420559	01/28/20 15:45	BLW	TAL CAN

Client Sample ID: LIFHP-136_21-22_012620

Lab Sample ID: 240-125448-14

Date Collected: 01/26/20 14:41

Matrix: Solid

Date Received: 01/28/20 08:20

Percent Solids: 81.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			420730	01/29/20 13:47	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	420938	01/31/20 02:09	TJL1	TAL CAN

Client Sample ID: LIFHP-136_11-15_012620

Lab Sample ID: 240-125448-15

Date Collected: 01/26/20 16:10

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 19:16	LRW	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Client Sample ID: LIFHP-136_11-15_012620

Lab Sample ID: 240-125448-15

Date Collected: 01/26/20 16:10

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 17:22	SAM	TAL CAN

Client Sample ID: LIFHP-136_16-20_012620

Lab Sample ID: 240-125448-16

Date Collected: 01/26/20 15:36

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 19:41	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 17:47	SAM	TAL CAN

Client Sample ID: LIFHP-136_21-25_012620

Lab Sample ID: 240-125448-17

Date Collected: 01/26/20 15:25

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420869	01/30/20 20:06	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	420655	01/29/20 18:13	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-125448-18

Date Collected: 01/26/20 00:00

Matrix: Water

Date Received: 01/28/20 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	420726	01/29/20 19:16	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI

Job ID: 240-125448-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



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MICHIGAN Chain of Custody Record 221494
 190 11/25 05/12

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING
 TestAmerica Laboratories, Inc.
 TAL-6210 (07/10)

Regulatory Program: RCRA HAPES DW Other

Client Contact
 Company Name: Arcadis
 Address: 28550 Cabot Drive SE #50
 City/State/Zip: Auburn, MI 48317
 Phone: 248-994-2740
 Fax: _____
 Project Name: Food LTP
 Site: Food LTP
 PO #: _____

Project Manager: Kris Hinesky
 Tel/Fax: 269-579-5402
 Analysis Turnaround Time: _____
 CALENDAR DAYS WORKING DAYS
 TAT is different from below: 5 days
 Rush
 TAT

Site Contact: Jan Gross
 Date: 11/26/20
 Lab Contact: Mike Delmonico
 Carrier: _____
 For Lab Use Only:
 Walk-in Chiller
 Lab Sampling

Sample Identification	Sample Date	Sample Time	Sample Type (e.g., G, GW)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	1-OCF method (2008)	CS-17-OCF method (2008)	Trans-12-OCE (2008)	PCE (2008)	TCE (2008)	Unsat. Chlorid (2008)	19-Dioxane (2008)
DUP-01-012620	11/26/20	---	G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-12-012620	11/26/20	1640	G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-5-6-012620	11/26/20	1650	G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-6-7-012620	11/26/20	1652	G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-22-23-012620	11/26/20	1730	G	S	2	N	N	X	X	X	X	X	X	X
LIFHP-137-24-25-012620	11/26/20	1735	G	S	6	N	N	X	X	X	X	X	X	X
LIFHP-137-21-25-012620	11/26/20	1805	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-137-13-17-012620	11/26/20	1815	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-137-8-12-012620	11/26/20	1835	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-136-1-2-012620	11/26/20	1353	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-136-3-4-012620	11/26/20	1356	G	GW	6	N	N	X	X	X	X	X	X	X
LIFHP-136-9-10-012620	11/26/20	1403	G	GW	6	N	N	X	X	X	X	X	X	X

Preservation Used: Ice HCl H2SO4 HNO3 NaOH Other: MSB 2M
 Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please list only EPA Waste Codes for the sample in this Comments Section if the lab is to dispose of the sample.
 Non-Hazard Hazardous Site Inhibit Processed

Special Instructions/QC Requirements & Comments: Submit all results through Cadena @ sim.tamaling@cadena.com
 Cadena # E263728

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
<i>[Signature]</i>	Arcadis	11/26/20 1300	Novi Card Stange	Arcadis	12/10/20 1200
<i>[Signature]</i>	Arcadis	11/27/20 1300	Molly Maxwell	ATAL-MI	11/24/20 1158
Molly Maxwell	ATAL-MI	11/27/20 1500	Adam Garcia	ATAL-MI	11/28/20 0800

Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 125448

Canton Facility

Client Arcadis

Site Name

Cooler unpacked by:

Cooler Received on 1-25-20

Opened on 1-25-20

Adam Ganert

FedEx: ~~Grd~~ UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 ea Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # GL1710E Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

AG

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 03, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30016346.0001B - onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 125448-1

Sample date: 2020-01-26

Report received by CADENA: 2020-02-03

Initial Data Verification completed by CADENA: 2020-02-03

Number of Samples:18

Sample Matrices:Soil

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC samples -007, -009, -015 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

SPV - GCMS VOC SIM samples -007, -016, -017 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

GCMS VOC sample -006 MS or MSD recoveries but not both or RPD only were outliers for 1,4-DIOXANE so client sample results were not qualified based on this QC outlier alone.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 125448-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401254481	DUP-01_012620	1/26/2020	12:00:00	X		
24012544810	LIFHP-136_1-2_012620	1/26/2020	1:53:00	X		
24012544811	LIFHP-136_3-4_012620	1/26/2020	1:56:00	X		
24012544812	LIFHP-136_9-10_012620	1/26/2020	2:03:00	X		
24012544813	LIFHP-136_20-21_012620	1/26/2020	2:39:00	X		
24012544814	LIFHP-136_21-22_012620	1/26/2020	2:41:00	X		
24012544815	LIFHP-136_11-15_012620	1/26/2020	4:10:00	X	X	
24012544816	LIFHP-136_16-20_012620	1/26/2020	3:36:00	X	X	
24012544817	LIFHP-136_21-25_012620	1/26/2020	3:25:00	X	X	
24012544818	TRIP BLANK	1/26/2020	12:00:00	X		
2401254482	LIFHP-137_1-2_012620	1/26/2020	4:40:00	X		
2401254483	LIFHP-137_5-6_012620	1/26/2020	4:50:00	X		
2401254484	LIFHP-137_6-7_012620	1/26/2020	4:52:00	X		
2401254485	LIFHP-137_22-23_012620	1/26/2020	5:30:00	X		
2401254486	LIFHP-137_24-25_012620	1/26/2020	5:35:00	X		
2401254487	LIFHP-137_21-25_012620	1/26/2020	6:05:00	X	X	
2401254488	LIFHP-137_13-17_012620	1/26/2020	6:15:00	X	X	
2401254489	LIFHP-137_8-12_012620	1/26/2020	6:35:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 125448-1

Sample Name: LIFHP-136_11-15_012620	LIFHP-136_16-20_012620	LIFHP-136_21-25_012620	LIFHP-137_21-25_012620	LIFHP-137_8-12_012620
Lab Sample ID: 24012544815	24012544816	24012544817	2401254487	2401254489
Sample Date: 1/26/2020	1/26/2020	1/26/2020	1/26/2020	1/26/2020

Analyte	Cas No.	LIFHP-136_11-15_012620				LIFHP-136_16-20_012620				LIFHP-136_21-25_012620				LIFHP-137_21-25_012620				LIFHP-137_8-12_012620			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																					
<u>OSW-8260B</u>																					
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ									ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ
cis-1,2-Dichloroethene	156-59-2	0.66	1.0	ug/l	J									ND	1.0	ug/l	UJ	13	1.0	ug/l	J
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ									ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ									ND	1.0	ug/l	UJ	1.1	1.0	ug/l	J
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ									ND	1.0	ug/l	UJ	0.28	1.0	ug/l	J
Vinyl chloride	75-01-4	0.30	1.0	ug/l	J									ND	1.0	ug/l	UJ	6.6	1.0	ug/l	J
<u>OSW-8260BBSim</u>																					
1,4-Dioxane	123-91-1					1.1	2.0	ug/l	J	1.3	2.0	ug/l	J	ND	2.0	ug/l	UJ				

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 125448-1

Analyte	Cas No.	Report			Report			Report			Report			Report			Report												
		Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier									
GC/MS VOC																													
<u>OSW-8260B</u>																													
1,1-Dichloroethene	75-35-4	48	ug/kg	---	ND	47	ug/kg	---	ND	58	ug/kg	---	ND	65	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	UJ	
1,4-Dioxane	123-91-1	15000	ug/kg	---	ND	15000	ug/kg	---	ND	18000	ug/kg	---	ND	20000	ug/kg	---	ND												
cis-1,2-Dichloroethene	156-59-2	48	ug/kg	---	390	47	ug/kg	---	ND	58	ug/kg	---	ND	65	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	13	1.0	ug/l	J	
Tetrachloroethene	127-18-4	48	ug/kg	---	ND	47	ug/kg	---	ND	58	ug/kg	---	ND	65	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	UJ	
trans-1,2-Dichloroethene	156-60-5	48	ug/kg	---	36	47	ug/kg	J	ND	58	ug/kg	---	ND	65	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	1.1	1.0	ug/l	J	
Trichloroethene	79-01-6	48	ug/kg	---	1500	47	ug/kg	---	ND	58	ug/kg	---	ND	65	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	0.28	1.0	ug/l	J	
Vinyl chloride	75-01-4	39	ug/kg	---	ND	38	ug/kg	---	ND	47	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	6.6	1.0	ug/l	J	
<u>OSW-8260B5m</u>																													
1,4-Dioxane	123-91-1																	ND	2.0	ug/l	UJ	ND	2.0	ug/l	---	1.3	2.0	ug/l	J



Mobile Lab Project Case Narrative

Report Date	November 16, 2018
Client	Arcadis
Site/ Project Name	Ford Livonia 2018 Site Investigation
Location	Livonia, MI
Dates of Service	September 11, 2018, to November 04, 2018
Test Method Reference	CTS-10.15.16_8260C
Pace Project Number	2815

1. Introduction

Pace Analytical – Mobile Lab Services (Pace) mobilized to the referenced site to provide analytical chemistry support during site investigation activities. The target analytes for the project were a client-specified target chlorinated VOC list: tetrachloroethene, trichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloroethene, vinyl chloride, and 1,4-dioxane. The laboratory analyzed 226 water samples and 567 soil samples while on site. All samples were prepared / analyzed upon receipt by the laboratory and all method holding times were met. The Pace Lead Chemist was Jeff Foster and the Pace Project Manager was Nick Nigro.

2. Pace Method Summary

- Samples were analyzed for the client specified list of VOCs in accordance with the Pace standard operating procedures (SOP) listed above. As described prior to mobilization, Pace implemented the SOP formerly developed and certified by Cascade.
- Water samples were received in either preserved or unpreserved 40 mL VOA vials, depending on the timing of the sampling effort and whether Pace was on site or not at the time. Soil samples were received in 10-gram Lock n Load syringes, with additional volume provided for dry weight analysis.
- Samples were immediately logged in on Pace chain of custody (COC) upon receipt.
- Analysis was performed on HP7890A GC, HP5975C Mass Selective Detector equipped with Agilent Chemstation for data processing.

3. Quality Control Summary –

Initial Calibration	An initial calibration curve was prepared at eight concentrations and verified with a second source standard. All initial calibration criteria were achieved.
Instrument Tuning	Instrument tuning was verified every twelve hours using 4-bromofluorobenzene. All acceptance criteria were met.
Continuing Calibration	The instrument calibration was verified at the start of the run and every 12hr. All continuing calibration checks were acceptable, except where qualified.
Internal Standards	10 samples had low internal standard recoveries due to matrix interference. These samples are qualified with a CN.
Method Blanks	Method blanks that were analyzed each day were free of contamination, except where qualified.
Laboratory Control Samples	Recoveries for the constituents of concern were acceptable, except where qualified.
MS/MSD	Recoveries for the constituents of concern were acceptable, except where qualified.

4. Analytical Reports

All field-generated results were confirmed through the standard Pace review process.

Appendix A contains analytical reports for each sample along with quality control sample results. Appendix B contains chain of custody documentation.

Appendix A

Detailed Sample and Quality Control Results



2525 Advance Road
 Madison, WI 53718
 608.221.8700 Phone
 608.221.4889 Fax

ARCADIS
 28550 Cabot Drive, Suite 500
 Novi MI, 48377

Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LIFHP-79_10-13'_091118	V183701-01	Water	09/11/2018	09/12/2018
LIFHP-79_17-20'_091118	V183701-02	Water	09/11/2018	09/12/2018
LIFHP-79_22-25'_091118	V183701-03	Water	09/11/2018	09/12/2018
LIFHP-80B_18-22'_091218	V183701-04	Water	09/12/2018	09/12/2018
LIFHP-80B_8-12'_091218	V183701-05	Water	09/12/2018	09/12/2018
LIFHP-82_9-13'_091218	V183701-06	Water	09/12/2018	09/12/2018
LIFHP-82_18-22'_091218	V183701-07	Water	09/12/2018	09/12/2018
LIFHP-79_1-2'_091118	V183702-01	Soil	09/11/2018	09/12/2018
LIFHP-79_3-4'_091118	V183702-02	Soil	09/11/2018	09/12/2018
LIFHP-79_5-6'_091118	V183702-03	Soil	09/11/2018	09/12/2018
LIFHP-79_7-8'_091118	V183702-04	Soil	09/11/2018	09/12/2018
LIFHP-79_9-10'_091118	V183702-05	Soil	09/11/2018	09/12/2018
LIFHP-79_18.5-19.5'_091118	V183702-06	Soil	09/11/2018	09/12/2018
LIFHP-79_19.5-20.5'_091118	V183702-07	Soil	09/11/2018	09/12/2018
LIFHP-80B_1-2'_091218	V183702-12	Soil	09/12/2018	09/12/2018
LIFHP-80B_3-4'_091218	V183702-13	Soil	09/12/2018	09/12/2018
LIFHP-80B_5-6'_091218	V183702-14	Soil	09/12/2018	09/12/2018
LIFHP-80B_6-7'_091218	V183702-15	Soil	09/12/2018	09/12/2018
LIFHP-80B_19-20'_091218	V183702-16	Soil	09/12/2018	09/12/2018
LIFHP-80B_23-24'_091218	V183702-17	Soil	09/12/2018	09/12/2018
LIFHP-82_1-2'_091218	V183702-18	Soil	09/12/2018	09/12/2018
LIFHP-82_2-3'_091218	V183702-19	Soil	09/12/2018	09/12/2018
LIFHP-82_4-5'_091218	V183702-20	Soil	09/12/2018	09/12/2018
LIFHP-82_6-7'_091218	V183702-21	Soil	09/12/2018	09/12/2018
LIFHP-82_13-14'_091218	V183702-22	Soil	09/12/2018	09/12/2018
LIFHP-82_20-21'_091218	V183702-23	Soil	09/12/2018	09/12/2018
LIFHP-83_18.5-22.5'_091318	V183703-01	Water	09/13/2018	09/13/2018
LIFHP-83_9-13'_091318	V183703-02	Water	09/13/2018	09/13/2018
LIFHP-84_18-22'_091318	V183703-03	Water	09/13/2018	09/13/2018
LIFHP-84_11-15'_091318	V183703-04	Water	09/13/2018	09/13/2018
LIFHP-85_18-22'_091318	V183703-05	Water	09/13/2018	09/13/2018



2525 Advance Road
 Madison, WI 53718
 608.221.8700 Phone
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ARCADIS
 28550 Cabot Drive, Suite 500
 Novi MI, 48377

Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LIFHP-85_13-17'_091318	V183703-06	Water	09/13/2018	09/13/2018
LIFHP-85_8-12'_091318	V183703-07	Water	09/13/2018	09/13/2018
DUP-02	V183703-08	Water	09/13/2018	09/13/2018
LIFHP-83_1-2'_091318	V183704-01	Soil	09/13/2018	09/13/2018
LIFHP-83_2-3'_091318	V183704-02	Soil	09/13/2018	09/13/2018
LIFHP-83_4-5'_091318	V183704-03	Soil	09/13/2018	09/13/2018
LIFHP-83_6-7'_091318	V183704-04	Soil	09/13/2018	09/13/2018
LIFHP-83_16-17'_091318	V183704-05	Soil	09/13/2018	09/13/2018
LIFHP-83_19-20'_091318	V183704-06	Soil	09/13/2018	09/13/2018
LIFHP-84_1-2'_091318	V183704-07	Soil	09/13/2018	09/13/2018
LIFHP-84_2-3'_091318	V183704-08	Soil	09/13/2018	09/13/2018
LIFHP-84_5-6'_091318	V183704-09	Soil	09/13/2018	09/13/2018
LIFHP-84_7-8'_091318	V183704-10	Soil	09/13/2018	09/13/2018
LIFHP-84_9-10'_091318	V183704-11	Soil	09/13/2018	09/13/2018
LIFHP-84_19-20'_091318	V183704-12	Soil	09/13/2018	09/13/2018
LIFHP-85_1-2'_091318	V183704-13	Soil	09/13/2018	09/13/2018
LIFHP-85_3-4'_091318	V183704-14	Soil	09/13/2018	09/13/2018
LIFHP-85_6-7'_091318	V183704-15	Soil	09/13/2018	09/13/2018
LIFHP-85_9-10'_091318	V183704-16	Soil	09/13/2018	09/13/2018
LIFHP-85_19-20'_091318	V183704-17	Soil	09/13/2018	09/13/2018
DUP-01	V183704-18	Soil	09/13/2018	09/13/2018
LIFHP-86_1-2'_091418	V183705-01	Soil	09/14/2018	09/14/2018
LIFHP-86_3-4'_091418	V183705-02	Soil	09/14/2018	09/14/2018
LIFHP-86_5-6'_091418	V183705-03	Soil	09/14/2018	09/14/2018
LIFHP-86_7-8'_091418	V183705-04	Soil	09/14/2018	09/14/2018
LIFHP-86_18.5-19.5'_091418	V183705-05	Soil	09/14/2018	09/14/2018
LIFHP-86_22-23'_091418	V183705-06	Soil	09/14/2018	09/14/2018
LIFHP-89B_1-2'_091418	V183705-07	Soil	09/14/2018	09/14/2018
LIFHP-89B_2-3'_091418	V183705-08	Soil	09/14/2018	09/14/2018
LIFHP-89B_4-5'_091418	V183705-09	Soil	09/14/2018	09/14/2018
DUP-03	V183705-10	Soil	09/14/2018	09/14/2018



2525 Advance Road
 Madison, WI 53718
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ARCADIS
 28550 Cabot Drive, Suite 500
 Novi MI, 48377

Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
LIFHP-89B_6-7'_091418	V183705-11	Soil	09/14/2018	09/14/2018
LIFHP-89B_8-9'_091418	V183705-12	Soil	09/14/2018	09/14/2018
LIFHP-89B_13-14'_091418	V183705-13	Soil	09/14/2018	09/14/2018
LIFHP-89B_19-20'_091418	V183705-14	Soil	09/14/2018	09/14/2018
LIFHP-91_1-2'_091418	V183705-15	Soil	09/14/2018	09/14/2018
LIFHP-91_3-4'_091418	V183705-16	Soil	09/14/2018	09/14/2018
LIFHP-91_5-6'_091418	V183705-17	Soil	09/14/2018	09/14/2018
LIFHP-91_7-8'_091418	V183705-18	Soil	09/14/2018	09/14/2018
LIFHP-91_9-10'_091418	V183705-19	Soil	09/14/2018	09/14/2018
LIFHP-91_11-12'_091418	V183705-20	Soil	09/14/2018	09/14/2018
LIFHP-91_19-20'_091418	V183705-21	Soil	09/14/2018	09/14/2018
LIFHP-86_18-22'_091418	V183706-01	Water	09/14/2018	09/14/2018
LIFHP-86_13-17'_091418	V183706-02	Water	09/14/2018	09/14/2018
LIFHP-86_8-12'_091418	V183706-03	Water	09/14/2018	09/14/2018
LIFHP-89B_18-22'_091418	V183706-04	Water	09/14/2018	09/14/2018
LIFHP-89B_12-16'_091418	V183706-05	Water	09/14/2018	09/14/2018
LIFHP-91_24-28'_091418	V183706-06	Water	09/14/2018	09/14/2018
LIFHP-91_19-23'_091418	V183706-07	Water	09/14/2018	09/14/2018
LIFHP-91_14-18'_091418	V183706-08	Water	09/14/2018	09/14/2018
LIFHP-87_1-2_091718	V183801-01	Soil	09/17/2018	09/17/2018
LIFHP-87_2-3_091718	V183801-02	Soil	09/17/2018	09/17/2018
LIFHP-87_3-4_091718	V183801-03	Soil	09/17/2018	09/17/2018
LIFHP-87_5-6_091718	V183801-04	Soil	09/17/2018	09/17/2018
LIFHP-87_6-7_091718	V183801-05	Soil	09/17/2018	09/17/2018
LIFHP-87_25-26_091718	V183801-06	Soil	09/17/2018	09/17/2018
LIFHP-87_26.5-27.5_091718	V183801-07	Soil	09/17/2018	09/17/2018
LIFHP-87_28.5-29.5_091718	V183801-08	Soil	09/17/2018	09/17/2018
LIFHP-93_1-2_091718	V183801-09	Soil	09/17/2018	09/17/2018
LIFHP-93_3-4_091718	V183801-10	Soil	09/17/2018	09/17/2018
LIFHP-93_5-6_091718	V183801-11	Soil	09/17/2018	09/17/2018
LIFHP-93_7-8_091718	V183801-12	Soil	09/17/2018	09/17/2018



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LIFHP-93_9-10_091718	V183801-13	Soil	09/17/2018	09/17/2018
LIFHP-93_20-21_091718	V183801-14	Soil	09/17/2018	09/17/2018
LIFHP-93_24-25_091718	V183801-15	Soil	09/17/2018	09/17/2018
LIFHP-87_18-23_091718	V183802-01	Water	09/17/2018	09/17/2018
LIFHP-87_14-18_091718	V183802-02	Water	09/17/2018	09/17/2018
LIFHP-87_9-13_091718	V183802-03	Water	09/17/2018	09/17/2018
LIFHP-93_16-20_091718	V183802-04	Water	09/17/2018	09/17/2018
LIFHP-93_11-15_091718	V183802-05	Water	09/17/2018	09/17/2018
LIFHP-88_9-13_091818	V183803-01	Water	09/18/2018	09/18/2018
LIFHP-88_14-18_091818	V183803-02	Water	09/18/2018	09/18/2018
LIFHP-88_19-23_091818	V183803-03	Water	09/18/2018	09/18/2018
LIFHP-94_20-24_091818	V183803-04	Water	09/18/2018	09/18/2018
LIFHP-94_15-19_091818	V183803-05	Water	09/18/2018	09/18/2018
LIFHP-94_9-13_091818	V183803-06	Water	09/18/2018	09/18/2018
DUP-05	V183803-07	Water	09/18/2018	09/18/2018
LIFHP-95_8-12'_091818	V183803-08	Water	09/18/2018	09/18/2018
LIFHP-95_13-17_091818	V183803-09	Water	09/18/2018	09/18/2018
LIFHP-88_1-2'_091818	V183804-01	Soil	09/18/2018	09/18/2018
LIFHP-88_2-3'_091818	V183804-02	Soil	09/18/2018	09/18/2018
LIFHP-88_3-4'_091818	V183804-03	Soil	09/18/2018	09/18/2018
LIFHP-88_5-6'_091818	V183804-04	Soil	09/18/2018	09/18/2018
LIFHP-88_6-7'_091818	V183804-05	Soil	09/18/2018	09/18/2018
LIFHP-88_14-15'_091818	V183804-06	Soil	09/18/2018	09/18/2018
LIFHP-88_19.5-20.5'_091818	V183804-07	Soil	09/18/2018	09/18/2018
LIFHP-94_1-2_091818	V183804-08	Soil	09/18/2018	09/18/2018
LIFHP-94_3-4_091818	V183804-09	Soil	09/18/2018	09/18/2018
LIFHP-94_5-6_091818	V183804-10	Soil	09/18/2018	09/18/2018
LIFHP-94_7-8_091818	V183804-11	Soil	09/18/2018	09/18/2018
LIFHP-94_23-24_091818	V183804-12	Soil	09/18/2018	09/18/2018
LIFHP-94_19-20_091818	V183804-13	Soil	09/18/2018	09/18/2018
DUP-04	V183804-14	Soil	09/18/2018	09/18/2018



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LIFHP-95_1-2'_091818	V183804-15	Soil	09/18/2018	09/18/2018
LIFHP-95_2-3'_091818	V183804-16	Soil	09/18/2018	09/18/2018
LIFHP-95_3-4'_091818	V183804-17	Soil	09/18/2018	09/18/2018
LIFHP-95_5-6'_091818	V183804-18	Soil	09/18/2018	09/18/2018
LIFHP-95_6-7'_091818	V183804-19	Soil	09/18/2018	09/18/2018
LIFHP-95_21-22'_091818	V183804-20	Soil	09/18/2018	09/18/2018
LIFHP-96_17-21_091918	V183805-01	Water	09/19/2018	09/19/2018
LIFHP-96_12-16_091918	V183805-02	Water	09/19/2018	09/19/2018
LIFHP-92_14-18_091918	V183805-03	Water	09/19/2018	09/19/2018
LIFHP-92_8.5-12.5_091918	V183805-04	Water	09/19/2018	09/19/2018
LIFHP-96_1-2_091918	V183806-01	Soil	09/19/2018	09/19/2018
LIFHP-96_3-4_091918	V183806-02	Soil	09/19/2018	09/19/2018
LIFHP-96_5-6_091918	V183806-03	Soil	09/19/2018	09/19/2018
LIFHP-96_6-7_091918	V183806-04	Soil	09/19/2018	09/19/2018
LIFHP-96_9-10_091918	V183806-05	Soil	09/19/2018	09/19/2018
DUP-06_091918	V183806-06	Soil	09/19/2018	09/19/2018
LIFHP-96_21-22_091918	V183806-07	Soil	09/19/2018	09/19/2018
LIFHP-96_23-24_091918	V183806-08	Soil	09/19/2018	09/19/2018
LIFHP-92_1-2_091918	V183806-09	Soil	09/19/2018	09/19/2018
LIFHP-92_3-4_091918	V183806-10	Soil	09/19/2018	09/19/2018
LIFHP-92_4-5_091918	V183806-11	Soil	09/19/2018	09/19/2018
LIFHP-92_6-7_091918	V183806-12	Soil	09/19/2018	09/19/2018
LIFHP-92_20-21_091918	V183806-13	Soil	09/19/2018	09/19/2018
LIFHP-92_22-23_091918	V183806-14	Soil	09/19/2018	09/19/2018
SB-100_18-22_092018	V183807-01	Water	09/20/2018	09/20/2018
SB-100_13-17_092018	V183807-02	Water	09/20/2018	09/20/2018
SB-100_8-12_092018	V183807-03	Water	09/20/2018	09/20/2018
DUP-07-092018	V183807-04	Water	09/20/2018	09/20/2018
SB-100_1-2_092018	V183808-01	Soil	09/20/2018	09/20/2018
SB-100_3-4_092018	V183808-02	Soil	09/20/2018	09/20/2018
SB-100_6-7_092018	V183808-03	Soil	09/20/2018	09/20/2018



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SB-100_9-10_092018	V183808-04	Soil	09/20/2018	09/20/2018
SB-100_18-19_092018	V183808-05	Soil	09/20/2018	09/20/2018
SB-100_19-20_092018	V183808-06	Soil	09/20/2018	09/20/2018
SB-100_21-22_092018	V183808-07	Soil	09/20/2018	09/20/2018
LIFHP-90_13-17_092118	V183809-01	Water	09/21/2018	09/21/2018
LIFHP-90_8-12_092118	V183809-02	Water	09/21/2018	09/21/2018
LIFHP-90_1-2_092118	V183810-01	Soil	09/21/2018	09/21/2018
LIFHP-90_3-4_092118	V183810-02	Soil	09/21/2018	09/21/2018
LIFHP-90_5-6_092118	V183810-03	Soil	09/21/2018	09/21/2018
LIFHP-90_7-8_092118	V183810-04	Soil	09/21/2018	09/21/2018
LIFHP-90_22-23_092118	V183810-05	Soil	09/21/2018	09/21/2018
SB-101_1-2_092418	V183901-01	Soil	09/24/2018	09/24/2018
SB-101_2-3_092418	V183901-02	Soil	09/24/2018	09/24/2018
SB-101_4-5_092418	V183901-03	Soil	09/24/2018	09/24/2018
SB-101_6-7_092418	V183901-04	Soil	09/24/2018	09/24/2018
SB-101_19-20_092418	V183901-05	Soil	09/24/2018	09/24/2018
SB-101_21-22_092418	V183901-06	Soil	09/24/2018	09/24/2018
SB-101_24-25_092418	V183901-07	Soil	09/24/2018	09/24/2018
SB-101_26-27_092418	V183901-08	Soil	09/24/2018	09/24/2018
SB-101_19-23_092518	V183902-01	Water	09/25/2018	09/25/2018
SB-101_14-18_092518	V183902-02	Water	09/25/2018	09/25/2018
SB-101_9-13_092518	V183902-03	Water	09/25/2018	09/25/2018
SB-102_9-13_092518	V183902-04	Water	09/25/2018	09/25/2018
SB-102_14-18_092518	V183902-05	Water	09/25/2018	09/25/2018
SB-102_18-22_092518	V183902-06	Water	09/25/2018	09/25/2018
SB-102_1-2_092518	V183903-01	Soil	09/25/2018	09/25/2018
SB-102_2-3_092518	V183903-02	Soil	09/25/2018	09/25/2018
SB-102_4-5_092518	V183903-03	Soil	09/25/2018	09/25/2018
SB-102_6-7_092518	V183903-04	Soil	09/25/2018	09/25/2018
SB-102_14-15_092518	V183903-05	Soil	09/25/2018	09/25/2018
SB-102_20-21_092518	V183903-06	Soil	09/25/2018	09/25/2018



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SB-102_25-26_092518	V183903-07	Soil	09/25/2018	09/25/2018
DUP-08_092518	V183903-08	Soil	09/25/2018	09/25/2018
SB-103_17-21_092618	V183904-01	Water	09/26/2018	09/26/2018
SB-103_10-14_092618	V183904-02	Water	09/26/2018	09/26/2018
DUP-09_092618	V183904-03	Water	09/26/2018	09/26/2018
SB-104_17-21_092618	V183904-04	Water	09/26/2018	09/26/2018
SB-104_10-14_092618	V183904-05	Water	09/26/2018	09/26/2018
SB-103_1-2_092618	V183905-01	Soil	09/26/2018	09/26/2018
SB-103_3-4_092618	V183905-02	Soil	09/26/2018	09/26/2018
SB-103_5-6_092618	V183905-03	Soil	09/26/2018	09/26/2018
SB-103_7-8_092618	V183905-04	Soil	09/26/2018	09/26/2018
SB-103_9-10_092618	V183905-05	Soil	09/26/2018	09/26/2018
SB-103_18-19_092618	V183905-06	Soil	09/26/2018	09/26/2018
SB-103_21-22_092618	V183905-07	Soil	09/26/2018	09/26/2018
SB-103_25-26_092618	V183905-08	Soil	09/26/2018	09/26/2018
SB-103_27-28_092618	V183905-09	Soil	09/26/2018	09/26/2018
SB-104_1-2_092618	V183905-10	Soil	09/26/2018	09/26/2018
SB-104_3-4_092618	V183905-11	Soil	09/26/2018	09/26/2018
SB-104_5-6_092618	V183905-12	Soil	09/26/2018	09/26/2018
SB-104_7-8_092618	V183905-13	Soil	09/26/2018	09/26/2018
SB-104_9-10_092618	V183905-14	Soil	09/26/2018	09/26/2018
SB-104_16-17_092618	V183905-15	Soil	09/26/2018	09/26/2018
SB-104_19-20_092618	V183905-16	Soil	09/26/2018	09/26/2018
SB-104_23-24_092618	V183905-17	Soil	09/26/2018	09/26/2018
SB-105_18-22_092718	V183906-01	Water	09/27/2018	09/27/2018
SB-105_13-17_092718	V183906-02	Water	09/27/2018	09/27/2018
SB-105_8-12_092718	V183906-03	Water	09/27/2018	09/27/2018
LIFHP-105_20-24_092718	V183906-04	Water	09/27/2018	09/27/2018
LIFHP-105_15-19_092718	V183906-05	Water	09/27/2018	09/27/2018
LIFHP-105_10-14_092718	V183906-06	Water	09/27/2018	09/27/2018
LIFHP-97_18-22_092718	V183906-07	Water	09/27/2018	09/27/2018



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LIFHP-97_13-17_092718	V183906-08	Water	09/27/2018	09/27/2018
SB-105_1-2_092718	V183907-01	Soil	09/27/2018	09/27/2018
SB-105_3-4_092718	V183907-02	Soil	09/27/2018	09/27/2018
SB-105_5-6_092718	V183907-03	Soil	09/27/2018	09/27/2018
SB-105_6-7_092718	V183907-04	Soil	09/27/2018	09/27/2018
SB-105_20-21_092718	V183907-05	Soil	09/27/2018	09/27/2018
SB-105_22-23_092718	V183907-06	Soil	09/27/2018	09/27/2018
LIFHP-105_1-2_092718	V183907-07	Soil	09/27/2018	09/27/2018
LIFHP-105_3-4_092718	V183907-08	Soil	09/27/2018	09/27/2018
LIFHP-105_5-6_092718	V183907-09	Soil	09/27/2018	09/27/2018
LIFHP-105_7-8_092718	V183907-10	Soil	09/27/2018	09/27/2018
LIFHP-105_9-10_092718	V183907-11	Soil	09/27/2018	09/27/2018
LIFHP-105_20-21_092718	V183907-12	Soil	09/27/2018	09/27/2018
DUP-10_092718	V183907-13	Soil	09/27/2018	09/27/2018
LIFHP-97_1-2_092718	V183907-14	Soil	09/27/2018	09/27/2018
LIFHP-97_2-3_092718	V183907-15	Soil	09/27/2018	09/27/2018
LIFHP-97_5-6_092718	V183907-16	Soil	09/27/2018	09/27/2018
LIFHP-97_8-9_092718	V183907-17	Soil	09/27/2018	09/27/2018
LIFHP-97_10-11_092718	V183907-18	Soil	09/27/2018	09/27/2018
LIFHP-97_20-21_092718	V183907-19	Soil	09/27/2018	09/27/2018
LIFHP-106_15-19_092718	V183908-01	Water	09/27/2018	09/28/2018
LIFHP-106_10-14_092718	V183908-02	Water	09/27/2018	09/28/2018
LIFHP-106_1-2_092718	V183909-01	Soil	09/27/2018	09/28/2018
LIFHP-106_2-3_092718	V183909-02	Soil	09/27/2018	09/28/2018
LIFHP-106_5-6_092718	V183909-03	Soil	09/27/2018	09/28/2018
LIFHP-106_6-7_092718	V183909-04	Soil	09/27/2018	09/28/2018
LIFHP-106_7-8_092718	V183909-05	Soil	09/27/2018	09/28/2018
LIFHP-106_25-26_092718	V183909-06	Soil	09/27/2018	09/28/2018
LIFHP-100_1-2_092818	V183910-01	Soil	09/28/2018	09/28/2018
LIFHP-100_4-5_092818	V183910-02	Soil	09/28/2018	09/28/2018
LIFHP-100_7-8_092818	V183910-03	Soil	09/28/2018	09/28/2018



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LIFHP-100_10-11_092818	V183910-04	Soil	09/28/2018	09/28/2018
LIFHP-100_12-13_092818	V183910-05	Soil	09/28/2018	09/28/2018
LIFHP-100_23-24_092818	V183910-06	Soil	09/28/2018	09/28/2018
LIFHP-100_25-26_092818	V183910-07	Soil	09/28/2018	09/28/2018
LIFHP-100_26-30_092818	V183911-01	Water	09/28/2018	09/28/2018
LIFHP-100_21-25_092818	V183911-02	Water	09/28/2018	09/28/2018
LIFHP-100_14-18_092818	V183911-03	Water	09/28/2018	09/28/2018
DUP-11_092818	V183911-04	Water	09/28/2018	09/28/2018
LIFHP-99_1-2_100118	V184001-01	Soil	10/01/2018	10/01/2018
LIFHP-99_3-4_100118	V184001-02	Soil	10/01/2018	10/01/2018
LIFHP-99_6-7_100118	V184001-03	Soil	10/01/2018	10/01/2018
LIFHP-99_10-11_100118	V184001-04	Soil	10/01/2018	10/01/2018
LIFHP-99_11-12_100118	V184001-05	Soil	10/01/2018	10/01/2018
LIFHP-99_19-20_100118	V184001-06	Soil	10/01/2018	10/01/2018
LIFHP-99_28-29_100118	V184001-07	Soil	10/01/2018	10/01/2018
LIFHP-103_1-2_100118	V184001-08	Soil	10/01/2018	10/01/2018
LIFHP-103_3-4_100118	V184001-09	Soil	10/01/2018	10/01/2018
LIFHP-103_6-7_100118	V184001-10	Soil	10/01/2018	10/01/2018
LIFHP-103_7-8_100118	V184001-11	Soil	10/01/2018	10/01/2018
LIFHP-103_9-10_100118	V184001-12	Soil	10/01/2018	10/01/2018
LIFHP-103_25-26_100118	V184001-13	Soil	10/01/2018	10/01/2018
DUP-12_100118	V184001-14	Soil	10/01/2018	10/01/2018
LIFHP-98_1-2_100118	V184001-15	Soil	10/01/2018	10/01/2018
LIFHP-98_5-6_100118	V184001-16	Soil	10/01/2018	10/01/2018
LIFHP-98_7-8_100118	V184001-17	Soil	10/01/2018	10/01/2018
LIFHP-98_9-10_100118	V184001-18	Soil	10/01/2018	10/01/2018
LIFHP-98_11-12_100118	V184001-19	Soil	10/01/2018	10/01/2018
LIFHP-98_19-20_100118	V184001-20	Soil	10/01/2018	10/01/2018
LIFHP-98_23.5-24.5_100118	V184001-21	Soil	10/01/2018	10/01/2018
LIFHP-98_26-27_100118	V184001-22	Soil	10/01/2018	10/01/2018
LIFHP-102_1-2_100118	V184001-23	Soil	10/01/2018	10/01/2018



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LIFHP-102_3-4_100118	V184001-24	Soil	10/01/2018	10/01/2018
LIFHP-102_4-5_100118	V184001-25	Soil	10/01/2018	10/01/2018
LIFHP-102_6-7_100118	V184001-26	Soil	10/01/2018	10/01/2018
LIFHP-102_7-8_100118	V184001-27	Soil	10/01/2018	10/01/2018
LIFHP-102_15-16_100118	V184001-28	Soil	10/01/2018	10/01/2018
LIFHP-102_22-23_100118	V184001-29	Soil	10/01/2018	10/01/2018
LIFHP-99_25-29_100118	V184002-01	Water	10/01/2018	10/01/2018
LIFHP-99_20-24_100118	V184002-02	Water	10/01/2018	10/01/2018
LIFHP-99_15-19_100118	V184002-03	Water	10/01/2018	10/01/2018
LIFHP-103_11-15_100118	V184002-04	Water	10/01/2018	10/01/2018
LIFHP-103_16-20_100118	V184002-05	Water	10/01/2018	10/01/2018
LIFHP-103_21-26_100118	V184002-06	Water	10/01/2018	10/01/2018
LIFHP-98_25-29_100118	V184002-07	Water	10/01/2018	10/01/2018
LIFHP-98_20-24_100118	V184002-08	Water	10/01/2018	10/01/2018
LIFHP-98_15-19_100118	V184002-09	Water	10/01/2018	10/01/2018
LIFHP-102_10-14_100118	V184003-01	Water	10/01/2018	10/01/2018
LIFHP-102_15-19_100118	V184003-02	Water	10/01/2018	10/01/2018
LIFHP-102_20-24_100118	V184003-03	Water	10/01/2018	10/01/2018
LIFHP-101_11-15_100218	V184004-01	Water	10/02/2018	10/02/2018
DUP-13_100218	V184004-02	Water	10/02/2018	10/02/2018
SB-106_25-29_100218	V184004-03	Water	10/02/2018	10/02/2018
SB-106_20-24_100218	V184004-04	Water	10/02/2018	10/02/2018
SB-106_15-19_100218	V184004-05	Water	10/02/2018	10/02/2018
LIFHP-101_1-2_100218	V184005-01	Soil	10/02/2018	10/02/2018
LIFHP-101_2-3_100218	V184005-02	Soil	10/02/2018	10/02/2018
LIFHP-101_3-4_100218	V184005-03	Soil	10/02/2018	10/02/2018
LIFHP-101_4-5_100218	V184005-04	Soil	10/02/2018	10/02/2018
LIFHP-101_5-6_100218	V184005-05	Soil	10/02/2018	10/02/2018
SB-106_1-2_100218	V184005-06	Soil	10/02/2018	10/02/2018
SB-106_3-4_100218	V184005-07	Soil	10/02/2018	10/02/2018
SB-106_6-7_100218	V184005-08	Soil	10/02/2018	10/02/2018



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SB-106_10-11_100218	V184005-09	Soil	10/02/2018	10/02/2018
SB-106_11-12_100218	V184005-10	Soil	10/02/2018	10/02/2018
SB-106_19-20_100218	V184005-11	Soil	10/02/2018	10/02/2018
SB-106_26-27_100218	V184005-12	Soil	10/02/2018	10/02/2018
SB-107_1-2_100318	V184006-01	Soil	10/03/2018	10/03/2018
SB-107_5-6_100318	V184006-02	Soil	10/03/2018	10/03/2018
SB-107_7-8_100318	V184006-03	Soil	10/03/2018	10/03/2018
SB-107_9-10_100318	V184006-04	Soil	10/03/2018	10/03/2018
SB-107_11-12_100318	V184006-05	Soil	10/03/2018	10/03/2018
SB-107_19-20_100318	V184006-06	Soil	10/03/2018	10/03/2018
SB-107_25-29_100318	V184007-01	Water	10/03/2018	10/03/2018
SB-107_20-24_100318	V184007-02	Water	10/03/2018	10/03/2018
SB-107_15-19_100318	V184007-03	Water	10/03/2018	10/03/2018
SB-108_1-2_100418	V184008-01	Soil	10/04/2018	10/04/2018
SB-108_5-6_100418	V184008-02	Soil	10/04/2018	10/04/2018
SB-108_7-8_100418	V184008-03	Soil	10/04/2018	10/04/2018
SB-108_9-10_100418	V184008-04	Soil	10/04/2018	10/04/2018
SB-108_11-12_100418	V184008-05	Soil	10/04/2018	10/04/2018
SB-108_19-20_100418	V184008-06	Soil	10/04/2018	10/04/2018
SB-108_23.5-24.5_100418	V184008-07	Soil	10/04/2018	10/04/2018
SB-108_25-26_100418	V184008-08	Soil	10/04/2018	10/04/2018
SB-108_28-29_100418	V184008-09	Soil	10/04/2018	10/04/2018
DUP-14_1001418	V184008-10	Soil	10/04/2018	10/04/2018
SB-108_25-29_100418	V184009-01	Water	10/04/2018	10/04/2018
SB-108_20-24_100418	V184009-02	Water	10/04/2018	10/04/2018
SB-108_15-19_100418	V184009-03	Water	10/04/2018	10/04/2018
SB-109_1-2_100518	V184010-01	Soil	10/05/2018	10/05/2018
SB-109_5-6_100518	V184010-02	Soil	10/05/2018	10/05/2018
SB-109_7-8_100518	V184010-03	Soil	10/05/2018	10/05/2018
SB-109_9-10_100518	V184010-04	Soil	10/05/2018	10/05/2018
SB-109_11-12_100518	V184010-05	Soil	10/05/2018	10/05/2018



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SB-109_19-20_100518	V184010-06	Soil	10/05/2018	10/05/2018
SB-109_23.5-24.5_100518	V184010-07	Soil	10/05/2018	10/05/2018
SB-109_26-27_100518	V184010-08	Soil	10/05/2018	10/05/2018
SB-109_29-30_100518	V184010-09	Soil	10/05/2018	10/05/2018
SB-109_25-29_100518	V184011-01	Water	10/05/2018	10/05/2018
SB-109_20-24_100518	V184011-02	Water	10/05/2018	10/05/2018
SB-109_15-19_100518	V184011-03	Water	10/05/2018	10/05/2018
DUP-15_100518	V184011-04	Water	10/05/2018	10/05/2018
LIFHP-108_1-2_100818	V184101-01	Soil	10/08/2018	10/08/2018
LIFHP-108_3-4_100818	V184101-02	Soil	10/08/2018	10/08/2018
LIFHP-108_5-6_100818	V184101-03	Soil	10/08/2018	10/08/2018
LIFHP-108_7-8_100818	V184101-04	Soil	10/08/2018	10/08/2018
LIFHP-108_9-10_100818	V184101-05	Soil	10/08/2018	10/08/2018
LIFHP-108_26-27_100818	V184101-06	Soil	10/08/2018	10/08/2018
LIFHP-108_29-30_100818	V184101-07	Soil	10/08/2018	10/08/2018
LIFHP-108_21-25_100818	V184102-01	Water	10/08/2018	10/08/2018
LIFHP-108_16-20_100818	V184102-02	Water	10/08/2018	10/08/2018
LIFHP-108_10-14_100818	V184102-03	Water	10/08/2018	10/08/2018
LIFHP-109_23-27_100918	V184103-01	Water	10/09/2018	10/09/2018
LIFHP-109_18-22_100918	V184103-02	Water	10/09/2018	10/09/2018
LIFHP-109_13-17_100918	V184103-03	Water	10/09/2018	10/09/2018
LIFHP-111A_20-24_100918	V184103-04	Water	10/09/2018	10/09/2018
LIFHP-111A_15-19_100918	V184103-05	Water	10/09/2018	10/09/2018
LIFHP-111A_8-12_100918	V184103-06	Water	10/09/2018	10/09/2018
LIFHP-109_1-2_100918	V184104-01	Soil	10/09/2018	10/09/2018
LIFHP-109_2-3_100918	V184104-02	Soil	10/09/2018	10/09/2018
LIFHP-109_3-4_100918	V184104-03	Soil	10/09/2018	10/09/2018
LIFHP-109_7-8_100918	V184104-04	Soil	10/09/2018	10/09/2018
LIFHP-109_9-10_100918	V184104-05	Soil	10/09/2018	10/09/2018
LIFHP-109_21-22_100918	V184104-06	Soil	10/09/2018	10/09/2018
Dup-16_100918	V184104-07	Soil	10/09/2018	10/09/2018



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LIFHP-111A_1-2_100918	V184104-08	Soil	10/09/2018	10/09/2018
LIFHP-111A_3-4_100918	V184104-09	Soil	10/09/2018	10/09/2018
LIFHP-111A_4-5_100918	V184104-10	Soil	10/09/2018	10/09/2018
LIFHP-111A_5-6_100918	V184104-11	Soil	10/09/2018	10/09/2018
LIFHP-111A_7-8_100918	V184104-12	Soil	10/09/2018	10/09/2018
LIFHP-111A_26-27_100918	V184104-13	Soil	10/09/2018	10/09/2018
LIFHP-107_1-2_100218	V184105-01	Soil	10/02/2018	10/02/2018
LIFHP-107_3-4_100218	V184105-02	Soil	10/02/2018	10/02/2018
LIFHP-107_5-6_100218	V184105-03	Soil	10/02/2018	10/02/2018
LIFHP-107_7-8_100218	V184105-04	Soil	10/02/2018	10/02/2018
LIFHP-107_9-10_100218	V184105-05	Soil	10/02/2018	10/02/2018
LIFHP-107_21-22_100218	V184105-06	Soil	10/02/2018	10/02/2018
LIFHP-110_22-26_101018	V184106-01	Water	10/10/2018	10/10/2018
LIFHP-110_15-19_101018	V184106-02	Water	10/10/2018	10/10/2018
LIFHP-110_8-12_101018	V184106-03	Water	10/10/2018	10/10/2018
LIFHP-114_18-22_101018	V184106-04	Water	10/10/2018	10/10/2018
LIFHP-114_13-17_101018	V184106-05	Water	10/10/2018	10/10/2018
LIFHP-114_8-12_101018	V184106-06	Water	10/10/2018	10/10/2018
LIFHP-110_1-2_101018	V184107-01	Soil	10/10/2018	10/10/2018
LIFHP-110_3-4_101018	V184107-02	Soil	10/10/2018	10/10/2018
LIFHP-110_4-5_101018	V184107-03	Soil	10/10/2018	10/10/2018
LIFHP-110_5-6_101018	V184107-04	Soil	10/10/2018	10/10/2018
LIFHP-110_6-7_101018	V184107-05	Soil	10/10/2018	10/10/2018
LIFHP-110_26-27_101018	V184107-06	Soil	10/10/2018	10/10/2018
LIFHP-114_1-2_101018	V184107-07	Soil	10/10/2018	10/10/2018
LIFHP-114_2-3_101018	V184107-08	Soil	10/10/2018	10/10/2018
LIFHP-114_3-4_101018	V184107-09	Soil	10/10/2018	10/10/2018
LIFHP-114_4-5_101018	V184107-10	Soil	10/10/2018	10/10/2018
LIFHP-114_5-6_101018	V184107-11	Soil	10/10/2018	10/10/2018
LIFHP-114_26-27_101018	V184107-12	Soil	10/10/2018	10/10/2018
LIFHP-116_23-27_101118	V184108-01	Water	10/11/2018	10/11/2018



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LIFHP-116_16-20_10118	V184108-02	Water	10/11/2018	10/11/2018
LIFHP-116_11-15_10118	V184108-03	Water	10/11/2018	10/11/2018
LIFHP-113_18-22_10118	V184108-04	Water	10/11/2018	10/11/2018
LIFHP-113_13-17_10118	V184108-05	Water	10/11/2018	10/11/2018
LIFHP-113_8-12_10118	V184108-06	Water	10/11/2018	10/11/2018
LIFHP-116_1-2_10118	V184109-01	Soil	10/11/2018	10/11/2018
LIFHP-116_3-4_10118	V184109-02	Soil	10/11/2018	10/11/2018
LIFHP-116_5-6_10118	V184109-03	Soil	10/11/2018	10/11/2018
LIFHP-116_7-8_10118	V184109-04	Soil	10/11/2018	10/11/2018
LIFHP-116_9-10_10118	V184109-05	Soil	10/11/2018	10/11/2018
LIFHP-116_23-24_10118	V184109-06	Soil	10/11/2018	10/11/2018
LIFHP-113_1-2_10118	V184109-07	Soil	10/11/2018	10/11/2018
LIFHP-113_2-3_10118	V184109-08	Soil	10/11/2018	10/11/2018
LIFHP-113_3-4_10118	V184109-09	Soil	10/11/2018	10/11/2018
LIFHP-113_4-5_10118	V184109-10	Soil	10/11/2018	10/11/2018
LIFHP-113_5-6_10118	V184109-11	Soil	10/11/2018	10/11/2018
LIFHP-113_21-22_10118	V184109-12	Soil	10/11/2018	10/11/2018
LIFHP-113_22-23_10118	V184109-13	Soil	10/11/2018	10/11/2018
LIFHP-115_24-28_101218	V184110-01	Water	10/12/2018	10/12/2018
LIFHP-115_19-20_101218	V184110-02	Water	10/12/2018	10/12/2018
LIFHP-115_14-18_101218	V184110-03	Water	10/12/2018	10/12/2018
DUP-18	V184110-04	Water	10/12/2018	10/12/2018
LIFHP-118_21-25_101218	V184110-05	Water	10/12/2018	10/12/2018
LIFHP-118_16-20_101218	V184110-06	Water	10/12/2018	10/12/2018
LIFHP-118_11-15_101218	V184110-07	Water	10/12/2018	10/12/2018
DUP-19	V184110-08	Water	10/12/2018	10/12/2018
LIFHP-115_1-2_101218	V184111-01	Soil	10/12/2018	10/12/2018
LIFHP-115_4-5_101218	V184111-02	Soil	10/12/2018	10/12/2018
LIFHP-115_6-7_101218	V184111-03	Soil	10/12/2018	10/12/2018
LIFHP-115_8-9_101218	V184111-04	Soil	10/12/2018	10/12/2018
LIFHP-115_10-11_101218	V184111-05	Soil	10/12/2018	10/12/2018



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LIFHP-115_19-20_101218	V184111-06	Soil	10/12/2018	10/12/2018
LIFHP-115_22-23_101218	V184111-07	Soil	10/12/2018	10/12/2018
DUP-17	V184111-08	Soil	10/12/2018	10/12/2018
LIFHP-118_1-2_101218	V184111-09	Soil	10/12/2018	10/12/2018
LIFHP-118_3-4_101218	V184111-10	Soil	10/12/2018	10/12/2018
LIFHP-118_5-6_101218	V184111-11	Soil	10/12/2018	10/12/2018
LIFHP-118_8-9_101218	V184111-12	Soil	10/12/2018	10/12/2018
LIFHP-118_10-11_101218	V184111-13	Soil	10/12/2018	10/12/2018
LIFHP-118_25-26_101218	V184111-14	Soil	10/12/2018	10/12/2018
DUP-20	V184111-15	Soil	10/12/2018	10/12/2018
LIFHP-122_21-25_101318	V184201-01	Water	10/13/2018	10/14/2018
LIFHP-122_16-20_101318	V184201-02	Water	10/13/2018	10/14/2018
LIFHP-122_11-15_101318	V184201-03	Water	10/13/2018	10/14/2018
LIFHP-121_22-26_101318	V184201-04	Water	10/13/2018	10/14/2018
LIFHP-121_16-20_101318	V184201-05	Water	10/13/2018	10/14/2018
LIFHP-121_11-15_101318	V184201-06	Water	10/13/2018	10/14/2018
LIFHP-117B_22-26_101318	V184201-07	Water	10/13/2018	10/14/2018
LIFHP-117B_17-21_101318	V184201-08	Water	10/13/2018	10/14/2018
LIFHP-117B_12-16_101318	V184201-09	Water	10/13/2018	10/14/2018
LIFHP-117B_1-2_101318	V184202-01	Soil	10/13/2018	10/14/2018
LIFHP-117B_3-4_101318	V184202-02	Soil	10/13/2018	10/14/2018
LIFHP-117B_6-7_101318	V184202-03	Soil	10/13/2018	10/14/2018
LIFHP-117B_9-10_101318	V184202-04	Soil	10/13/2018	10/14/2018
LIFHP-117B_10-11_101318	V184202-05	Soil	10/13/2018	10/14/2018
LIFHP-117B_29-30_101318	V184202-06	Soil	10/13/2018	10/14/2018
LIFHP-122_1-2_101318	V184202-07	Soil	10/13/2018	10/14/2018
LIFHP-122_3-4_101318	V184202-08	Soil	10/13/2018	10/14/2018
LIFHP-122_6-7_101318	V184202-09	Soil	10/13/2018	10/14/2018
LIFHP-122_9-10_101318	V184202-10	Soil	10/13/2018	10/14/2018
LIFHP-122_8-9_101318	V184202-11	Soil	10/13/2018	10/14/2018
LIFHP-122_25-26_101318	V184202-12	Soil	10/13/2018	10/14/2018



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LIFHP-121_1-2_101318	V184202-13	Soil	10/13/2018	10/14/2018
LIFHP-121_2-3_101318	V184202-14	Soil	10/13/2018	10/14/2018
LIFHP-121_4-5_101318	V184202-15	Soil	10/13/2018	10/14/2018
LIFHP-121_8-9_101318	V184202-16	Soil	10/13/2018	10/14/2018
LIFHP-121_9-10_101318	V184202-17	Soil	10/13/2018	10/14/2018
LIFHP-121_23-24_101318	V184202-18	Soil	10/13/2018	10/14/2018
LIFHP-123_22-26_101418	V184203-01	Water	10/14/2018	10/14/2018
LIFHP-123_16-20_101418	V184203-02	Water	10/14/2018	10/14/2018
LIFHP-123_10-14_101418	V184203-03	Water	10/14/2018	10/14/2018
DUP-21_101418	V184203-04	Water	10/14/2018	10/14/2018
LIFHP-124_21-25_101418	V184203-05	Water	10/14/2018	10/14/2018
LIFHP-124_16-20_101418	V184203-06	Water	10/14/2018	10/14/2018
LIFHP-124_11-15_101418	V184203-07	Water	10/14/2018	10/14/2018
LIFHP-123_1-2_101418	V184204-01	Soil	10/14/2018	10/14/2018
LIFHP-123_3-4_101418	V184204-02	Soil	10/14/2018	10/14/2018
LIFHP-123_4-5_101418	V184204-03	Soil	10/14/2018	10/14/2018
LIFHP-123_5-6_101418	V184204-04	Soil	10/14/2018	10/14/2018
LIFHP-123_7-8_101418	V184204-05	Soil	10/14/2018	10/14/2018
LIFHP-123_22-23_101418	V184204-06	Soil	10/14/2018	10/14/2018
LIFHP-123_25-26_101418	V184204-07	Soil	10/14/2018	10/14/2018
LIFHP-124_1-2_101418	V184204-08	Soil	10/14/2018	10/14/2018
LIFHP-124_3-4_101418	V184204-09	Soil	10/14/2018	10/14/2018
LIFHP-124_6-7_101418	V184204-10	Soil	10/14/2018	10/14/2018
LIFHP-124_8-9_101418	V184204-11	Soil	10/14/2018	10/14/2018
LIFHP-124_9-10_101418	V184204-12	Soil	10/14/2018	10/14/2018
LIFHP-124_24-25_101418	V184204-13	Soil	10/14/2018	10/14/2018
SB-110_8-12_101618	V184205-01	Water	10/16/2018	10/16/2018
LIFHP-119_10-14_101618	V184205-02	Water	10/16/2018	10/16/2018
LIFHP-119_15-19_101618	V184205-03	Water	10/16/2018	10/16/2018
SB-111_8-12_101618	V184205-04	Water	10/16/2018	10/16/2018
SB-113_8-12_101618	V184205-05	Water	10/16/2018	10/16/2018



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DUP-22_101618	V184205-06	Water	10/16/2018	10/16/2018
SB-110_1-2_101618	V184206-01	Soil	10/16/2018	10/16/2018
SB-110_3-4_101618	V184206-02	Soil	10/16/2018	10/16/2018
SB-110_4-5_101618	V184206-03	Soil	10/16/2018	10/16/2018
SB-110_5-6_101618	V184206-04	Soil	10/16/2018	10/16/2018
SB-110_7-8_101618	V184206-05	Soil	10/16/2018	10/16/2018
LIFHP-119_1-2_101618	V184206-06	Soil	10/16/2018	10/16/2018
LIFHP-119_4-5_101618	V184206-07	Soil	10/16/2018	10/16/2018
LIFHP-119_6-7_101618	V184206-08	Soil	10/16/2018	10/16/2018
LIFHP-119_7-8_101618	V184206-09	Soil	10/16/2018	10/16/2018
LIFHP-119_9-10_101618	V184206-10	Soil	10/16/2018	10/16/2018
LIFHP-119_22-23_101618	V184206-11	Soil	10/16/2018	10/16/2018
SB-111_1-2_101618	V184206-12	Soil	10/16/2018	10/16/2018
SB-111_3-4_101618	V184206-13	Soil	10/16/2018	10/16/2018
SB-111_4-5_101618	V184206-14	Soil	10/16/2018	10/16/2018
SB-111_5-6_101618	V184206-15	Soil	10/16/2018	10/16/2018
SB-111_7-8_101618	V184206-16	Soil	10/16/2018	10/16/2018
SB-113_2-3_101618	V184206-17	Soil	10/16/2018	10/16/2018
SB-113_3-4_101618	V184206-18	Soil	10/16/2018	10/16/2018
SB-113_4-5_101618	V184206-19	Soil	10/16/2018	10/16/2018
SB-113_5-6_101618	V184206-20	Soil	10/16/2018	10/16/2018
SB-113_6-7_101618	V184206-21	Soil	10/16/2018	10/16/2018
SB-114_6-10_101718	V184207-01	Water	10/17/2018	10/17/2018
SB-112_10-14_101718	V184207-02	Water	10/17/2018	10/17/2018
SB-112_15-19_101718	V184207-03	Water	10/17/2018	10/17/2018
SB-112_20-24_101718	V184207-04	Water	10/17/2018	10/17/2018
SB-115_6-10_101718	V184207-05	Water	10/17/2018	10/17/2018
SB-116_20-24_101718	V184207-06	Water	10/17/2018	10/17/2018
SB-116_15-19_101718	V184207-07	Water	10/17/2018	10/17/2018
SB-116_10-14_101718	V184207-08	Water	10/17/2018	10/17/2018
SB-117_8-12_101718	V184207-09	Water	10/17/2018	10/17/2018



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-114_1-2_101718	V184208-01	Soil	10/17/2018	10/17/2018
SB-114_2-3_101718	V184208-02	Soil	10/17/2018	10/17/2018
SB-114_3-4_101718	V184208-03	Soil	10/17/2018	10/17/2018
SB-114_4-5_101718	V184208-04	Soil	10/17/2018	10/17/2018
SB-114_5-6_101718	V184208-05	Soil	10/17/2018	10/17/2018
SB-112_1-2_101718	V184208-06	Soil	10/17/2018	10/17/2018
SB-112_3-4_101718	V184208-07	Soil	10/17/2018	10/17/2018
SB-112_5-6_101718	V184208-08	Soil	10/17/2018	10/17/2018
SB-112_6-7_101718	V184208-09	Soil	10/17/2018	10/17/2018
SB-112_7-8_101718	V184208-10	Soil	10/17/2018	10/17/2018
SB-112_24-25_101718	V184208-11	Soil	10/17/2018	10/17/2018
SB-115_0-1_101718	V184208-12	Soil	10/17/2018	10/17/2018
SB-115_1-2_101718	V184208-13	Soil	10/17/2018	10/17/2018
SB-115_2-3_101718	V184208-14	Soil	10/17/2018	10/17/2018
SB-115_3-4_101718	V184208-15	Soil	10/17/2018	10/17/2018
SB-115_4-5_101718	V184208-16	Soil	10/17/2018	10/17/2018
SB-116_1-2_101718	V184208-17	Soil	10/17/2018	10/17/2018
SB-116_3-4_101718	V184208-18	Soil	10/17/2018	10/17/2018
SB-116_5-6_101718	V184208-19	Soil	10/17/2018	10/17/2018
SB-116_6-7_101718	V184208-20	Soil	10/17/2018	10/17/2018
SB-116_7-8_101718	V184208-21	Soil	10/17/2018	10/17/2018
SB-116_21-22_101718	V184208-22	Soil	10/17/2018	10/17/2018
SB-117_1-2_101718	V184208-23	Soil	10/17/2018	10/17/2018
SB-117_2-3_101718	V184208-24	Soil	10/17/2018	10/17/2018
SB-117_3-4_101718	V184208-25	Soil	10/17/2018	10/17/2018
SB-117_4-5_101718	V184208-26	Soil	10/17/2018	10/17/2018
DUP-23_101718	V184208-27	Soil	10/17/2018	10/17/2018
SB-118_6-10_101818	V184209-01	Water	10/18/2018	10/18/2018
SB-120_8-12_101818	V184209-02	Water	10/18/2018	10/18/2018
SB-119_25-29_101818	V184209-03	Water	10/18/2018	10/18/2018
SB-119_20-24_101818	V184209-04	Water	10/18/2018	10/18/2018



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SB-119_15-19_101818	V184209-05	Water	10/18/2018	10/18/2018
SB-121_8-12_101818	V184209-06	Water	10/18/2018	10/18/2018
DUP-24_101818	V184209-07	Water	10/18/2018	10/18/2018
SB-123_8-12_101818	V184209-08	Water	10/18/2018	10/18/2018
SB-122_25-29_101818	V184209-09	Water	10/18/2018	10/18/2018
SB-122_20-24_101818	V184209-10	Water	10/18/2018	10/18/2018
SB-122_15-19_101818	V184209-11	Water	10/18/2018	10/18/2018
DUP-25_101818	V184209-12	Water	10/18/2018	10/18/2018
SB-118_1-2_101818	V184210-01	Soil	10/18/2018	10/18/2018
SB-118_2-3_101818	V184210-02	Soil	10/18/2018	10/18/2018
SB-118_3-4_101818	V184210-03	Soil	10/18/2018	10/18/2018
SB-118_4-5_101818	V184210-04	Soil	10/18/2018	10/18/2018
SB-118_5-6_101818	V184210-05	Soil	10/18/2018	10/18/2018
SB-120_1-2_101818	V184210-06	Soil	10/18/2018	10/18/2018
SB-120_3-4_101818	V184210-07	Soil	10/18/2018	10/18/2018
SB-120_5-6_101818	V184210-08	Soil	10/18/2018	10/18/2018
SB-120_7-8_101818	V184210-09	Soil	10/18/2018	10/18/2018
SB-119_1-2_101818	V184210-10	Soil	10/18/2018	10/18/2018
SB-119_5-6_101818	V184210-11	Soil	10/18/2018	10/18/2018
SB-119_7-8_101818	V184210-12	Soil	10/18/2018	10/18/2018
SB-119_9-10_101818	V184210-13	Soil	10/18/2018	10/18/2018
SB-119_11-12_101818	V184210-14	Soil	10/18/2018	10/18/2018
SB-119_19-20_101818	V184210-15	Soil	10/18/2018	10/18/2018
SB-119_23.5-24.5_101818	V184210-16	Soil	10/18/2018	10/18/2018
SB-119_26-27_101818	V184210-17	Soil	10/18/2018	10/18/2018
SB-121_2-3_101818	V184210-18	Soil	10/18/2018	10/18/2018
SB-121_3-4_101818	V184210-19	Soil	10/18/2018	10/18/2018
SB-121_4-5_101818	V184210-20	Soil	10/18/2018	10/18/2018
SB-121_5-6_101818	V184210-21	Soil	10/18/2018	10/18/2018
SB-121_6-7_101818	V184210-22	Soil	10/18/2018	10/18/2018
SB-122_1-2_101818	V184210-23	Soil	10/18/2018	10/18/2018



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SB-122_5-6_101818	V184210-24	Soil	10/18/2018	10/18/2018
SB-122_7-8_101818	V184210-25	Soil	10/18/2018	10/18/2018
SB-122_9-10_101818	V184210-26	Soil	10/18/2018	10/18/2018
SB-122_11-12_101818	V184210-27	Soil	10/18/2018	10/18/2018
SB-122_19-20_101818	V184210-28	Soil	10/18/2018	10/18/2018
SB-122_23.5-24.5_101818	V184210-29	Soil	10/18/2018	10/18/2018
SB-122_26-27_101818	V184210-30	Soil	10/18/2018	10/18/2018
SB-123_1-2_101818	V184210-31	Soil	10/18/2018	10/18/2018
SB-123_3-4_101818	V184210-32	Soil	10/18/2018	10/18/2018
SB-123_4-5_101818	V184210-33	Soil	10/18/2018	10/18/2018
SB-123_5-6_101818	V184210-34	Soil	10/18/2018	10/18/2018
SB-123_7-8_101818	V184210-35	Soil	10/18/2018	10/18/2018
SB-124_6-10_101818	V184301-01	Water	10/18/2018	10/22/2018
SB-125_6-10_101918	V184301-02	Water	10/19/2018	10/22/2018
SB-126_6-10_101918	V184301-03	Water	10/19/2018	10/22/2018
SB-127_25-29_102218	V184301-04	Water	10/22/2018	10/22/2018
SB-127_20-24_102218	V184301-05	Water	10/22/2018	10/22/2018
SB-127_15-19_102218	V184301-06	Water	10/22/2018	10/22/2018
SB-124_1-2_101818	V184302-01	Soil	10/18/2018	10/22/2018
SB-124_2-3_101818	V184302-02	Soil	10/18/2018	10/22/2018
SB-124_3-4_101818	V184302-03	Soil	10/18/2018	10/22/2018
SB-124_4-5_101818	V184302-04	Soil	10/18/2018	10/22/2018
SB-124_5-6_101818	V184302-05	Soil	10/18/2018	10/22/2018
SB-125_1-2_101918	V184302-06	Soil	10/19/2018	10/22/2018
SB-125_2-3_101918	V184302-07	Soil	10/19/2018	10/22/2018
SB-125_3-4_101918	V184302-08	Soil	10/19/2018	10/22/2018
SB-125_4-5_101918	V184302-09	Soil	10/19/2018	10/22/2018
SB-125_0-1_101918	V184302-10	Soil	10/19/2018	10/22/2018
SB-126_0-1_101918	V184302-11	Soil	10/19/2018	10/22/2018
SB-126_1-2_101918	V184302-12	Soil	10/19/2018	10/22/2018
SB-126_2-3_101918	V184302-13	Soil	10/19/2018	10/22/2018



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SB-126_3-4_101918	V184302-14	Soil	10/19/2018	10/22/2018
SB-126_4-5_101918	V184302-15	Soil	10/19/2018	10/22/2018
SB-127_1-2_102218	V184302-16	Soil	10/22/2018	10/22/2018
SB-127_5-6_102218	V184302-17	Soil	10/22/2018	10/22/2018
SB-127_7-8_102218	V184302-18	Soil	10/22/2018	10/22/2018
SB-127_9-10_102218	V184302-19	Soil	10/22/2018	10/22/2018
SB-127_11-12_102218	V184302-20	Soil	10/22/2018	10/22/2018
SB-127_19-20_102218	V184302-21	Soil	10/22/2018	10/22/2018
SB-127_23.5-24.5_102218	V184302-22	Soil	10/22/2018	10/22/2018
SB-127_26-27_102218	V184302-23	Soil	10/22/2018	10/22/2018
LIFHP-128_21-25_102318	V184303-01	Water	10/23/2018	10/23/2018
LIFHP-128_16-20_102318	V184303-02	Water	10/23/2018	10/23/2018
LIFHP-128_11-15_102318	V184303-03	Water	10/23/2018	10/23/2018
SB-128_20-24_102318	V184303-04	Water	10/23/2018	10/23/2018
SB-128_15-19_102318	V184303-05	Water	10/23/2018	10/23/2018
LIFHP-128_1-2_102318	V184304-01	Soil	10/23/2018	10/23/2018
LIFHP-128_3-4_102318	V184304-02	Soil	10/23/2018	10/23/2018
LIFHP-128_5-6_102318	V184304-03	Soil	10/23/2018	10/23/2018
LIFHP-128_7-8_102318	V184304-04	Soil	10/23/2018	10/23/2018
LIFHP-128_9-10_102318	V184304-05	Soil	10/23/2018	10/23/2018
LIFHP-128_19-20_102318	V184304-06	Soil	10/23/2018	10/23/2018
DUP-26_102318	V184304-07	Soil	10/23/2018	10/23/2018
SB-128_1-2_102318	V184304-08	Soil	10/23/2018	10/23/2018
SB-128_5-6_102318	V184304-09	Soil	10/23/2018	10/23/2018
SB-128_7-8_102318	V184304-10	Soil	10/23/2018	10/23/2018
SB-128_9-10_102318	V184304-11	Soil	10/23/2018	10/23/2018
SB-128_11-12_102318	V184304-12	Soil	10/23/2018	10/23/2018
SB-128_19-20_102318	V184304-13	Soil	10/23/2018	10/23/2018
SB-128_23.5-24.5_102318	V184304-14	Soil	10/23/2018	10/23/2018
SB-128_26-27_102318	V184304-15	Soil	10/23/2018	10/23/2018
SB-129_22-26_102418	V184305-01	Water	10/24/2018	10/24/2018



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SB-129_16-20_102418	V184305-02	Water	10/24/2018	10/24/2018
SB-129_11-15_102418	V184305-03	Water	10/24/2018	10/24/2018
SB-130_21-25_102418	V184305-04	Soil	10/24/2018	10/24/2018
SB-130_16-20_102418	V184305-05	Soil	10/24/2018	10/24/2018
SB-130_11-15_102418	V184305-06	Soil	10/24/2018	10/24/2018
SB-129_1-2_102418	V184306-01	Soil	10/24/2018	10/24/2018
SB-129_3-4_102418	V184306-02	Soil	10/24/2018	10/24/2018
SB-129_6-7_102418	V184306-03	Soil	10/24/2018	10/24/2018
SB-129_7-8_102418	V184306-04	Soil	10/24/2018	10/24/2018
SB-129_9-10_102418	V184306-05	Soil	10/24/2018	10/24/2018
SB-129_24-25_102418	V184306-06	Soil	10/24/2018	10/24/2018
SB-130_1-2_102418	V184306-07	Soil	10/24/2018	10/24/2018
SB-130_2-3_102418	V184306-08	Soil	10/24/2018	10/24/2018
SB-130_3-4_102418	V184306-09	Soil	10/24/2018	10/24/2018
SB-130_7-8_102418	V184306-10	Soil	10/24/2018	10/24/2018
SB-130_9-10_102418	V184306-11	Soil	10/24/2018	10/24/2018
SB-130_21-22_102418	V184306-12	Soil	10/24/2018	10/24/2018
SB-130_24-25_102418	V184306-13	Soil	10/24/2018	10/24/2018
LIFHP-112_21-25_102418	V184307-01	Water	10/24/2018	10/25/2018
LIFHP-112_15-19_102418	V184307-02	Water	10/24/2018	10/25/2018
LIFHP-112_10-14_102418	V184307-03	Water	10/24/2018	10/25/2018
HPT-180_20-24_102518	V184307-04	Water	10/25/2018	10/25/2018
HPT-180_14-18_102518	V184307-05	Water	10/25/2018	10/25/2018
HPT-180_6-10_102518	V184307-06	Water	10/25/2018	10/25/2018
DUP-27_102518	V184307-07	Water	10/25/2018	10/25/2018
LIFHP-112_1-2_102418	V184308-01	Soil	10/24/2018	10/25/2018
LIFHP-112_3-4_102418	V184308-02	Soil	10/24/2018	10/25/2018
LIFHP-112_4-5_102418	V184308-03	Soil	10/24/2018	10/25/2018
LIFHP-112_6-7_102418	V184308-04	Soil	10/24/2018	10/25/2018
LIFHP-112_8-9_102418	V184308-05	Soil	10/24/2018	10/25/2018
LIFHP-112_26-27_102418	V184308-06	Soil	10/24/2018	10/25/2018



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LIFHP-112_29-30_102418	V184308-07	Soil	10/24/2018	10/25/2018
HPT-180_1-2_102518	V184308-08	Soil	10/25/2018	10/25/2018
HPT-180_2-3_102518	V184308-09	Soil	10/25/2018	10/25/2018
HPT-180_3-4_102518	V184308-10	Soil	10/25/2018	10/25/2018
HPT-180_4-5_102518	V184308-11	Soil	10/25/2018	10/25/2018
HPT-180_23-24_102518	V184308-12	Soil	10/25/2018	10/25/2018
HPT-180_25-26_102518	V184308-13	Soil	10/25/2018	10/25/2018
HPT-181_1-2_102518	V184308-14	Soil	10/25/2018	10/25/2018
HPT-181_2-3_102518	V184308-15	Soil	10/25/2018	10/25/2018
HPT-181_3-4_102518	V184308-16	Soil	10/25/2018	10/25/2018
HPT-181_4-5_102518	V184308-17	Soil	10/25/2018	10/25/2018
HPT-181_5-6_102518	V184308-18	Soil	10/25/2018	10/25/2018
HPT-181_22-23_102518	V184308-19	Soil	10/25/2018	10/25/2018
HPT-181_24-28_102618	V184309-01	Water	10/26/2018	10/26/2018
HPT-181_11-15_102618	V184309-02	Water	10/26/2018	10/26/2018
HPT-181_6-10_102618	V184309-03	Water	10/26/2018	10/26/2018
HPT-184_16-20_102618	V184309-04	Water	10/26/2018	10/26/2018
HPT-184_11-15_102618	V184309-05	Water	10/26/2018	10/26/2018
HPT-184_6-10_102618	V184309-06	Water	10/26/2018	10/26/2018
HPT-184_1-2_102618	V184310-01	Soil	10/26/2018	10/26/2018
HPT-184_2-3_102618	V184310-02	Soil	10/26/2018	10/26/2018
HPT-184_3-4_102618	V184310-03	Soil	10/26/2018	10/26/2018
HPT-184_4-5_102618	V184310-04	Soil	10/26/2018	10/26/2018
HPT-184_5-6_102618	V184310-05	Soil	10/26/2018	10/26/2018
HPT-184_21-22_102618	V184310-06	Soil	10/26/2018	10/26/2018
HPT-182_22-26_102918	V184401-01	Water	10/29/2018	10/29/2018
HPT-182_13-17_102918	V184401-02	Water	10/29/2018	10/29/2018
HPT-182_5-9_102918	V184401-03	Water	10/29/2018	10/29/2018
HPT-182_1-2_102918	V184402-01	Soil	10/29/2018	10/29/2018
HPT-182_2-3_102918	V184402-02	Soil	10/29/2018	10/29/2018
HPT-182_3-4_102918	V184402-03	Soil	10/29/2018	10/29/2018



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ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
HPT-182_4-5_102918	V184402-04	Soil	10/29/2018	10/29/2018
HPT-182_5-6_102918	V184402-05	Soil	10/29/2018	10/29/2018
HPT-182_27-28_102918	V184402-06	Soil	10/29/2018	10/29/2018
HPT-185_19-23_103018	V184403-01	Water	10/30/2018	10/30/2018
HPT-185_14-18_103018	V184403-02	Water	10/30/2018	10/30/2018
HPT-185_4-8_103018	V184403-03	Water	10/30/2018	10/30/2018
SB-131_14-18_103018	V184403-04	Water	10/30/2018	10/30/2018
SB-131_5-9_103018	V184403-05	Water	10/30/2018	10/30/2018
HPT-185_1-2_103018	V184404-01	Soil	10/30/2018	10/30/2018
HPT-185_2-3_103018	V184404-02	Soil	10/30/2018	10/30/2018
HPT-185_3-4_103018	V184404-03	Soil	10/30/2018	10/30/2018
HPT-185_4-5_103018	V184404-04	Soil	10/30/2018	10/30/2018
HPT-185_5-6_103018	V184404-05	Soil	10/30/2018	10/30/2018
HPT-185_21-22_103018	V184404-06	Soil	10/30/2018	10/30/2018
SB-131_1-2_103018	V184404-07	Soil	10/30/2018	10/30/2018
SB-131_2-3_103018	V184404-08	Soil	10/30/2018	10/30/2018
SB-131_3-4_103018	V184404-09	Soil	10/30/2018	10/30/2018
SB-131_4-5_103018	V184404-10	Soil	10/30/2018	10/30/2018
SB-131_5-6_103018	V184404-11	Soil	10/30/2018	10/30/2018
SB-131_19-20_103018	V184404-12	Soil	10/30/2018	10/30/2018
SB-132_22-26_103118	V184405-01	Water	10/31/2018	10/31/2018
SB-132_13-17_103118	V184405-02	Water	10/31/2018	10/31/2018
SB-132_5-9_103118	V184405-03	Water	10/31/2018	10/31/2018
SB-133_16-20_103118	V184405-04	Water	10/31/2018	10/31/2018
SB-133_11-15_103118	V184405-05	Water	10/31/2018	10/31/2018
SB-133_6-10_103118	V184405-06	Water	10/31/2018	10/31/2018
SB-132_1-2_103118	V184406-01	Soil	10/31/2018	10/31/2018
SB-132_2-3_103118	V184406-02	Soil	10/31/2018	10/31/2018
SB-132_3-4_103118	V184406-03	Soil	10/31/2018	10/31/2018
SB-132_4-5_103118	V184406-04	Soil	10/31/2018	10/31/2018
SB-132_5-6_103118	V184406-05	Soil	10/31/2018	10/31/2018



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-132_21-22_103118	V184406-06	Soil	10/31/2018	10/31/2018
DUP-28_103118	V184406-07	Soil	10/31/2018	10/31/2018
SB-133_1-2_103118	V184406-08	Soil	10/31/2018	10/31/2018
SB-133_2-3_103118	V184406-09	Soil	10/31/2018	10/31/2018
SB-133_3-4_103118	V184406-10	Soil	10/31/2018	10/31/2018
SB-133_4-5_103118	V184406-11	Soil	10/31/2018	10/31/2018
SB-133_5-6_103118	V184406-12	Soil	10/31/2018	10/31/2018
SB-133_26-27_103118	V184406-13	Soil	10/31/2018	10/31/2018
SB-134_24-28_110118	V184407-01	Water	11/01/2018	11/01/2018
SB-134_11-15_110118	V184407-02	Water	11/01/2018	11/01/2018
SB-134_6-10_110118	V184407-03	Water	11/01/2018	11/01/2018
HPT-183_14-18_110118	V184407-04	Water	11/01/2018	11/01/2018
HPT-183_9-13_110118	V184407-05	Water	11/01/2018	11/01/2018
HPT-183_3-8_110118	V184407-06	Water	11/01/2018	11/01/2018
DUP-29_110118	V184407-07	Water	11/01/2018	11/01/2018
SB-134_1-2_1101118	V184408-01	Soil	11/01/2018	11/01/2018
SB-134_2-3_1101118	V184408-02	Soil	11/01/2018	11/01/2018
SB-134_3-4_1101118	V184408-03	Soil	11/01/2018	11/01/2018
SB-134_4-5_1101118	V184408-04	Soil	11/01/2018	11/01/2018
SB-134_5-6_1101118	V184408-05	Soil	11/01/2018	11/01/2018
SB-134_23-24_1101118	V184408-06	Soil	11/01/2018	11/01/2018
HPT-183_1-2_1101118	V184408-07	Soil	11/01/2018	11/01/2018
HPT-183_2-3_1101118	V184408-08	Soil	11/01/2018	11/01/2018
HPT-183_3-4_1101118	V184408-09	Soil	11/01/2018	11/01/2018
HPT-183_4-5_1101118	V184408-10	Soil	11/01/2018	11/01/2018
HPT-183_5-6_1101118	V184408-11	Soil	11/01/2018	11/01/2018
HPT-183_17-18_1101118	V184408-12	Soil	11/01/2018	11/01/2018
HPT-183_28-19_1101118	V184408-13	Soil	11/01/2018	11/01/2018
HPT-186_14-18_110218	V184409-01	Water	11/02/2018	11/02/2018
HPT-186_8-12_110218	V184409-02	Water	11/02/2018	11/02/2018
HPT-186_3-7_110218	V184409-03	Water	11/02/2018	11/02/2018



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Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB-135_1-5_110218	V184409-04	Water	11/02/2018	11/02/2018
SB-135_6-10_110218	V184409-05	Water	11/02/2018	11/02/2018
SB-135_11-15_110218	V184409-06	Water	11/02/2018	11/02/2018
SB-135_16-20_110218	V184409-07	Water	11/02/2018	11/02/2018
HPT-186_1-2_110218	V184410-01	Soil	11/02/2018	11/02/2018
HPT-186_2-3_110218	V184410-02	Soil	11/02/2018	11/02/2018
HPT-186_3-4_110218	V184410-03	Soil	11/02/2018	11/02/2018
HPT-186_4-5_110218	V184410-04	Soil	11/02/2018	11/02/2018
HPT-186_5-6_110218	V184410-05	Soil	11/02/2018	11/02/2018
HPT-186_18-19_110218	V184410-06	Soil	11/02/2018	11/02/2018
HPT-186_28-29_110218	V184410-07	Soil	11/02/2018	11/02/2018
SB-135_1-2_110218	V184410-08	Soil	11/02/2018	11/02/2018
SB-135_2-3_110218	V184410-09	Soil	11/02/2018	11/02/2018
SB-135_3-4_110218	V184410-10	Soil	11/02/2018	11/02/2018
SB-135_4-5_110218	V184410-11	Soil	11/02/2018	11/02/2018
SB-135_5-6_110218	V184410-12	Soil	11/02/2018	11/02/2018
SB-135_19.5-20.5_110218	V184410-13	Soil	11/02/2018	11/02/2018
SB-135_28-29_110218	V184410-14	Soil	11/02/2018	11/02/2018



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LIFHP-79_10-13'_091118
V183701-01 (Water)

Date Sampled
09/11/2018 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 15:20	EPA 8260B	
Trichloroethene	750	50	ug/L	50	09/13/2018	09/15/2018 18:27	EPA 8260B	D
cis-1,2-Dichloroethene	7600	50	ug/L	50	09/13/2018	09/15/2018 18:27	EPA 8260B	D
trans-1,2-Dichloroethene	180	1.0	ug/L	1	09/13/2018	09/13/2018 15:20	EPA 8260B	
1,1-Dichloroethene	8.5	1.0	ug/L	1	09/13/2018	09/13/2018 15:20	EPA 8260B	
Vinyl chloride	960	50	ug/L	50	09/13/2018	09/15/2018 18:27	EPA 8260B	D
1,4-Dioxane	ND	100	ug/L	50	09/13/2018	09/15/2018 18:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 15:20</i>	<i>EPA 8260B</i>	



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LIFHP-79_17-20'_091118
V183701-02 (Water)

Date Sampled
 09/11/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 15:34	EPA 8260B	
Trichloroethene	26000	500	ug/L	500	09/13/2018	09/15/2018 17:00	EPA 8260B	D
cis-1,2-Dichloroethene	76000	500	ug/L	500	09/13/2018	09/15/2018 17:00	EPA 8260B	D
trans-1,2-Dichloroethene	4700	100	ug/L	100	09/13/2018	09/15/2018 16:30	EPA 8260B	D
1,1-Dichloroethene	97	1.0	ug/L	1	09/13/2018	09/13/2018 15:34	EPA 8260B	
Vinyl chloride	790	100	ug/L	100	09/13/2018	09/15/2018 16:30	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 15:34	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 114 % 60-140 09/13/2018 09/13/2018 15:34 EPA 8260B



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LIFHP-79_22-25'_091118
V183701-03 (Water)

Date Sampled
 09/11/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 15:49	EPA 8260B	
Trichloroethene	1400	100	ug/L	100	09/13/2018	09/15/2018 17:43	EPA 8260B	D
cis-1,2-Dichloroethene	9500	100	ug/L	100	09/13/2018	09/15/2018 17:43	EPA 8260B	D
trans-1,2-Dichloroethene	230	100	ug/L	100	09/13/2018	09/15/2018 17:43	EPA 8260B	D
1,1-Dichloroethene	1.7	1.0	ug/L	1	09/13/2018	09/13/2018 15:49	EPA 8260B	
Vinyl chloride	19	1.0	ug/L	1	09/13/2018	09/13/2018 15:49	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 15:49	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 115 % 60-140 09/13/2018 09/13/2018 15:49 EPA 8260B



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LIFHP-80B_18-22'_091218

V183701-04 (Water)

Date Sampled
 09/12/2018 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:03	EPA 8260B	
Trichloroethene	100000	500	ug/L	500	09/13/2018	09/15/2018 17:29	EPA 8260B	D, E
cis-1,2-Dichloroethene	58000	500	ug/L	500	09/13/2018	09/15/2018 17:29	EPA 8260B	D
trans-1,2-Dichloroethene	2400	500	ug/L	500	09/13/2018	09/15/2018 17:29	EPA 8260B	D
1,1-Dichloroethene	59	1.0	ug/L	1	09/13/2018	09/13/2018 16:03	EPA 8260B	
Vinyl chloride	170	1.0	ug/L	1	09/13/2018	09/13/2018 16:03	EPA 8260B	
1,4-Dioxane	ND	1000	ug/L	500	09/13/2018	09/15/2018 17:29	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 115 % 60-140 09/13/2018 09/13/2018 16:03 EPA 8260B



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LIFHP-80B_8-12'_091218

V183701-05 (Water)

Date Sampled
09/12/2018 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:18	EPA 8260B	
Trichloroethene	20000	100	ug/L	100	09/13/2018	09/15/2018 18:56	EPA 8260B	D
cis-1,2-Dichloroethene	16000	100	ug/L	100	09/13/2018	09/15/2018 18:56	EPA 8260B	D
trans-1,2-Dichloroethene	52	1.0	ug/L	1	09/13/2018	09/13/2018 16:18	EPA 8260B	
1,1-Dichloroethene	1.6	1.0	ug/L	1	09/13/2018	09/13/2018 16:18	EPA 8260B	
Vinyl chloride	12000	100	ug/L	100	09/13/2018	09/15/2018 18:56	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 16:18	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 107% 60-140 09/13/2018 09/13/2018 16:18 EPA 8260B



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LIFHP-82_9-13'_091218

V183701-06 (Water)

Date Sampled
 09/12/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
Trichloroethene	12	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
cis-1,2-Dichloroethene	8.7	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
trans-1,2-Dichloroethene	1.3	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 16:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 16:32</i>	<i>EPA 8260B</i>	



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LIFHP-82_18-22'_091218

V183701-07 (Water)

Date Sampled
 09/12/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
Trichloroethene	7.8	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
cis-1,2-Dichloroethene	5.1	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 16:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 16:47</i>	<i>EPA 8260B</i>	



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LIFHP-79_1-2'_091118
V183702-01 (Soil)

Date Sampled
 09/11/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 12:32	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		112 %		60-140	09/13/2018	09/14/2018 12:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	88.4	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_3-4'_091118
V183702-02 (Soil)

Date Sampled
 09/11/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/13/2018	09/14/2018 12:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %		60-140	09/13/2018	09/14/2018 12:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	92.6	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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 Project Number: 2815

LIFHP-79_5-6'_091118
V183702-03 (Soil)

Date Sampled
 09/11/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/13/2018	09/14/2018 13:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		116 %		60-140	09/13/2018	09/14/2018 13:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	93.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_7-8'_091118
V183702-04 (Soil)

Date Sampled
 09/11/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/13/2018	09/14/2018 13:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %		60-140	09/13/2018	09/14/2018 13:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	93.8	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_9-10'_091118
V183702-05 (Soil)

Date Sampled
 09/11/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/14/2018 13:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>109 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 13:30</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	87.0	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_18.5-19.5'_091118
V183702-06 (Soil)

Date Sampled
 09/11/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
Trichloroethene	27000	500	ug/kg dry	10	09/13/2018	09/14/2018 01:45	EPA 8260B	D
cis-1,2-Dichloroethene	20000	500	ug/kg dry	10	09/13/2018	09/14/2018 01:45	EPA 8260B	D
trans-1,2-Dichloroethene	1200	50	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 13:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 13:45</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	82.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-79_19.5-20.5'_091118
V183702-07 (Soil)

Date Sampled
 09/11/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
Trichloroethene	4100	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
cis-1,2-Dichloroethene	34000	460	ug/kg dry	10	09/13/2018	09/14/2018 01:59	EPA 8260B	D
trans-1,2-Dichloroethene	6200	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
1,1-Dichloroethene	50	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
Vinyl chloride	630	46	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/13/2018	09/14/2018 13:59	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 108 % 60-140 09/13/2018 09/14/2018 13:59 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	80.5	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-80B_1-2_091218
V183702-12 (Soil)

Date Sampled
 09/12/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 14:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		60-140	09/13/2018	09/14/2018 14:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	89.6	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-80B_3-4_091218
V183702-13 (Soil)

Date Sampled
 09/12/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	09/13/2018	09/14/2018 14:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/13/2018	09/14/2018 14:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	93.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-80B_5-6'_091218
V183702-14 (Soil)

Date Sampled
 09/12/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
Trichloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
1,4-Dioxane	ND	79	ug/kg dry	1	09/13/2018	09/14/2018 14:43	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.1 %		60-140	09/13/2018	09/14/2018 14:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	91.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-80B_6-7'_091218
V183702-15 (Soil)

Date Sampled
 09/12/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/13/2018	09/14/2018 14:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	09/13/2018	09/14/2018 14:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	96.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-80B_19-20'_091218
V183702-16 (Soil)

Date Sampled
 09/12/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
Trichloroethene	22000	490	ug/kg dry	10	09/13/2018	09/14/2018 11:04	EPA 8260B	D
cis-1,2-Dichloroethene	6200	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
trans-1,2-Dichloroethene	210	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/13/2018	09/14/2018 15:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>	<i>60-140</i>		<i>09/13/2018</i>	<i>09/14/2018 15:12</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	82.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-80B_23-24'_091218

V183702-17 (Soil)

Date Sampled
 09/12/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	
Trichloroethene	16000	440	ug/kg dry	10	09/13/2018	09/14/2018 11:19	EPA 8260B	D
cis-1,2-Dichloroethene	32000	440	ug/kg dry	10	09/13/2018	09/14/2018 11:19	EPA 8260B	D
trans-1,2-Dichloroethene	4900	44	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	
1,1-Dichloroethene	55	44	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	
Vinyl chloride	50	44	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/13/2018	09/14/2018 15:27	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 104 % 60-140 09/13/2018 09/14/2018 15:27 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	88.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_1-2'_091218
V183702-18 (Soil)

Date Sampled
 09/12/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	56	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	09/13/2018	09/14/2018 15:41	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/13/2018	09/14/2018 15:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	88.0	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_2-3'_091218
V183702-19 (Soil)

Date Sampled
 09/12/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/13/2018	09/14/2018 15:56	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	09/13/2018	09/14/2018 15:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	89.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_4-5'_091218
V183702-20 (Soil)

Date Sampled
 09/12/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	09/13/2018	09/14/2018 16:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/13/2018	09/14/2018 16:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	88.4	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_6-7'_091218
V183702-21 (Soil)

Date Sampled
 09/12/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	63	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/14/2018 16:25	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	09/13/2018	09/14/2018 16:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	85.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_13-14'_091218

V183702-22 (Soil)

Date Sampled
 09/12/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
Trichloroethene	480	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
trans-1,2-Dichloroethene	86	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 16:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/13/2018	09/14/2018 16:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	82.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-82_20-21'_091218
V183702-23 (Soil)

Date Sampled
 09/12/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809004

Tetrachloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
cis-1,2-Dichloroethene	71	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 16:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 16:54</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809002

% Solids	77.7	0.00	% by Weight	1	09/13/2018	09/14/2018 15:47	SM 2540B	
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LIFHP-83_18.5-22.5'_091318
V183703-01 (Water)

Date Sampled
 09/13/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	11	1.0	ug/L	1	09/13/2018	09/13/2018 17:31	EPA 8260B	
Trichloroethene	1900	500	ug/L	500	09/13/2018	09/15/2018 17:14	EPA 8260B	D
cis-1,2-Dichloroethene	ND	500	ug/L	500	09/13/2018	09/15/2018 17:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	500	ug/L	500	09/13/2018	09/15/2018 17:14	EPA 8260B	
1,1-Dichloroethene	71	1.0	ug/L	1	09/13/2018	09/13/2018 17:31	EPA 8260B	
Vinyl chloride	91	1.0	ug/L	1	09/13/2018	09/13/2018 17:31	EPA 8260B	
1,4-Dioxane	ND	1000	ug/L	500	09/13/2018	09/13/2018 17:31	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 110 % 60-140 09/13/2018 09/13/2018 17:31 EPA 8260B



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LIFHP-83_9-13'_091318

V183703-02 (Water)

Date Sampled
 09/13/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	
Trichloroethene	1800	10	ug/L	10	09/13/2018	09/15/2018 18:13	EPA 8260B	D
cis-1,2-Dichloroethene	370	10	ug/L	10	09/13/2018	09/15/2018 18:13	EPA 8260B	D
trans-1,2-Dichloroethene	13	1.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	
Vinyl chloride	35	1.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 17:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 17:45</i>	<i>EPA 8260B</i>	



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LIFHP-84_18-22'_091318

V183703-03 (Water)

Date Sampled
 09/13/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
Trichloroethene	1.1	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
Vinyl chloride	1.3	1.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/15/2018 18:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>120 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/15/2018 18:42</i>	<i>EPA 8260B</i>	



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LIFHP-84_11-15'_091318
V183703-04 (Water)

Date Sampled
 09/13/2018 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
Trichloroethene	23	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
cis-1,2-Dichloroethene	6.8	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
Vinyl chloride	1.9	1.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 18:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 18:15</i>	<i>EPA 8260B</i>	



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LIFHP-85_18-22'_091318

V183703-05 (Water)

Date Sampled
 09/13/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:29	EPA 8260B	
Trichloroethene	20000	100	ug/L	100	09/13/2018	09/15/2018 17:58	EPA 8260B	D, E
cis-1,2-Dichloroethene	19000	100	ug/L	100	09/13/2018	09/15/2018 17:58	EPA 8260B	D
trans-1,2-Dichloroethene	1200	100	ug/L	100	09/13/2018	09/15/2018 17:58	EPA 8260B	D
1,1-Dichloroethene	63	1.0	ug/L	1	09/13/2018	09/13/2018 18:29	EPA 8260B	
Vinyl chloride	1800	100	ug/L	100	09/13/2018	09/15/2018 17:58	EPA 8260B	D
1,4-Dioxane	6.1	2.0	ug/L	1	09/13/2018	09/13/2018 18:29	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 109 % 60-140 09/13/2018 09/13/2018 18:29 EPA 8260B



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LIFHP-85_13-17'_091318

V183703-06 (Water)

Date Sampled
 09/13/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 19:13	EPA 8260B	
Trichloroethene	6000	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	D
cis-1,2-Dichloroethene	4700	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	D
trans-1,2-Dichloroethene	200	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	D
1,1-Dichloroethene	ND	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	
Vinyl chloride	1000	200	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	D
1,4-Dioxane	ND	400	ug/L	200	09/13/2018	09/13/2018 19:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 19:13</i>	<i>EPA 8260B</i>	



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LIFHP-85_8-12'_091318

V183703-07 (Water)

Date Sampled
 09/13/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
Trichloroethene	94	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
cis-1,2-Dichloroethene	100	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
trans-1,2-Dichloroethene	16	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
Vinyl chloride	330	10	ug/L	10	09/13/2018	09/17/2018 18:20	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 18:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>111 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 18:44</i>	<i>EPA 8260B</i>	



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DUP-02

V183703-08 (Water)

Date Sampled
 09/13/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809001

Tetrachloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
Trichloroethene	14	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
cis-1,2-Dichloroethene	4.2	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
Vinyl chloride	2.1	1.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/13/2018	09/13/2018 18:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/13/2018 18:58</i>	<i>EPA 8260B</i>	



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LIFHP-83_1-2'_091318
V183704-01 (Soil)

Date Sampled
 09/13/2018 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
Trichloroethene	65	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/13/2018	09/14/2018 17:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %		60-140	09/13/2018	09/14/2018 17:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	93.4	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-83_2-3'_091318
V183704-02 (Soil)

Date Sampled
 09/13/2018 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/14/2018 20:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/13/2018	09/14/2018 20:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	94.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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 Project Number: 2815

LIFHP-83_4-5'_091318
V183704-03 (Soil)

Date Sampled
 09/13/2018 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
Trichloroethene	2800	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
cis-1,2-Dichloroethene	360	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/14/2018 20:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 20:26</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	94.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-83_6-7'_091318
V183704-04 (Soil)

Date Sampled
 09/13/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
Trichloroethene	140	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 20:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>109 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 20:41</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	86.7	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-83_16-17'_091318
V183704-05 (Soil)

Date Sampled
 09/13/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
Trichloroethene	41000	480	ug/kg dry	10	09/13/2018	09/15/2018 15:18	EPA 8260B	D
cis-1,2-Dichloroethene	2700	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
trans-1,2-Dichloroethene	67	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/14/2018 20:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 20:55</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	81.5	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-83_19-20'_091318

V183704-06 (Soil)

Date Sampled
09/13/2018 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	110	46	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	
Trichloroethene	530000	23000	ug/kg dry	500	09/13/2018	09/18/2018 12:35	EPA 8260B	D
cis-1,2-Dichloroethene	33000	2300	ug/kg dry	50	09/13/2018	09/15/2018 15:32	EPA 8260B	D
trans-1,2-Dichloroethene	940	46	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	
1,1-Dichloroethene	68	46	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/13/2018	09/14/2018 21:10	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 112 % 60-140 09/13/2018 09/14/2018 21:10 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	81.6	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_1-2'_091318
V183704-07 (Soil)

Date Sampled
 09/13/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
Trichloroethene	180	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/15/2018 11:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>89.4 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/15/2018 11:46</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	96.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_2-3'_091318
V183704-08 (Soil)

Date Sampled
 09/13/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/15/2018 12:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		107 %		60-140	09/13/2018	09/15/2018 12:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	95.7	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_5-6'_091318
V183704-09 (Soil)

Date Sampled
 09/13/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
Trichloroethene	110	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/13/2018	09/15/2018 14:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/15/2018 14:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	92.0	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_7-8'_091318
V183704-10 (Soil)

Date Sampled
 09/13/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
Trichloroethene	100	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/13/2018	09/14/2018 21:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 21:39</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	86.3	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_9-10'_091318
V183704-11 (Soil)

Date Sampled
 09/13/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
Trichloroethene	150	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 21:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>111 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 21:54</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	85.8	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-84_19-20'_091318
V183704-12 (Soil)

Date Sampled
 09/13/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/14/2018 22:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %		60-140	09/13/2018	09/14/2018 22:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	81.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-85_1-2'_091318
V183704-13 (Soil)

Date Sampled
 09/13/2018 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
Trichloroethene	120	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/13/2018	09/14/2018 22:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>	<i>60-140</i>		<i>09/13/2018</i>	<i>09/14/2018 22:23</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	91.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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LIFHP-85_3-4'_091318
V183704-14 (Soil)

Date Sampled
 09/13/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
Trichloroethene	220	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/13/2018	09/14/2018 22:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 22:37</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	89.2	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-85_6-7'_091318
V183704-15 (Soil)

Date Sampled
 09/13/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
Trichloroethene	220	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/13/2018	09/14/2018 22:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>111 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 22:52</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	87.1	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-85_9-10'_091318
V183704-16 (Soil)

Date Sampled
 09/13/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 23:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		114 %		60-140	09/13/2018	09/14/2018 23:06	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	85.0	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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 Project Number: 2815

LIFHP-85_19-20'_091318
V183704-17 (Soil)

Date Sampled
 09/13/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	50	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	
Trichloroethene	120000	1000	ug/kg dry	20	09/13/2018	09/15/2018 15:47	EPA 8260B	D
cis-1,2-Dichloroethene	40000	1000	ug/kg dry	20	09/13/2018	09/15/2018 15:47	EPA 8260B	D
trans-1,2-Dichloroethene	3600	50	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	
1,1-Dichloroethene	160	50	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	
Vinyl chloride	820	50	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/13/2018	09/14/2018 23:21	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 104 % 60-140 09/13/2018 09/14/2018 23:21 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	79.6	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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 Project Number: 2815

DUP-01
V183704-18 (Soil)

Date Sampled
 09/13/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809005

Tetrachloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
Trichloroethene	95	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/13/2018	09/14/2018 23:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>115 %</i>		<i>60-140</i>	<i>09/13/2018</i>	<i>09/14/2018 23:36</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809003

% Solids	90.5	0.00	% by Weight	1	09/13/2018	09/14/2018 15:53	SM 2540B	
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 Project Number: 2815

LIFHP-86_1-2'_091418
V183705-01 (Soil)

Date Sampled
 09/14/2018 08:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
Trichloroethene	600	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
cis-1,2-Dichloroethene	120	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
1,1-Dichloroethene	ND	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
Vinyl chloride	ND	62	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	09/14/2018	09/14/2018 23:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/14/2018 23:50</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_3-4'_091418
V183705-02 (Soil)

Date Sampled
 09/14/2018 08:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
Trichloroethene	430	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
cis-1,2-Dichloroethene	55	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 00:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>	<i>60-140</i>		<i>09/14/2018</i>	<i>09/15/2018 00:05</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.4	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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 Project Number: 2815

LIFHP-86_5-6'_091418
V183705-03 (Soil)

Date Sampled
 09/14/2018 08:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
Trichloroethene	680	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
cis-1,2-Dichloroethene	110	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/14/2018	09/15/2018 00:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 00:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.8	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_7-8'_091418
V183705-04 (Soil)

Date Sampled
 09/14/2018 08:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
Trichloroethene	51	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
cis-1,2-Dichloroethene	140	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/14/2018	09/15/2018 00:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>111 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 00:34</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	87.8	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_18.5-19.5'_091418
V183705-05 (Soil)

Date Sampled
 09/14/2018 08:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
Trichloroethene	2000	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
cis-1,2-Dichloroethene	960	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/14/2018	09/15/2018 00:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>115 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 00:48</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	80.2	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-86_22-23'_091418
V183705-06 (Soil)

Date Sampled
 09/14/2018 08:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
Trichloroethene	6600	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
cis-1,2-Dichloroethene	250	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 01:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 01:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	76.0	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_1-2'_091418
V183705-07 (Soil)

Date Sampled
 09/14/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/14/2018	09/15/2018 01:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %		60-140	09/14/2018	09/15/2018 01:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	94.5	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-89B_2-3'_091418
V183705-08 (Soil)

Date Sampled
 09/14/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
Trichloroethene	320	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
1,4-Dioxane	ND	81	ug/kg dry	1	09/14/2018	09/15/2018 01:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>136 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 01:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	94.0	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_4-5'_091418
V183705-09 (Soil)

Date Sampled
 09/14/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
1,4-Dioxane	ND	82	ug/kg dry	1	09/14/2018	09/15/2018 01:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.3 %		60-140	09/14/2018	09/15/2018 01:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	89.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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DUP-03
V183705-10 (Soil)

Date Sampled
 09/14/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
Trichloroethene	460	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
cis-1,2-Dichloroethene	76	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 02:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 02:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	97.0	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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 Project Number: 2815

LIFHP-89B_6-7'_091418
V183705-11 (Soil)

Date Sampled
 09/14/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/14/2018	09/15/2018 02:16	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		88.1 %		60-140	09/14/2018	09/15/2018 02:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	94.4	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_8-9'_091418
V183705-12 (Soil)

Date Sampled
 09/14/2018 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
Trichloroethene	1500	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
cis-1,2-Dichloroethene	210	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/14/2018	09/15/2018 02:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 02:30</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	85.4	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_13-14'_091418
V183705-13 (Soil)

Date Sampled
 09/14/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
Trichloroethene	70	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
cis-1,2-Dichloroethene	720	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/14/2018	09/15/2018 02:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 02:45</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	82.5	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-89B_19-20'_091418
V183705-14 (Soil)

Date Sampled
09/14/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	
Trichloroethene	63000	500	ug/kg dry	10	09/14/2018	09/15/2018 16:01	EPA 8260B	M1, D
cis-1,2-Dichloroethene	7300	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	M
trans-1,2-Dichloroethene	920	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 03:00	EPA 8260B	M, X
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/14/2018</i>	<i>09/15/2018 03:00</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	80.7	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_1-2'_091418
V183705-15 (Soil)

Date Sampled
 09/14/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 04:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/14/2018	09/15/2018 04:42	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_3-4'_091418
V183705-16 (Soil)

Date Sampled
 09/14/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/14/2018	09/15/2018 03:14	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	09/14/2018	09/15/2018 03:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	96.5	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_5-6'_091418
V183705-17 (Soil)

Date Sampled
 09/14/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
Trichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
1,4-Dioxane	ND	81	ug/kg dry	1	09/14/2018	09/15/2018 03:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/14/2018	09/15/2018 03:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	88.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_7-8'_091418
V183705-18 (Soil)

Date Sampled
 09/14/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/14/2018	09/15/2018 03:43	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		93.0 %		60-140	09/14/2018	09/15/2018 03:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	89.7	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_9-10'_091418
V183705-19 (Soil)

Date Sampled
 09/14/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/14/2018	09/15/2018 03:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/14/2018	09/15/2018 03:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	85.0	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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LIFHP-91_11-12'_091418
V183705-20 (Soil)

Date Sampled
 09/14/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/14/2018	09/15/2018 04:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/14/2018	09/15/2018 04:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	85.7	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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 Project Number: 2815

LIFHP-91_19-20'_091418
V183705-21 (Soil)

Date Sampled
 09/14/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809006

Tetrachloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/14/2018	09/15/2018 04:27	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	09/14/2018	09/15/2018 04:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809007

% Solids	81.6	0.00	% by Weight	1	09/14/2018	09/15/2018 14:25	SM 2540B	
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 Project Number: 2815

LIFHP-86_18-22_091418
V183706-01 (Water)

Date Sampled
 09/14/2018 08:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
Trichloroethene	32	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	26	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/15/2018	09/15/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 14:34</i>	<i>EPA 8260B</i>	



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LIFHP-86_13-17_091418

V183706-02 (Water)

Date Sampled
 09/14/2018 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
Trichloroethene	2.5	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	4.8	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/15/2018	09/15/2018 14:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>113 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 14:49</i>	<i>EPA 8260B</i>	



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LIFHP-86_8-12_091418
V183706-03 (Water)

Date Sampled
 09/14/2018 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
Trichloroethene	1.3	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
Vinyl chloride	3.4	1.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/15/2018	09/15/2018 15:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 15:03</i>	<i>EPA 8260B</i>	



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LIFHP-89B_18-22'_091418

V183706-04 (Water)

Date Sampled
 09/14/2018 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	
Trichloroethene	84000	500	ug/L	500	09/15/2018	09/15/2018 16:45	EPA 8260B	D
cis-1,2-Dichloroethene	11000	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	D
trans-1,2-Dichloroethene	870	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	
Vinyl chloride	ND	100	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	
1,4-Dioxane	ND	200	ug/L	100	09/15/2018	09/15/2018 12:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 12:59</i>	<i>EPA 8260B</i>	



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LIFHP-89B_12-16'_091418

V183706-05 (Water)

Date Sampled
 09/14/2018 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	
Trichloroethene	2700	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	D
cis-1,2-Dichloroethene	920	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	
Vinyl chloride	240	100	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/15/2018	09/15/2018 13:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 13:14</i>	<i>EPA 8260B</i>	



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LIFHP-91_24-28'_091418

V183706-06 (Water)

Date Sampled
 09/14/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 13:28	EPA 8260B	
Trichloroethene	29	1.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
cis-1,2-Dichloroethene	15	1.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
trans-1,2-Dichloroethene	1.3	1.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/2018	09/15/2018 13:28	EPA 8260B	
Vinyl chloride	29	1.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
1,4-Dioxane	21	2.0	ug/L	1	09/15/2018	09/15/2018 16:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>119 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 16:16</i>	<i>EPA 8260B</i>	



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LIFHP-91_19-23'_091418

V183706-07 (Water)

Date Sampled
 09/14/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	
cis-1,2-Dichloroethene	7400	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	D
trans-1,2-Dichloroethene	170	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	
Vinyl chloride	9400	100	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/15/2018	09/15/2018 13:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 13:43</i>	<i>EPA 8260B</i>	



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LIFHP-91_14-18'_091418
V183706-08 (Water)

Date Sampled
 09/14/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809008

Tetrachloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	
cis-1,2-Dichloroethene	1500	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	D
trans-1,2-Dichloroethene	180	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	
Vinyl chloride	4300	100	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/15/2018	09/15/2018 13:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>09/15/2018</i>	<i>09/15/2018 13:57</i>	<i>EPA 8260B</i>	



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LIFHP-87_1-2_091718

V183801-01 (Soil)

Date Sampled
 09/17/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
Trichloroethene	320	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
cis-1,2-Dichloroethene	44	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/17/2018	09/17/2018 21:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>89.8 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/17/2018 21:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	97.5	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_2-3_091718

V183801-02 (Soil)

Date Sampled
 09/17/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
Trichloroethene	55	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/17/2018	09/17/2018 21:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.3 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/17/2018 21:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	94.6	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_3-4_091718

V183801-03 (Soil)

Date Sampled
 09/17/2018 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
Trichloroethene	230	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
1,4-Dioxane	160	100	ug/kg dry	1	09/17/2018	09/17/2018 21:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.3 %		60-140	09/17/2018	09/17/2018 21:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	98.0	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_5-6_091718

V183801-04 (Soil)

Date Sampled
 09/17/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
Trichloroethene	410	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/17/2018	09/17/2018 21:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.9 %		60-140	09/17/2018	09/17/2018 21:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	93.9	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_6-7_091718

V183801-05 (Soil)

Date Sampled
 09/17/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
Trichloroethene	500	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
cis-1,2-Dichloroethene	310	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/17/2018	09/17/2018 22:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.4 %		60-140	09/17/2018	09/17/2018 22:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	88.1	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_25-26_091718
V183801-06 (Soil)

Date Sampled
 09/17/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/17/2018	09/17/2018 22:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.0 %		60-140	09/17/2018	09/17/2018 22:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	80.6	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_26.5-27.5_091718
V183801-07 (Soil)

Date Sampled
 09/17/2018 11:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/17/2018	09/19/2018 00:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/17/2018	09/19/2018 00:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	81.2	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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 Project Number: 2815

LIFHP-87_28.5-29.5_091718
V183801-08 (Soil)

Date Sampled
 09/17/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/17/2018	09/17/2018 22:45	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		79.4 %		60-140	09/17/2018	09/17/2018 22:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	82.1	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_1-2_091718

Date Sampled
 09/17/2018 15:30

V183801-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/17/2018	09/19/2018 00:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %		60-140	09/17/2018	09/19/2018 00:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	93.3	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_3-4_091718
V183801-10 (Soil)

Date Sampled
 09/17/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/17/2018	09/19/2018 00:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/17/2018	09/19/2018 00:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	93.2	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_5-6_091718

V183801-11 (Soil)

Date Sampled
 09/17/2018 15:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	150	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
Trichloroethene	93	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
cis-1,2-Dichloroethene	60	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/17/2018	09/19/2018 00:51	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	09/17/2018	09/19/2018 00:51	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	97.5	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_7-8_091718

V183801-12 (Soil)

Date Sampled
 09/17/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
cis-1,2-Dichloroethene	140	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/17/2018	09/19/2018 01:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.6 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/19/2018 01:05</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	91.4	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_9-10_091718
V183801-13 (Soil)

Date Sampled
 09/17/2018 15:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/17/2018	09/19/2018 01:20	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/17/2018	09/19/2018 01:20	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	85.6	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-93_20-21_091718
V183801-14 (Soil)

Date Sampled
 09/17/2018 16:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/17/2018	09/19/2018 01:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		87.9 %		60-140	09/17/2018	09/19/2018 01:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	83.4	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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 Project Number: 2815

LIFHP-93_24-25_091718
V183801-15 (Soil)

Date Sampled
 09/17/2018 16:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809010

Tetrachloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
1,4-Dioxane	ND	81	ug/kg dry	1	09/17/2018	09/19/2018 01:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		84.2 %		60-140	09/17/2018	09/19/2018 01:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809011

% Solids	85.1	0.00	% by Weight	1	09/17/2018	09/18/2018 10:36	SM 2540B	
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LIFHP-87_18-23_091718
V183802-01 (Water)

Date Sampled
 09/17/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	
Trichloroethene	290	100	ug/L	100	09/17/2018	09/17/2018 19:36	EPA 8260B	M1, D
cis-1,2-Dichloroethene	630	100	ug/L	100	09/17/2018	09/17/2018 19:36	EPA 8260B	M1, D
trans-1,2-Dichloroethene	12	1.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	M
1,1-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	
Vinyl chloride	3.2	1.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/17/2018	09/18/2018 13:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>124 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/18/2018 13:05</i>	<i>EPA 8260B</i>	



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LIFHP-87_14-18_091718

V183802-02 (Water)

Date Sampled
 09/17/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
Trichloroethene	24	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
cis-1,2-Dichloroethene	35	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/17/2018	09/18/2018 13:19	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 126 % 60-140 09/17/2018 09/18/2018 13:19 EPA 8260B



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LIFHP-87_9-13_091718

V183802-03 (Water)

Date Sampled
 09/17/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
Trichloroethene	6.4	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
cis-1,2-Dichloroethene	17	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/17/2018	09/18/2018 13:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>126 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/18/2018 13:34</i>	<i>EPA 8260B</i>	



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LIFHP-93_16-20_091718

Date Sampled
 09/17/2018 15:00

V183802-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
Trichloroethene	ND	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
cis-1,2-Dichloroethene	840	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	D
trans-1,2-Dichloroethene	17	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
Vinyl chloride	ND	10	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
1,4-Dioxane	ND	20	ug/L	10	09/17/2018	09/18/2018 12:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		123 %		60-140	09/17/2018	09/18/2018 12:50	EPA 8260B	



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LIFHP-93_11-15_091718
V183802-05 (Water)

Date Sampled
 09/17/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809009

Tetrachloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
Trichloroethene	4.5	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
cis-1,2-Dichloroethene	85	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
trans-1,2-Dichloroethene	2.0	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
Vinyl chloride	17	1.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/17/2018	09/18/2018 13:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>123 %</i>		<i>60-140</i>	<i>09/17/2018</i>	<i>09/18/2018 13:48</i>	<i>EPA 8260B</i>	



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LIFHP-88_9-13_091818

V183803-01 (Water)

Date Sampled
 09/18/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 15:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		120 %		60-140	09/18/2018	09/18/2018 15:06	EPA 8260B	



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LIFHP-88_14-18_091818

V183803-02 (Water)

Date Sampled
 09/18/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 15:22	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		118 %		60-140	09/18/2018	09/18/2018 15:22	EPA 8260B	



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LIFHP-88_19-23_091818
V183803-03 (Water)

Date Sampled
 09/18/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 15:37	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		119 %		60-140	09/18/2018	09/18/2018 15:37	EPA 8260B	



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LIFHP-94_20-24_091818

V183803-04 (Water)

Date Sampled
 09/18/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 15:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		120 %		60-140	09/18/2018	09/18/2018 15:52	EPA 8260B	



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LIFHP-94_15-19_091818
V183803-05 (Water)

Date Sampled
 09/18/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 16:12	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		121 %		60-140	09/18/2018	09/18/2018 16:12	EPA 8260B	



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LIFHP-94_9-13_091818

Date Sampled
 09/18/2018 12:40

V183803-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 16:27	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		122 %		60-140	09/18/2018	09/18/2018 16:27	EPA 8260B	



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DUP-05

V183803-07 (Water)

Date Sampled
 09/18/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/18/2018 16:41	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		124 %		60-140	09/18/2018	09/18/2018 16:41	EPA 8260B	



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LIFHP-95_8-12'_091818

V183803-08 (Water)

Date Sampled
 09/18/2018 16:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/19/2018 02:03	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.0 %		60-140	09/18/2018	09/19/2018 02:03	EPA 8260B	



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LIFHP-95_13-17_091818

V183803-09 (Water)

Date Sampled
 09/18/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809012

Tetrachloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/18/2018	09/19/2018 02:18	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/18/2018	09/19/2018 02:18	EPA 8260B	



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LIFHP-88_1-2'_091818
V183804-01 (Soil)

Date Sampled
 09/18/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	
1,4-Dioxane	120	87	ug/kg dry	1	09/18/2018	09/18/2018 19:16	EPA 8260B	M
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %		60-140	09/18/2018	09/18/2018 19:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	89.5	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_2-3'_091818
V183804-02 (Soil)

Date Sampled
 09/18/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/18/2018	09/18/2018 19:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/18/2018	09/18/2018 19:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.6	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_3-4'_091818
V183804-03 (Soil)

Date Sampled
 09/18/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/18/2018	09/18/2018 19:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/18/2018	09/18/2018 19:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	92.1	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_5-6'_091818
V183804-04 (Soil)

Date Sampled
 09/18/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	09/18/2018	09/18/2018 19:59	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	09/18/2018	09/18/2018 19:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	96.0	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-88_6-7'_091818
V183804-05 (Soil)

Date Sampled
 09/18/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 20:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/18/2018	09/18/2018 20:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.3	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-88_14-15'_091818

V183804-06 (Soil)

Date Sampled
 09/18/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 20:28	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	09/18/2018	09/18/2018 20:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	81.9	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-88_19.5-20.5'_091818
V183804-07 (Soil)

Date Sampled
 09/18/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/18/2018	09/18/2018 20:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/18/2018	09/18/2018 20:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	81.0	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_1-2_091818

V183804-08 (Soil)

Date Sampled
 09/18/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/18/2018	09/18/2018 20:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	09/18/2018	09/18/2018 20:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.9	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_3-4_091818

Date Sampled
 09/18/2018 10:10

V183804-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/18/2018	09/18/2018 21:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.4 %		60-140	09/18/2018	09/18/2018 21:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	94.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_5-6_091818
V183804-10 (Soil)

Date Sampled
 09/18/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	09/18/2018	09/18/2018 21:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.4 %		60-140	09/18/2018	09/18/2018 21:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	88.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_7-8_091818
V183804-11 (Soil)

Date Sampled
 09/18/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
Trichloroethene	180	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/18/2018	09/18/2018 21:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/18/2018	09/18/2018 21:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	90.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_23-24_091818

V183804-12 (Soil)

Date Sampled
 09/18/2018 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/18/2018	09/18/2018 21:56	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	09/18/2018	09/18/2018 21:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	78.9	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-94_19-20_091818
V183804-13 (Soil)

Date Sampled
 09/18/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 22:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/18/2018	09/18/2018 22:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	83.1	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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 Project Number: 2815

DUP-04
V183804-14 (Soil)

Date Sampled
 09/18/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/18/2018	09/18/2018 22:25	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/18/2018	09/18/2018 22:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_1-2'_091818
V183804-15 (Soil)

Date Sampled
 09/18/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/18/2018	09/18/2018 22:39	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	09/18/2018	09/18/2018 22:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	89.8	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_2-3'_091818
V183804-16 (Soil)

Date Sampled
 09/18/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/18/2018	09/18/2018 22:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/18/2018	09/18/2018 22:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	90.9	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_3-4'_091818
V183804-17 (Soil)

Date Sampled
 09/18/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
Trichloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
1,1-Dichloroethene	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
Vinyl chloride	ND	39	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
1,4-Dioxane	ND	79	ug/kg dry	1	09/18/2018	09/18/2018 23:09	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		104 %		60-140	09/18/2018	09/18/2018 23:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	91.0	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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 Project Number: 2815

LIFHP-95_5-6'_091818
V183804-18 (Soil)

Date Sampled
 09/18/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 23:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/18/2018	09/18/2018 23:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	98.5	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_6-7'_091818
V183804-19 (Soil)

Date Sampled
 09/18/2018 15:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/18/2018	09/18/2018 23:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.5 %		60-140	09/18/2018	09/18/2018 23:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	98.1	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-95_21-22'_091818
V183804-20 (Soil)

Date Sampled
 09/18/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809013

Tetrachloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/18/2018	09/18/2018 23:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	09/18/2018	09/18/2018 23:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809014

% Solids	81.1	0.00	% by Weight	1	09/18/2018	09/19/2018 14:59	SM 2540B	
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LIFHP-96_17-21_091918

V183805-01 (Water)

Date Sampled
 09/19/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809015

Tetrachloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/19/2018	09/19/2018 21:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		106 %		60-140	09/19/2018	09/19/2018 21:49	EPA 8260B	



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LIFHP-96_12-16_091918
V183805-02 (Water)

Date Sampled
 09/19/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809015

Tetrachloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/19/2018	09/19/2018 22:03	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		107 %		60-140	09/19/2018	09/19/2018 22:03	EPA 8260B	



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LIFHP-92_14-18_091918

V183805-03 (Water)

Date Sampled
 09/19/2018 17:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809015

Tetrachloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
trans-1,2-Dichloroethene	350	20	ug/L	20	09/19/2018	09/20/2018 14:08	EPA 8260B	D
1,1-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
Vinyl chloride	84	1.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
1,4-Dioxane	13	2.0	ug/L	1	09/19/2018	09/19/2018 22:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/19/2018	09/19/2018 22:18	EPA 8260B	



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 Project Number: 2815

LIFHP-92_8.5-12.5_091918

V183805-04 (Water)

Date Sampled
 09/19/2018 17:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809015

Tetrachloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
trans-1,2-Dichloroethene	5.3	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	HC
1,1-Dichloroethene	ND	1.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
Vinyl chloride	600	20	ug/L	20	09/19/2018	09/20/2018 14:22	EPA 8260B	M1, D
1,4-Dioxane	ND	2.0	ug/L	1	09/19/2018	09/19/2018 22:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/19/2018</i>	<i>09/19/2018 22:32</i>	<i>EPA 8260B</i>	



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LIFHP-96_1-2_091918

V183806-01 (Soil)

Date Sampled
 09/19/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/19/2018	09/19/2018 23:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/19/2018	09/19/2018 23:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	92.6	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_3-4_091918

Date Sampled
 09/19/2018 09:35

V183806-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %		60-140	09/19/2018	09/20/2018 00:00	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	92.1	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_5-6_091918
V183806-03 (Soil)

Date Sampled
 09/19/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		77.5 %		60-140	09/19/2018	09/20/2018 00:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	96.6	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_6-7_091918

V183806-04 (Soil)

Date Sampled
 09/19/2018 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
cis-1,2-Dichloroethene	53	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		72.0 %		60-140	09/19/2018	09/20/2018 00:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	97.4	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-96_9-10_091918
V183806-05 (Soil)

Date Sampled
 09/19/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		82.0 %		60-140	09/19/2018	09/20/2018 00:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	83.9	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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DUP-06_091918

Date Sampled

V183806-06 (Soil)

09/19/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
cis-1,2-Dichloroethene	79	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 00:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		68.3 %		60-140	09/19/2018	09/20/2018 00:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	97.5	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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 Project Number: 2815

LIFHP-96_21-22_091918
V183806-07 (Soil)

Date Sampled
 09/19/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/19/2018	09/20/2018 01:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.7 %		60-140	09/19/2018	09/20/2018 01:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	82.4	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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 Project Number: 2815

LIFHP-96_23-24_091918

V183806-08 (Soil)

Date Sampled
 09/19/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/19/2018	09/20/2018 01:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		80.3 %		60-140	09/19/2018	09/20/2018 01:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	82.9	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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 Project Number: 2815

LIFHP-92_1-2_091918

V183806-09 (Soil)

Date Sampled
 09/19/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/19/2018	09/20/2018 01:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>81.4 %</i>		<i>60-140</i>	<i>09/19/2018</i>	<i>09/20/2018 01:42</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	95.3	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_3-4_091918

V183806-10 (Soil)

Date Sampled
 09/19/2018 16:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/19/2018	09/20/2018 01:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.3 %		60-140	09/19/2018	09/20/2018 01:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	84.6	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_4-5_091918

V183806-11 (Soil)

Date Sampled
 09/19/2018 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/19/2018	09/20/2018 02:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.9 %		60-140	09/19/2018	09/20/2018 02:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	91.1	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_6-7_091918

V183806-12 (Soil)

Date Sampled
 09/19/2018 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
Trichloroethene	120	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
cis-1,2-Dichloroethene	69	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/19/2018	09/20/2018 02:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		78.8 %		60-140	09/19/2018	09/20/2018 02:26	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	92.0	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_20-21_091918
V183806-13 (Soil)

Date Sampled
 09/19/2018 17:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
Vinyl chloride	110	46	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/19/2018	09/20/2018 02:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		82.0 %		60-140	09/19/2018	09/20/2018 02:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	82.5	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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LIFHP-92_22-23_091918
V183806-14 (Soil)

Date Sampled
 09/19/2018 17:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809016

Tetrachloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	09/19/2018	09/20/2018 02:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		79.7 %		60-140	09/19/2018	09/20/2018 02:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809017

% Solids	82.2	0.00	% by Weight	1	09/19/2018	09/20/2018 08:54	SM 2540B	
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SB-100_18-22_092018

Date Sampled

V183807-01 (Water)

09/20/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809018

Tetrachloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
1,4-Dioxane	16	2.0	ug/L	1	09/20/2018	09/20/2018 17:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/20/2018	09/20/2018 17:08	EPA 8260B	



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SB-100_13-17_092018

Date Sampled
 09/20/2018 14:50

V183807-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809018

Tetrachloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/20/2018	09/20/2018 16:39	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	09/20/2018	09/20/2018 16:39	EPA 8260B	



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SB-100_8-12_092018

Date Sampled
 09/20/2018 15:20

V183807-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809018

Tetrachloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/20/2018	09/20/2018 16:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.1 %		60-140	09/20/2018	09/20/2018 16:24	EPA 8260B	



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DUP-07-092018

Date Sampled

V183807-04 (Water)

09/20/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809018

Tetrachloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/20/2018	09/20/2018 16:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/20/2018	09/20/2018 16:54	EPA 8260B	



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SB-100_1-2_092018

Date Sampled
 09/20/2018 14:45

V183808-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/20/2018	09/20/2018 18:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/20/2018	09/20/2018 18:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	91.3	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_3-4_092018

Date Sampled
 09/20/2018 14:50

V183808-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/20/2018	09/20/2018 19:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/20/2018	09/20/2018 19:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	94.6	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_6-7_092018

V183808-03 (Soil)

Date Sampled
 09/20/2018 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/20/2018	09/20/2018 19:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/20/2018	09/20/2018 19:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	86.5	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_9-10_092018
V183808-04 (Soil)

Date Sampled
 09/20/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	M, X
Trichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	X
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/20/2018	09/20/2018 19:34	EPA 8260B	X
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	09/20/2018	09/20/2018 19:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	81.4	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_18-19_092018

Date Sampled
 09/20/2018 15:20

V183808-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/20/2018	09/20/2018 19:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	09/20/2018	09/20/2018 19:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	81.9	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_19-20_092018

V183808-06 (Soil)

Date Sampled
 09/20/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/20/2018	09/20/2018 20:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.7 %		60-140	09/20/2018	09/20/2018 20:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	81.5	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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SB-100_21-22_092018

V183808-07 (Soil)

Date Sampled
 09/20/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809019

Tetrachloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/20/2018	09/20/2018 20:18	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		87.0 %		60-140	09/20/2018	09/20/2018 20:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809020

% Solids	81.5	0.00	% by Weight	1	09/20/2018	09/21/2018 08:21	SM 2540B	
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LIFHP-90_13-17_092118

V183809-01 (Water)

Date Sampled
 09/21/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809021

Tetrachloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
trans-1,2-Dichloroethene	2.7	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
Vinyl chloride	66	1.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/21/2018	09/21/2018 18:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/21/2018	09/21/2018 18:57	EPA 8260B	



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LIFHP-90_8-12_092118
V183809-02 (Water)

Date Sampled
 09/21/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809021

Tetrachloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
Vinyl chloride	1.4	1.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/21/2018	09/21/2018 18:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/21/2018</i>	<i>09/21/2018 18:42</i>	<i>EPA 8260B</i>	



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LIFHP-90_1-2_092118

V183810-01 (Soil)

Date Sampled
 09/21/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/21/2018	09/21/2018 17:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		60-140	09/21/2018	09/21/2018 17:00	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	94.1	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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LIFHP-90_3-4_092118

Date Sampled
 09/21/2018 10:40

V183810-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/21/2018	09/21/2018 17:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>110 %</i>		<i>60-140</i>	<i>09/21/2018</i>	<i>09/21/2018 17:15</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	90.9	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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LIFHP-90_5-6_092118

V183810-03 (Soil)

Date Sampled
 09/21/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/21/2018	09/21/2018 17:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %		60-140	09/21/2018	09/21/2018 17:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	95.0	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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LIFHP-90_7-8_092118

V183810-04 (Soil)

Date Sampled
 09/21/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/21/2018	09/21/2018 17:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/21/2018	09/21/2018 17:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	85.1	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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LIFHP-90_22-23_092118

Date Sampled
 09/21/2018 10:55

V183810-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809022

Tetrachloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
Vinyl chloride	340	47	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/21/2018	09/21/2018 17:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>112 %</i>		<i>60-140</i>	<i>09/21/2018</i>	<i>09/21/2018 17:58</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809023

% Solids	78.8	0.00	% by Weight	1	09/21/2018	09/24/2018 07:48	SM 2540B	
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SB-101_1-2_092418

V183901-01 (Soil)

Date Sampled
 09/24/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/24/2018	09/24/2018 17:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 17:42</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	95.4	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_2-3_092418

V183901-02 (Soil)

Date Sampled
 09/24/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/24/2018	09/24/2018 17:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 17:57</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	95.1	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_4-5_092418

V183901-03 (Soil)

Date Sampled
 09/24/2018 15:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/24/2018	09/24/2018 18:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/24/2018	09/24/2018 18:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	94.4	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_6-7_092418

V183901-04 (Soil)

Date Sampled
 09/24/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
Trichloroethene	89	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/24/2018	09/24/2018 18:26	EPA 8260B	X
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 18:26</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	84.2	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_19-20_092418

V183901-05 (Soil)

Date Sampled
 09/24/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
cis-1,2-Dichloroethene	2400	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
trans-1,2-Dichloroethene	650	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/24/2018	09/24/2018 18:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/24/2018	09/24/2018 18:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	83.2	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_21-22_092418

V183901-06 (Soil)

Date Sampled
 09/24/2018 16:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
Trichloroethene	23000	500	ug/kg dry	10	09/24/2018	09/25/2018 09:47	EPA 8260B	D
cis-1,2-Dichloroethene	11000	500	ug/kg dry	10	09/24/2018	09/25/2018 09:47	EPA 8260B	D
trans-1,2-Dichloroethene	940	50	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/24/2018	09/24/2018 18:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 18:55</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	79.5	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_24-25_092418

V183901-07 (Soil)

Date Sampled
 09/24/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
Trichloroethene	25000	990	ug/kg dry	20	09/24/2018	09/25/2018 10:02	EPA 8260B	D
cis-1,2-Dichloroethene	6900	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
trans-1,2-Dichloroethene	640	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/24/2018	09/24/2018 19:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>	<i>60-140</i>		<i>09/24/2018</i>	<i>09/24/2018 19:10</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	81.2	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_26-27_092418

V183901-08 (Soil)

Date Sampled
 09/24/2018 16:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809025

Tetrachloroethene	ND	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
Trichloroethene	150	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
cis-1,2-Dichloroethene	52	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/24/2018	09/24/2018 19:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/24/2018</i>	<i>09/24/2018 19:24</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809026

% Solids	83.3	0.00	% by Weight	1	09/24/2018	09/25/2018 07:55	SM 2540B	
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SB-101_19-23_092518

Date Sampled
 09/25/2018 09:40

V183902-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	100	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	
Trichloroethene	53000	1000	ug/L	1000	09/25/2018	09/25/2018 14:20	EPA 8260B	D
cis-1,2-Dichloroethene	43000	1000	ug/L	1000	09/25/2018	09/25/2018 14:20	EPA 8260B	D
trans-1,2-Dichloroethene	2800	100	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	
Vinyl chloride	130	100	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/25/2018	09/25/2018 12:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 12:09</i>	<i>EPA 8260B</i>	



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SB-101_14-18_092518

V183902-02 (Water)

Date Sampled
 09/25/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	10	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	
Trichloroethene	3000	100	ug/L	100	09/25/2018	09/25/2018 11:55	EPA 8260B	D
cis-1,2-Dichloroethene	4600	100	ug/L	100	09/25/2018	09/25/2018 11:55	EPA 8260B	D
trans-1,2-Dichloroethene	480	10	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	
Vinyl chloride	18	10	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	D
1,4-Dioxane	ND	20	ug/L	10	09/25/2018	09/25/2018 12:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 12:24</i>	<i>EPA 8260B</i>	



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SB-101_9-13_092518

Date Sampled
 09/25/2018 10:20

V183902-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	
Trichloroethene	410	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	D
cis-1,2-Dichloroethene	410	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	D
trans-1,2-Dichloroethene	34	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	
Vinyl chloride	ND	10	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	
1,4-Dioxane	ND	20	ug/L	10	09/25/2018	09/25/2018 11:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 11:40</i>	<i>EPA 8260B</i>	



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SB-102_9-13_092518

Date Sampled

V183902-04 (Water)

09/25/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/25/2018	09/25/2018 16:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	09/25/2018	09/25/2018 16:17	EPA 8260B	



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SB-102_14-18_092518

Date Sampled
 09/25/2018 14:25

V183902-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/25/2018	09/25/2018 16:32	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		106 %		60-140	09/25/2018	09/25/2018 16:32	EPA 8260B	



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SB-102_18-22_092518

Date Sampled
 09/25/2018 13:56

V183902-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809027

Tetrachloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/25/2018	09/25/2018 16:46	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.3 %		60-140	09/25/2018	09/25/2018 16:46	EPA 8260B	



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SB-102_1-2_092518

V183903-01 (Soil)

Date Sampled
 09/25/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/25/2018	09/25/2018 17:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/25/2018	09/25/2018 17:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	94.3	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_2-3_092518

V183903-02 (Soil)

Date Sampled
 09/25/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	09/25/2018	09/25/2018 17:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/25/2018	09/25/2018 17:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	92.8	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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 Project Number: 2815

SB-102_4-5_092518

V183903-03 (Soil)

Date Sampled
 09/25/2018 12:18

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/25/2018	09/25/2018 17:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 17:59</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	94.1	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_6-7_092518
V183903-04 (Soil)

Date Sampled
 09/25/2018 12:24

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/25/2018	09/25/2018 18:14	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		107 %		60-140	09/25/2018	09/25/2018 18:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	91.2	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_14-15_092518

V183903-05 (Soil)

Date Sampled
 09/25/2018 12:28

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/25/2018	09/25/2018 18:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/25/2018	09/25/2018 18:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	81.2	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_20-21_092518

V183903-06 (Soil)

Date Sampled
 09/25/2018 12:31

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/25/2018	09/25/2018 18:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/25/2018</i>	<i>09/25/2018 18:43</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	80.9	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-102_25-26_092518

V183903-07 (Soil)

Date Sampled
 09/25/2018 12:33

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
Trichloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
1,1-Dichloroethene	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
Vinyl chloride	ND	38	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
1,4-Dioxane	ND	76	ug/kg dry	1	09/25/2018	09/25/2018 18:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/25/2018	09/25/2018 18:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	87.6	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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DUP-08_092518

Date Sampled

V183903-08 (Soil)

09/25/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809028

Tetrachloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/25/2018	09/25/2018 19:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	09/25/2018	09/25/2018 19:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809029

% Solids	93.4	0.00	% by Weight	1	09/25/2018	09/26/2018 08:12	SM 2540B	
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SB-103_17-21_092618

V183904-01 (Water)

Date Sampled
 09/26/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809030

Tetrachloroethene	ND	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	
Trichloroethene	16	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	D
cis-1,2-Dichloroethene	6200	100	ug/L	100	09/26/2018	09/26/2018 13:14	EPA 8260B	D
trans-1,2-Dichloroethene	1000	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	
Vinyl chloride	780	10	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	D
1,4-Dioxane	ND	20	ug/L	10	09/26/2018	09/26/2018 16:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 16:54</i>	<i>EPA 8260B</i>	



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DUP-09_092618

Date Sampled

V183904-03 (Water)

09/26/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809030

Tetrachloroethene	ND	100	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	
Trichloroethene	19000	1000	ug/L	1000	09/26/2018	09/27/2018 13:32	EPA 8260B	D
cis-1,2-Dichloroethene	86000	1000	ug/L	1000	09/26/2018	09/27/2018 13:32	EPA 8260B	D
trans-1,2-Dichloroethene	3300	100	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	
Vinyl chloride	1700	100	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/26/2018	09/27/2018 13:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/27/2018 13:13</i>	<i>EPA 8260B</i>	



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SB-104_17-21_092618

V183904-04 (Water)

Date Sampled
 09/26/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809030

Tetrachloroethene	ND	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	
Trichloroethene	40	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	D
cis-1,2-Dichloroethene	2600	100	ug/L	100	09/26/2018	09/26/2018 17:23	EPA 8260B	M1, D
trans-1,2-Dichloroethene	270	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	
Vinyl chloride	41	10	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	D
1,4-Dioxane	ND	20	ug/L	10	09/26/2018	09/26/2018 21:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 21:46</i>	<i>EPA 8260B</i>	



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SB-104_10-14_092618

Date Sampled
 09/26/2018 16:25

V183904-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809030

Tetrachloroethene	ND	100	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	
Trichloroethene	22000	1000	ug/L	1000	09/26/2018	09/26/2018 18:51	EPA 8260B	D
cis-1,2-Dichloroethene	93000	1000	ug/L	1000	09/26/2018	09/26/2018 18:51	EPA 8260B	D
trans-1,2-Dichloroethene	3300	100	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	
Vinyl chloride	1400	100	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/26/2018	09/26/2018 17:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 17:08</i>	<i>EPA 8260B</i>	



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SB-103_1-2_092618

V183905-01 (Soil)

Date Sampled
 09/26/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/26/2018	09/26/2018 14:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/26/2018	09/26/2018 14:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	91.7	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_3-4_092618

V183905-02 (Soil)

Date Sampled
 09/26/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
cis-1,2-Dichloroethene	65	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/26/2018	09/26/2018 15:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 15:12</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	85.3	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_5-6_092618

Date Sampled
 09/26/2018 09:25

V183905-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/26/2018	09/26/2018 15:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/26/2018	09/26/2018 15:26	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	90.1	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_7-8_092618

V183905-04 (Soil)

Date Sampled
 09/26/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 14:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		104 %		60-140	09/26/2018	09/26/2018 14:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	86.4	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_9-10_092618
V183905-05 (Soil)

Date Sampled
 09/26/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
cis-1,2-Dichloroethene	1200	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
trans-1,2-Dichloroethene	350	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
Vinyl chloride	260	49	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/26/2018	09/26/2018 15:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 15:55</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	84.4	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_18-19_092618

V183905-06 (Soil)

Date Sampled
 09/26/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
Trichloroethene	20000	500	ug/kg dry	10	09/26/2018	09/26/2018 14:43	EPA 8260B	D
cis-1,2-Dichloroethene	12000	500	ug/kg dry	10	09/26/2018	09/26/2018 14:43	EPA 8260B	D
trans-1,2-Dichloroethene	360	50	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/26/2018	09/26/2018 18:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 18:21</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	81.2	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_21-22_092618

V183905-07 (Soil)

Date Sampled
 09/26/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
Trichloroethene	78	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
cis-1,2-Dichloroethene	11000	490	ug/kg dry	10	09/26/2018	09/26/2018 15:41	EPA 8260B	D
trans-1,2-Dichloroethene	2200	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
Vinyl chloride	380	49	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/26/2018	09/26/2018 16:39	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 103 % 60-140 09/26/2018 09/26/2018 16:39 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	80.0	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_25-26_092618

V183905-08 (Soil)

Date Sampled
 09/26/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
Trichloroethene	1100	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
cis-1,2-Dichloroethene	650	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	09/26/2018	09/26/2018 16:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 16:10</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	82.2	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-103_27-28_092618

V183905-09 (Soil)

Date Sampled
 09/26/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/26/2018	09/26/2018 16:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/26/2018	09/26/2018 16:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	78.2	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_1-2_092618

V183905-10 (Soil)

Date Sampled
 09/26/2018 15:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 19:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	09/26/2018	09/26/2018 19:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	86.0	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_3-4_092618

V183905-11 (Soil)

Date Sampled
 09/26/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/26/2018	09/26/2018 19:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.4 %		60-140	09/26/2018	09/26/2018 19:20	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	87.8	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_5-6_092618

V183905-12 (Soil)

Date Sampled
09/26/2018 15:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/26/2018	09/26/2018 19:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>117 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 19:34</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	93.3	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_7-8_092618

V183905-13 (Soil)

Date Sampled
 09/26/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 19:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	09/26/2018	09/26/2018 19:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	96.6	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_9-10_092618
V183905-14 (Soil)

Date Sampled
 09/26/2018 16:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
trans-1,2-Dichloroethene	160	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
Vinyl chloride	370	50	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/26/2018	09/26/2018 20:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>124 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 20:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	85.7	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_16-17_092618

V183905-15 (Soil)

Date Sampled
 09/26/2018 16:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
Trichloroethene	830000	20000	ug/kg dry	400	09/26/2018	09/26/2018 17:38	EPA 8260B	D
cis-1,2-Dichloroethene	910000	20000	ug/kg dry	400	09/26/2018	09/26/2018 17:38	EPA 8260B	D
trans-1,2-Dichloroethene	840	51	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 20:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 20:47</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	81.6	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-104_19-20_092618

V183905-16 (Soil)

Date Sampled
 09/26/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
Trichloroethene	32000	500	ug/kg dry	10	09/26/2018	09/27/2018 12:29	EPA 8260B	D
cis-1,2-Dichloroethene	15000	500	ug/kg dry	10	09/26/2018	09/27/2018 12:29	EPA 8260B	D
trans-1,2-Dichloroethene	750	50	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/26/2018	09/26/2018 20:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 20:33</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	81.3	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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 Project Number: 2815

SB-104_23-24_092618

V183905-17 (Soil)

Date Sampled
 09/26/2018 16:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809031

Tetrachloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
Trichloroethene	63	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	09/26/2018	09/26/2018 20:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>09/26/2018</i>	<i>09/26/2018 20:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809032

% Solids	84.2	0.00	% by Weight	1	09/26/2018	09/27/2018 10:10	SM 2540B	
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SB-105_18-22_092718

V183906-01 (Water)

Date Sampled
 09/27/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	100	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	
Trichloroethene	58000	1000	ug/L	1000	09/27/2018	09/27/2018 16:11	EPA 8260B	D
cis-1,2-Dichloroethene	66000	1000	ug/L	1000	09/27/2018	09/27/2018 16:11	EPA 8260B	D
trans-1,2-Dichloroethene	2400	100	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	
Vinyl chloride	100	100	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/27/2018	09/27/2018 15:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>125 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 15:42</i>	<i>EPA 8260B</i>	



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SB-105_13-17_092718

V183906-02 (Water)

Date Sampled
 09/27/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	
Trichloroethene	12000	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	D
cis-1,2-Dichloroethene	26000	1000	ug/L	1000	09/27/2018	09/27/2018 16:40	EPA 8260B	D
trans-1,2-Dichloroethene	780	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	
Vinyl chloride	970	100	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/27/2018	09/27/2018 15:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>124 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 15:56</i>	<i>EPA 8260B</i>	



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SB-105_8-12_092718
V183906-03 (Water)

Date Sampled
 09/27/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	
Trichloroethene	990	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	M, D
cis-1,2-Dichloroethene	2600	100	ug/L	100	09/27/2018	09/27/2018 16:25	EPA 8260B	M1, D
trans-1,2-Dichloroethene	120	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	D
1,1-Dichloroethene	ND	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	
Vinyl chloride	180	10	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	D
1,4-Dioxane	ND	20	ug/L	10	09/27/2018	09/27/2018 17:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 17:24</i>	<i>EPA 8260B</i>	



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LIFHP-105_20-24_092718

V183906-04 (Water)

Date Sampled
 09/27/2018 18:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
Vinyl chloride	4.0	1.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 21:21	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 103 % 60-140 09/27/2018 09/27/2018 21:21 EPA 8260B



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LIFHP-105_15-19_092718

V183906-05 (Water)

Date Sampled
 09/27/2018 18:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
cis-1,2-Dichloroethene	1000	40	ug/L	40	09/27/2018	09/28/2018 12:29	EPA 8260B	D
trans-1,2-Dichloroethene	26	1.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
1,1-Dichloroethene	3.7	1.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
Vinyl chloride	2100	40	ug/L	40	09/27/2018	09/28/2018 12:29	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 21:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 21:06</i>	<i>EPA 8260B</i>	



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LIFHP-105_10-14_092718
V183906-06 (Water)

Date Sampled
 09/27/2018 19:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	
cis-1,2-Dichloroethene	410	20	ug/L	20	09/27/2018	09/27/2018 21:36	EPA 8260B	D
trans-1,2-Dichloroethene	28	1.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	
1,1-Dichloroethene	1.4	1.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	
Vinyl chloride	2100	20	ug/L	20	09/27/2018	09/27/2018 21:36	EPA 8260B	D
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 20:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 20:20</i>	<i>EPA 8260B</i>	



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LIFHP-97_18-22_092718
V183906-07 (Water)

Date Sampled
 09/27/2018 20:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
Trichloroethene	40	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
cis-1,2-Dichloroethene	28	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
trans-1,2-Dichloroethene	10	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
Vinyl chloride	9.7	1.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 21:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 21:50</i>	<i>EPA 8260B</i>	



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LIFHP-97_13-17_092718
V183906-08 (Water)

Date Sampled
 09/27/2018 20:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809033

Tetrachloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
Trichloroethene	27	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
cis-1,2-Dichloroethene	14	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
trans-1,2-Dichloroethene	370	20	ug/L	20	09/27/2018	09/28/2018 11:02	EPA 8260B	D
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
Vinyl chloride	8.4	1.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/27/2018	09/27/2018 22:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 22:05</i>	<i>EPA 8260B</i>	



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SB-105_1-2_092718

V183907-01 (Soil)

Date Sampled
 09/27/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/27/2018	09/27/2018 17:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/27/2018	09/27/2018 17:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	92.9	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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SB-105_3-4_092718

V183907-02 (Soil)

Date Sampled
 09/27/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	09/27/2018	09/27/2018 17:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.8 %		60-140	09/27/2018	09/27/2018 17:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	91.7	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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SB-105_5-6_092718

Date Sampled
 09/27/2018 14:10

V183907-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/27/2018	09/27/2018 17:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/27/2018	09/27/2018 17:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	93.2	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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SB-105_6-7_092718

V183907-04 (Soil)

Date Sampled
 09/27/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
Trichloroethene	1100	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
cis-1,2-Dichloroethene	64	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/27/2018	09/27/2018 18:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/27/2018 18:07</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	93.3	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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SB-105_20-21_092718

V183907-05 (Soil)

Date Sampled
 09/27/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	44	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	
Trichloroethene	29000	440	ug/kg dry	10	09/27/2018	09/27/2018 16:54	EPA 8260B	D
cis-1,2-Dichloroethene	28000	440	ug/kg dry	10	09/27/2018	09/27/2018 16:54	EPA 8260B	D
trans-1,2-Dichloroethene	4000	44	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	
1,1-Dichloroethene	48	44	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	
Vinyl chloride	44	44	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	09/27/2018	09/27/2018 19:35	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 104 % 60-140 09/27/2018 09/27/2018 19:35 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	83.3	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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 Project Number: 2815

SB-105_22-23_092718

V183907-06 (Soil)

Date Sampled
 09/27/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
Trichloroethene	63	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
cis-1,2-Dichloroethene	2400	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
trans-1,2-Dichloroethene	210	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	09/27/2018	09/27/2018 18:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>	<i>60-140</i>		<i>09/27/2018</i>	<i>09/27/2018 18:22</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	84.4	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-105_1-2_092718
V183907-07 (Soil)

Date Sampled
 09/27/2018 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/27/2018	09/27/2018 22:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	09/27/2018	09/27/2018 22:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	96.9	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-105_3-4_092718
V183907-08 (Soil)

Date Sampled
 09/27/2018 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	09/27/2018	09/27/2018 22:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		104 %		60-140	09/27/2018	09/27/2018 22:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	95.4	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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 Project Number: 2815

LIFHP-105_5-6_092718
V183907-09 (Soil)

Date Sampled
 09/27/2018 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/27/2018	09/27/2018 23:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	09/27/2018	09/27/2018 23:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	92.6	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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 Project Number: 2815

LIFHP-105_7-8_092718
V183907-10 (Soil)

Date Sampled
 09/27/2018 17:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/27/2018	09/27/2018 23:18	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		88.7 %		60-140	09/27/2018	09/27/2018 23:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	95.3	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-105_9-10_092718
V183907-11 (Soil)

Date Sampled
 09/27/2018 17:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/27/2018	09/27/2018 23:32	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		125 %		60-140	09/27/2018	09/27/2018 23:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	84.2	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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 Project Number: 2815

LIFHP-105_20-21_092718
V183907-12 (Soil)

Date Sampled
 09/27/2018 17:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
cis-1,2-Dichloroethene	3500	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
trans-1,2-Dichloroethene	140	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
Vinyl chloride	2100	45	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	09/27/2018	09/28/2018 13:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/28/2018 13:28</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	82.4	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

DUP-10_092718
V183907-13 (Soil)

Date Sampled
 09/27/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/27/2018	09/28/2018 00:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		86.3 %		60-140	09/27/2018	09/28/2018 00:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	90.4	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_1-2_092718
V183907-14 (Soil)

Date Sampled
 09/27/2018 18:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/27/2018	09/28/2018 00:16	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		123 %		60-140	09/27/2018	09/28/2018 00:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	94.3	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_2-3_092718

V183907-15 (Soil)

Date Sampled
 09/27/2018 19:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/27/2018	09/28/2018 00:31	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.6 %		60-140	09/27/2018	09/28/2018 00:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	91.6	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_5-6_092718

V183907-16 (Soil)

Date Sampled
 09/27/2018 19:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	09/27/2018	09/28/2018 00:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	09/27/2018	09/28/2018 00:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	93.8	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_8-9_092718
V183907-17 (Soil)

Date Sampled
 09/27/2018 19:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
Trichloroethene	63	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
1,1-Dichloroethene	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
Vinyl chloride	ND	57	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/27/2018	09/28/2018 12:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.9 %		60-140	09/27/2018	09/28/2018 12:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	84.2	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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LIFHP-97_10-11_092718
V183907-18 (Soil)

Date Sampled
 09/27/2018 19:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	09/27/2018	09/28/2018 12:44	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	09/27/2018	09/28/2018 12:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	85.6	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-97_20-21_092718

V183907-19 (Soil)

Date Sampled
 09/27/2018 19:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809034

Tetrachloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
Vinyl chloride	61	48	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/27/2018	09/28/2018 12:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>09/27/2018</i>	<i>09/28/2018 12:58</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809035

% Solids	79.7	0.00	% by Weight	1	09/27/2018	09/28/2018 10:17	SM 2540B	
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 Project Number: 2815

LIFHP-106_15-19_092718
V183908-01 (Water)

Date Sampled
 09/27/2018 23:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/28/2018	09/28/2018 13:57	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		104 %		60-140	09/28/2018	09/28/2018 13:57	EPA 8260B	



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LIFHP-106_10-14_092718
V183908-02 (Water)

Date Sampled
 09/27/2018 23:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	09/28/2018	09/28/2018 14:26	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	09/28/2018	09/28/2018 14:26	EPA 8260B	



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 Project Number: 2815

LIFHP-106_1-2_092718
V183909-01 (Soil)

Date Sampled
 09/27/2018 20:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/28/2018	09/28/2018 14:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/28/2018	09/28/2018 14:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	96.5	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-106_2-3_092718
V183909-02 (Soil)

Date Sampled
 09/27/2018 20:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/28/2018	09/28/2018 16:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/28/2018	09/28/2018 16:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	86.3	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-106_5-6_092718
V183909-03 (Soil)

Date Sampled
 09/27/2018 20:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	09/28/2018	09/28/2018 16:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.6 %		60-140	09/28/2018	09/28/2018 16:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	85.2	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-106_6-7_092718
V183909-04 (Soil)

Date Sampled
 09/27/2018 21:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	09/28/2018	09/28/2018 16:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		92.3 %		60-140	09/28/2018	09/28/2018 16:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	97.1	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-106_7-8_092718
V183909-05 (Soil)

Date Sampled
 09/27/2018 21:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/28/2018	09/28/2018 17:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		88.3 %		60-140	09/28/2018	09/28/2018 17:06	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	93.8	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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 Project Number: 2815

LIFHP-106_25-26_092718
V183909-06 (Soil)

Date Sampled
 09/27/2018 22:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

CN

Tetrachloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/28/2018	09/28/2018 17:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>127 %</i>	<i>60-140</i>		<i>09/28/2018</i>	<i>09/28/2018 17:21</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	77.8	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_1-2_092818
V183910-01 (Soil)

Date Sampled
 09/28/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	09/28/2018	09/28/2018 15:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	09/28/2018	09/28/2018 15:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	97.6	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_4-5_092818
V183910-02 (Soil)

Date Sampled
 09/28/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
Trichloroethene	420	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
cis-1,2-Dichloroethene	4700	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
trans-1,2-Dichloroethene	570	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
1,1-Dichloroethene	110	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
Vinyl chloride	ND	62	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	09/28/2018	09/28/2018 17:35	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 91.7 % 60-140 09/28/2018 09/28/2018 17:35 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	88.7	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_7-8_092818
V183910-03 (Soil)

Date Sampled
 09/28/2018 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
Trichloroethene	120	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
cis-1,2-Dichloroethene	410	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	09/28/2018	09/28/2018 17:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 17:50</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	89.3	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_10-11_092818
V183910-04 (Soil)

Date Sampled
 09/28/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
Trichloroethene	53	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
trans-1,2-Dichloroethene	200	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	09/28/2018	09/28/2018 18:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.3 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 18:04</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	90.5	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_12-13_092818
V183910-05 (Soil)

Date Sampled
 09/28/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
cis-1,2-Dichloroethene	1200	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
Vinyl chloride	150	52	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/28/2018	09/28/2018 18:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>127 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 18:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	84.7	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_23-24_092818

V183910-06 (Soil)

Date Sampled
09/28/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
Vinyl chloride	400	46	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	09/28/2018	09/28/2018 18:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.0 %		60-140	09/28/2018	09/28/2018 18:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	82.0	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_25-26_092818

V183910-07 (Soil)

Date Sampled
 09/28/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809037

Tetrachloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	09/28/2018	09/28/2018 18:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	09/28/2018	09/28/2018 18:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V809038

% Solids	78.2	0.00	% by Weight	1	09/28/2018	10/01/2018 07:51	SM 2540B	
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LIFHP-100_26-30_092818
V183911-01 (Water)

Date Sampled
 09/28/2018 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
Trichloroethene	13	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
cis-1,2-Dichloroethene	5.0	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
Vinyl chloride	51	1.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
1,4-Dioxane	19	2.0	ug/L	1	09/28/2018	09/28/2018 19:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 19:17</i>	<i>EPA 8260B</i>	



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LIFHP-100_21-25_092818

V183911-02 (Water)

Date Sampled
 09/28/2018 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
Trichloroethene	8.9	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
cis-1,2-Dichloroethene	4.5	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
Vinyl chloride	130	1.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	
1,4-Dioxane	50	2.0	ug/L	1	09/28/2018	09/28/2018 19:03	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 101 % 60-140 09/28/2018 09/28/2018 19:03 EPA 8260B



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LIFHP-100_14-18_092818
V183911-03 (Water)

Date Sampled
 09/28/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
cis-1,2-Dichloroethene	480	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
Vinyl chloride	19000	100	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/28/2018	09/28/2018 14:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 14:55</i>	<i>EPA 8260B</i>	



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DUP-11_092818

Date Sampled

V183911-04 (Water)

09/28/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V809036

Tetrachloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
cis-1,2-Dichloroethene	660	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
Vinyl chloride	17000	100	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	09/28/2018	09/28/2018 15:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>09/28/2018</i>	<i>09/28/2018 15:53</i>	<i>EPA 8260B</i>	



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LIFHP-99_1-2_100118

V184001-01 (Soil)

Date Sampled
 10/01/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.2 %		60-140	10/01/2018	10/01/2018 14:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	96.7	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_3-4_100118
V184001-02 (Soil)

Date Sampled
 10/01/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 14:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.5 %		60-140	10/01/2018	10/01/2018 14:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	94.5	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_6-7_100118
V184001-03 (Soil)

Date Sampled
 10/01/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/01/2018	10/01/2018 14:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/01/2018	10/01/2018 14:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	90.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_10-11_100118
V184001-04 (Soil)

Date Sampled
 10/01/2018 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/01/2018	10/01/2018 15:33	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		88.5 %		60-140	10/01/2018	10/01/2018 15:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	94.6	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_11-12_100118
V184001-05 (Soil)

Date Sampled
 10/01/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/01/2018	10/01/2018 15:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.4 %		60-140	10/01/2018	10/01/2018 15:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	87.4	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_19-20_100118

V184001-06 (Soil)

Date Sampled
 10/01/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
cis-1,2-Dichloroethene	5500	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
Vinyl chloride	2200	50	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/01/2018	10/01/2018 16:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>124 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 16:02</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	80.6	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-99_28-29_100118

V184001-07 (Soil)

Date Sampled
 10/01/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/01/2018	10/01/2018 16:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/01/2018	10/01/2018 16:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	82.6	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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 Project Number: 2815

LIFHP-103_1-2_100118
V184001-08 (Soil)

Date Sampled
 10/01/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/01/2018	10/01/2018 18:57	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.5 %		60-140	10/01/2018	10/01/2018 18:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	95.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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 Project Number: 2815

LIFHP-103_3-4_100118
V184001-09 (Soil)

Date Sampled
 10/01/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/01/2018	10/01/2018 19:12	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		106 %		60-140	10/01/2018	10/01/2018 19:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	89.1	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-103_6-7_100118
V184001-10 (Soil)

Date Sampled
 10/01/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/01/2018	10/01/2018 19:26	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		106 %		60-140	10/01/2018	10/01/2018 19:26	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	93.7	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-103_7-8_100118
V184001-11 (Soil)

Date Sampled
 10/01/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/01/2018	10/01/2018 19:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.3 %		60-140	10/01/2018	10/01/2018 19:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	96.7	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-103_9-10_100118

V184001-12 (Soil)

Date Sampled
 10/01/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 19:55	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/01/2018	10/01/2018 19:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	87.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-103_25-26_100118

V184001-13 (Soil)

Date Sampled
 10/01/2018 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 20:10	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	10/01/2018	10/01/2018 20:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	81.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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DUP-12_100118

Date Sampled

V184001-14 (Soil)

10/01/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810002

Tetrachloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/01/2018	10/01/2018 20:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/01/2018	10/01/2018 20:24	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810003

% Solids	83.1	0.00	% by Weight	1	10/01/2018	10/02/2018 08:08	SM 2540B	
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LIFHP-98_1-2_100118
V184001-15 (Soil)

Date Sampled
 10/01/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/01/2018	10/01/2018 21:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/01/2018	10/01/2018 21:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	97.5	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_5-6_100118
V184001-16 (Soil)

Date Sampled
 10/01/2018 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/01/2018	10/01/2018 21:23	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.1 %		60-140	10/01/2018	10/01/2018 21:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	92.4	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_7-8_100118
V184001-17 (Soil)

Date Sampled
 10/01/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/01/2018	10/01/2018 21:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		116 %		60-140	10/01/2018	10/01/2018 21:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	95.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_9-10_100118
V184001-18 (Soil)

Date Sampled
 10/01/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
trans-1,2-Dichloroethene	74	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
1,4-Dioxane	200	85	ug/kg dry	1	10/01/2018	10/02/2018 11:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.5 %		60-140	10/01/2018	10/02/2018 11:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	97.1	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_11-12_100118
V184001-19 (Soil)

Date Sampled
 10/01/2018 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/01/2018	10/01/2018 22:07	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		86.9 %		60-140	10/01/2018	10/01/2018 22:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	96.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_19-20_100118

V184001-20 (Soil)

Date Sampled
10/01/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	
Trichloroethene	460000	19000	ug/kg dry	400	10/01/2018	10/02/2018 12:08	EPA 8260B	D
cis-1,2-Dichloroethene	800000	19000	ug/kg dry	400	10/01/2018	10/02/2018 12:08	EPA 8260B	D
trans-1,2-Dichloroethene	58	49	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	
Vinyl chloride	110	49	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/01/2018	10/01/2018 22:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>121 %</i>	<i>60-140</i>		<i>10/01/2018</i>	<i>10/01/2018 22:21</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	83.2	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_23.5-24.5_100118
V184001-21 (Soil)

Date Sampled
 10/01/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
Trichloroethene	2900000	20000	ug/kg dry	400	10/01/2018	10/02/2018 11:53	EPA 8260B	D
cis-1,2-Dichloroethene	690000	20000	ug/kg dry	400	10/01/2018	10/02/2018 11:53	EPA 8260B	D
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/01/2018	10/01/2018 22:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 22:36</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	80.8	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-98_26-27_100118

V184001-22 (Soil)

Date Sampled
 10/01/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
Trichloroethene	340	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
cis-1,2-Dichloroethene	150	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/01/2018	10/01/2018 22:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 22:50</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	81.4	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_1-2_100118
V184001-23 (Soil)

Date Sampled
 10/01/2018 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/01/2018	10/01/2018 23:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.8 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 23:05</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	97.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_3-4_100118
V184001-24 (Soil)

Date Sampled
 10/01/2018 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/01/2018	10/01/2018 23:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.5 %		60-140	10/01/2018	10/01/2018 23:20	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	91.5	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_4-5_100118
V184001-25 (Soil)

Date Sampled
 10/01/2018 17:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/01/2018	10/01/2018 23:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/01/2018	10/01/2018 23:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	92.3	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_6-7_100118
V184001-26 (Soil)

Date Sampled
 10/01/2018 17:08

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/01/2018	10/01/2018 23:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/01/2018	10/01/2018 23:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	96.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_7-8_100118
V184001-27 (Soil)

Date Sampled
 10/01/2018 17:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/01/2018	10/02/2018 00:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/02/2018 00:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	89.0	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_15-16_100118
V184001-28 (Soil)

Date Sampled
 10/01/2018 17:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
cis-1,2-Dichloroethene	5300	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
trans-1,2-Dichloroethene	140	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
Vinyl chloride	490	51	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/01/2018	10/02/2018 00:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/02/2018 00:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	84.5	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-102_22-23_100118
V184001-29 (Soil)

Date Sampled
 10/01/2018 17:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810004

Tetrachloroethene	ND	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
cis-1,2-Dichloroethene	710	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
Vinyl chloride	1400	48	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/01/2018	10/02/2018 00:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/02/2018 00:33</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810005

% Solids	79.8	0.00	% by Weight	1	10/01/2018	10/02/2018 08:11	SM 2540B	
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LIFHP-99_25-29_100118

V184002-01 (Water)

Date Sampled
 10/01/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
Trichloroethene	ND	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
cis-1,2-Dichloroethene	75	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	D
trans-1,2-Dichloroethene	ND	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
Vinyl chloride	300	40	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	D
1,4-Dioxane	ND	80	ug/L	40	10/01/2018	10/01/2018 15:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 15:04</i>	<i>EPA 8260B</i>	



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LIFHP-99_20-24_100118

Date Sampled
 10/01/2018 11:10

V184002-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
cis-1,2-Dichloroethene	340	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
Vinyl chloride	11000	100	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/01/2018	10/01/2018 14:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 14:20</i>	<i>EPA 8260B</i>	



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LIFHP-99_15-19_100118
V184002-03 (Water)

Date Sampled
 10/01/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
cis-1,2-Dichloroethene	8100	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
Vinyl chloride	18000	100	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/01/2018	10/01/2018 13:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>122 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 13:51</i>	<i>EPA 8260B</i>	



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LIFHP-103_11-15_100118

V184002-04 (Water)

Date Sampled
 10/01/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
cis-1,2-Dichloroethene	1.8	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
Vinyl chloride	19	1.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/01/2018	10/01/2018 16:31	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 103 % 60-140 10/01/2018 10/01/2018 16:31 EPA 8260B



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LIFHP-103_16-20_100118

V184002-05 (Water)

Date Sampled
 10/01/2018 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
cis-1,2-Dichloroethene	1.5	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
Vinyl chloride	45	1.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/01/2018	10/02/2018 09:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		60-140	10/01/2018	10/02/2018 09:36	EPA 8260B	



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LIFHP-103_21-26_100118

V184002-06 (Water)

Date Sampled
 10/01/2018 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
cis-1,2-Dichloroethene	1.4	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
Vinyl chloride	52	1.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
1,4-Dioxane	4.2	2.0	ug/L	1	10/01/2018	10/01/2018 18:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/01/2018	10/01/2018 18:42	EPA 8260B	



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LIFHP-98_25-29_100118

V184002-07 (Water)

Date Sampled
 10/01/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	
Trichloroethene	700	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	D
cis-1,2-Dichloroethene	3400	100	ug/L	100	10/01/2018	10/02/2018 10:05	EPA 8260B	D
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	
1,1-Dichloroethene	ND	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	
Vinyl chloride	55	20	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	D
1,4-Dioxane	510	40	ug/L	20	10/01/2018	10/01/2018 17:59	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/01/2018 17:59</i>	<i>EPA 8260B</i>	



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LIFHP-98_20-24_100118

V184002-08 (Water)

Date Sampled
 10/01/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	20	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	
Trichloroethene	90000	2000	ug/L	2000	10/01/2018	10/02/2018 09:50	EPA 8260B	D
cis-1,2-Dichloroethene	75000	2000	ug/L	2000	10/01/2018	10/02/2018 09:50	EPA 8260B	D
trans-1,2-Dichloroethene	170	20	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	D
1,1-Dichloroethene	120	20	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	D
Vinyl chloride	1400	20	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	D
1,4-Dioxane	570	40	ug/L	20	10/01/2018	10/01/2018 18:13	EPA 8260B	D

Surrogate: 4-Bromofluorobenzene 107 % 60-140 10/01/2018 10/01/2018 18:13 EPA 8260B



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LIFHP-98_15-19_100118
V184002-09 (Water)

Date Sampled
 10/01/2018 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810001

Tetrachloroethene	ND	20	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	
Trichloroethene	4200	100	ug/L	100	10/01/2018	10/01/2018 17:00	EPA 8260B	D
cis-1,2-Dichloroethene	4300	100	ug/L	100	10/01/2018	10/01/2018 17:00	EPA 8260B	D
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	
1,1-Dichloroethene	ND	20	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	
Vinyl chloride	160	20	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	D
1,4-Dioxane	48	40	ug/L	20	10/01/2018	10/02/2018 00:47	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/01/2018</i>	<i>10/02/2018 00:47</i>	<i>EPA 8260B</i>	



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LIFHP-102_10-14_100118
V184003-01 (Water)

Date Sampled
 10/01/2018 18:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
cis-1,2-Dichloroethene	1800	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
Vinyl chloride	3700	100	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/02/2018	10/02/2018 10:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 10:25</i>	<i>EPA 8260B</i>	



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LIFHP-102_15-19_100118
V184003-02 (Water)

Date Sampled
 10/01/2018 18:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	
cis-1,2-Dichloroethene	11000	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	D
trans-1,2-Dichloroethene	220	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	D
1,1-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	
Vinyl chloride	7000	100	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/02/2018	10/02/2018 12:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 12:22</i>	<i>EPA 8260B</i>	



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LIFHP-102_20-24_100118

V184003-03 (Water)

Date Sampled
 10/01/2018 17:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
Trichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
cis-1,2-Dichloroethene	9700	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
Vinyl chloride	6100	100	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/02/2018	10/02/2018 10:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %		60-140	10/02/2018	10/02/2018 10:40	EPA 8260B	



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DUP-13_100218

Date Sampled

V184004-02 (Water)

10/02/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
Trichloroethene	15	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
cis-1,2-Dichloroethene	17	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
Vinyl chloride	3.9	1.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
1,4-Dioxane	2.2	2.0	ug/L	1	10/02/2018	10/02/2018 12:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 12:51</i>	<i>EPA 8260B</i>	



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SB-106_25-29_100218

V184004-03 (Water)

Date Sampled
10/02/2018 15:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
Trichloroethene	2.3	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
cis-1,2-Dichloroethene	2.2	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
Vinyl chloride	16	1.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
1,4-Dioxane	42	2.0	ug/L	1	10/02/2018	10/02/2018 17:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 17:40</i>	<i>EPA 8260B</i>	



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SB-106_20-24_100218

V184004-04 (Water)

Date Sampled
 10/02/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
cis-1,2-Dichloroethene	1.1	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
Vinyl chloride	42	1.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
1,4-Dioxane	33	2.0	ug/L	1	10/02/2018	10/02/2018 17:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 17:56</i>	<i>EPA 8260B</i>	



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Date Sampled
 10/02/2018 16:30

V184004-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810006

Tetrachloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
Trichloroethene	1.3	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
cis-1,2-Dichloroethene	1.8	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
Vinyl chloride	1200	40	ug/L	40	10/02/2018	10/02/2018 18:25	EPA 8260B	D
1,4-Dioxane	12	2.0	ug/L	1	10/02/2018	10/02/2018 17:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 17:25</i>	<i>EPA 8260B</i>	



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LIFHP-101_1-2_100218
V184005-01 (Soil)

Date Sampled
 10/02/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/02/2018	10/02/2018 13:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	10/02/2018	10/02/2018 13:06	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	93.5	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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LIFHP-101_2-3_100218
V184005-02 (Soil)

Date Sampled
 10/02/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/02/2018	10/02/2018 13:21	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	10/02/2018	10/02/2018 13:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	92.4	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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 Project Number: 2815

LIFHP-101_3-4_100218
V184005-03 (Soil)

Date Sampled
 10/02/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/02/2018	10/02/2018 13:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/02/2018	10/02/2018 13:35	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	92.1	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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LIFHP-101_4-5_100218
V184005-04 (Soil)

Date Sampled
 10/02/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/02/2018	10/02/2018 13:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/02/2018	10/02/2018 13:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	92.3	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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LIFHP-101_5-6_100218
V184005-05 (Soil)

Date Sampled
 10/02/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/02/2018	10/02/2018 14:04	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		105 %		60-140	10/02/2018	10/02/2018 14:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	91.4	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_1-2_100218

V184005-06 (Soil)

Date Sampled
 10/02/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/02/2018	10/02/2018 18:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/02/2018	10/02/2018 18:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	97.0	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_3-4_100218

V184005-07 (Soil)

Date Sampled
 10/02/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/02/2018	10/02/2018 18:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>10/02/2018</i>	<i>10/02/2018 18:54</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	96.6	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_6-7_100218

V184005-08 (Soil)

Date Sampled
 10/02/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:09	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.7 %		60-140	10/02/2018	10/02/2018 19:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	93.0	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_10-11_100218

V184005-09 (Soil)

Date Sampled
 10/02/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/02/2018	10/02/2018 19:23	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		93.2 %		60-140	10/02/2018	10/02/2018 19:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	86.0	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_11-12_100218

V184005-10 (Soil)

Date Sampled
 10/02/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %		60-140	10/02/2018	10/02/2018 19:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	84.3	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_19-20_100218

V184005-11 (Soil)

Date Sampled
 10/02/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
Trichloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
Vinyl chloride	ND	100	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
1,4-Dioxane	ND	210	ug/kg dry	1	10/02/2018	10/02/2018 19:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/02/2018	10/02/2018 19:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	80.0	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-106_26-27_100218

V184005-12 (Soil)

Date Sampled
 10/02/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810007

Tetrachloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	10/02/2018	10/02/2018 20:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/02/2018	10/02/2018 20:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810008

% Solids	82.6	0.00	% by Weight	1	10/02/2018	10/03/2018 08:05	SM 2540B	
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SB-107_1-2_100318

V184006-01 (Soil)

Date Sampled
 10/03/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/03/2018	10/03/2018 14:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/03/2018</i>	<i>10/03/2018 14:10</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	94.8	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_5-6_100318

Date Sampled
 10/03/2018 11:30

V184006-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/03/2018	10/03/2018 14:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>10/03/2018</i>	<i>10/03/2018 14:25</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	93.6	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_7-8_100318

V184006-03 (Soil)

Date Sampled
 10/03/2018 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	55	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
cis-1,2-Dichloroethene	320	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/03/2018	10/03/2018 14:40	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		92.9 %		60-140	10/03/2018	10/03/2018 14:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	93.7	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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 Project Number: 2815

SB-107_9-10_100318
V184006-04 (Soil)

Date Sampled
 10/03/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	830	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
Trichloroethene	140	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	23000	470	ug/kg dry	10	10/03/2018	10/03/2018 15:42	EPA 8260B	D
trans-1,2-Dichloroethene	930	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
1,1-Dichloroethene	1400	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
Vinyl chloride	470	47	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/03/2018	10/03/2018 14:54	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 72.7 % 60-140 10/03/2018 10/03/2018 14:54 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	94.0	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_11-12_100318

V184006-05 (Soil)

Date Sampled
 10/03/2018 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/03/2018	10/03/2018 15:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		125 %		60-140	10/03/2018	10/03/2018 15:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	84.3	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_19-20_100318

V184006-06 (Soil)

Date Sampled
 10/03/2018 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810010

Tetrachloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/03/2018	10/03/2018 15:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		125 %		60-140	10/03/2018	10/03/2018 15:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810011

% Solids	86.8	0.00	% by Weight	1	10/03/2018	10/04/2018 07:56	SM 2540B	
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SB-107_25-29_100318

V184007-01 (Water)

Date Sampled
 10/03/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810009

Tetrachloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
1,4-Dioxane	7.4	2.0	ug/L	1	10/03/2018	10/03/2018 17:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/03/2018</i>	<i>10/03/2018 17:42</i>	<i>EPA 8260B</i>	



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SB-107_20-24_100318

V184007-02 (Water)

Date Sampled
 10/03/2018 15:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810009

Tetrachloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
Vinyl chloride	17	1.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
1,4-Dioxane	20	2.0	ug/L	1	10/03/2018	10/03/2018 17:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/03/2018	10/03/2018 17:28	EPA 8260B	



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SB-107_15-19_100318

V184007-03 (Water)

Date Sampled
 10/03/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810009

Tetrachloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
cis-1,2-Dichloroethene	3.3	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
Vinyl chloride	6.2	1.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
1,4-Dioxane	7.3	2.0	ug/L	1	10/03/2018	10/03/2018 17:13	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		106 %		60-140	10/03/2018	10/03/2018 17:13	EPA 8260B	



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SB-108_1-2_100418

V184008-01 (Soil)

Date Sampled
 10/04/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/04/2018	10/04/2018 14:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 14:04</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	91.6	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_5-6_100418

V184008-02 (Soil)

Date Sampled
 10/04/2018 11:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	M, X
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/04/2018	10/04/2018 14:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 14:19</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	88.4	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_7-8_100418

Date Sampled
 10/04/2018 11:50

V184008-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/04/2018	10/04/2018 14:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/04/2018	10/04/2018 14:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	88.9	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_9-10_100418

Date Sampled
 10/04/2018 11:55

V184008-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	10/04/2018	10/04/2018 14:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		83.5 %		60-140	10/04/2018	10/04/2018 14:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	97.6	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_11-12_100418

V184008-05 (Soil)

Date Sampled
 10/04/2018 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/04/2018	10/04/2018 15:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		85.3 %		60-140	10/04/2018	10/04/2018 15:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	95.9	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_19-20_100418

V184008-06 (Soil)

Date Sampled
 10/04/2018 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
Trichloroethene	43000	480	ug/kg dry	10	10/04/2018	10/04/2018 17:44	EPA 8260B	D
cis-1,2-Dichloroethene	6700	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
Vinyl chloride	260	48	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/04/2018	10/04/2018 15:48	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 101 % 60-140 10/04/2018 10/04/2018 15:48 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	86.0	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_23.5-24.5_100418

V184008-07 (Soil)

Date Sampled
 10/04/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	53	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	
Trichloroethene	110000	1300	ug/kg dry	25	10/04/2018	10/04/2018 18:14	EPA 8260B	D
cis-1,2-Dichloroethene	13000	1300	ug/kg dry	25	10/04/2018	10/04/2018 18:14	EPA 8260B	D
trans-1,2-Dichloroethene	160	53	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	
Vinyl chloride	150	53	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/04/2018	10/04/2018 16:31	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 105 % 60-140 10/04/2018 10/04/2018 16:31 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	78.2	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_25-26_100418
V184008-08 (Soil)

Date Sampled
 10/04/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
Trichloroethene	660	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
cis-1,2-Dichloroethene	13000	460	ug/kg dry	10	10/04/2018	10/04/2018 18:28	EPA 8260B	D
trans-1,2-Dichloroethene	440	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
Vinyl chloride	150	46	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/04/2018	10/04/2018 16:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>	<i>60-140</i>		<i>10/04/2018</i>	<i>10/04/2018 16:46</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	79.3	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_28-29_100418

V184008-09 (Soil)

Date Sampled
 10/04/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/04/2018	10/04/2018 17:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/04/2018	10/04/2018 17:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	81.1	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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DUP-14_1001418
V184008-10 (Soil)

Date Sampled
 10/04/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810013

Tetrachloroethene	ND	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
Trichloroethene	60000	1300	ug/kg dry	25	10/04/2018	10/04/2018 18:43	EPA 8260B	D
cis-1,2-Dichloroethene	4500	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
Vinyl chloride	120	50	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/04/2018	10/04/2018 17:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>	<i>60-140</i>		<i>10/04/2018</i>	<i>10/04/2018 17:15</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810014

% Solids	84.5	0.00	% by Weight	1	10/04/2018	10/05/2018 08:05	SM 2540B	
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SB-108_25-29_100418

V184009-01 (Water)

Date Sampled
 10/04/2018 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810012

Tetrachloroethene	ND	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	
Trichloroethene	33000	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	D
cis-1,2-Dichloroethene	34000	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	D
trans-1,2-Dichloroethene	1200	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	D
1,1-Dichloroethene	ND	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	
Vinyl chloride	430	200	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	D
1,4-Dioxane	ND	400	ug/L	200	10/04/2018	10/04/2018 17:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/04/2018</i>	<i>10/04/2018 17:59</i>	<i>EPA 8260B</i>	



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SB-108_20-24_100418

V184009-02 (Water)

Date Sampled
 10/04/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810012

Tetrachloroethene	ND	100	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	
Trichloroethene	330000	2000	ug/L	2000	10/04/2018	10/04/2018 16:17	EPA 8260B	D
cis-1,2-Dichloroethene	83000	2000	ug/L	2000	10/04/2018	10/04/2018 16:17	EPA 8260B	D
trans-1,2-Dichloroethene	320	100	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	D
1,1-Dichloroethene	250	100	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	D
Vinyl chloride	3500	100	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/04/2018	10/04/2018 15:33	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 124 % 60-140 10/04/2018 10/04/2018 15:33 EPA 8260B



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SB-108_15-19_100418

V184009-03 (Water)

Date Sampled
 10/04/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810012

Tetrachloroethene	ND	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	
Trichloroethene	14000	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	D
cis-1,2-Dichloroethene	4300	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	D
trans-1,2-Dichloroethene	ND	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	
1,1-Dichloroethene	ND	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	
Vinyl chloride	280	100	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	D
1,4-Dioxane	ND	200	ug/L	100	10/04/2018	10/04/2018 15:04	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/04/2018	10/04/2018 15:04	EPA 8260B	



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SB-109_1-2_100518

Date Sampled

V184010-01 (Soil)

10/05/2018 08:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	X
Trichloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/05/2018	10/05/2018 12:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/05/2018	10/05/2018 12:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	91.2	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_5-6_100518

Date Sampled
 10/05/2018 08:40

V184010-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	10/05/2018	10/05/2018 10:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.4 %		60-140	10/05/2018	10/05/2018 10:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	90.3	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_7-8_100518

Date Sampled
 10/05/2018 08:45

V184010-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/05/2018	10/05/2018 12:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.0 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 12:40</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	90.8	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_9-10_100518

Date Sampled
 10/05/2018 08:50

V184010-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
trans-1,2-Dichloroethene	250	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
Vinyl chloride	2300	45	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/05/2018	10/05/2018 12:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.0 %		60-140	10/05/2018	10/05/2018 12:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	96.1	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_11-12_100518

V184010-05 (Soil)

Date Sampled
 10/05/2018 08:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/05/2018	10/05/2018 12:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		105 %		60-140	10/05/2018	10/05/2018 12:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	88.8	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_19-20_100518

V184010-06 (Soil)

Date Sampled
 10/05/2018 09:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	49	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
Trichloroethene	65000	490	ug/kg dry	10	10/05/2018	10/05/2018 14:36	EPA 8260B	D
cis-1,2-Dichloroethene	14000	490	ug/kg dry	10	10/05/2018	10/05/2018 14:36	EPA 8260B	D
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
Vinyl chloride	160	49	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/05/2018	10/05/2018 11:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>105 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 11:56</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	83.9	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_23.5-24.5_100518

V184010-07 (Soil)

Date Sampled
 10/05/2018 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	
Trichloroethene	170000	2300	ug/kg dry	50	10/05/2018	10/05/2018 14:22	EPA 8260B	D
cis-1,2-Dichloroethene	18000	2300	ug/kg dry	50	10/05/2018	10/05/2018 14:22	EPA 8260B	D
trans-1,2-Dichloroethene	520	46	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	
Vinyl chloride	190	46	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/05/2018	10/05/2018 10:43	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 104 % 60-140 10/05/2018 10/05/2018 10:43 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	80.5	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_26-27_100518

V184010-08 (Soil)

Date Sampled
 10/05/2018 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
Trichloroethene	150	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/05/2018	10/05/2018 11:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>107 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 11:41</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	81.4	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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 Project Number: 2815

SB-109_29-30_100518

V184010-09 (Soil)

Date Sampled
 10/05/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810016

Tetrachloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/05/2018	10/05/2018 13:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/05/2018	10/05/2018 13:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810017

% Solids	78.5	0.00	% by Weight	1	10/05/2018	10/08/2018 08:34	SM 2540B	
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SB-109_25-29_100518

V184011-01 (Water)

Date Sampled
 10/05/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810015

Tetrachloroethene	ND	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	
Trichloroethene	2000	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	D
cis-1,2-Dichloroethene	1100	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	M, D
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	
1,1-Dichloroethene	ND	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	
Vinyl chloride	90	20	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	D
1,4-Dioxane	65	40	ug/L	20	10/05/2018	10/05/2018 13:23	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 13:23</i>	<i>EPA 8260B</i>	



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SB-109_20-24_100518

Date Sampled
 10/05/2018 09:55

V184011-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810015

Tetrachloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	
Trichloroethene	420000	4000	ug/L	4000	10/05/2018	10/05/2018 13:52	EPA 8260B	D
cis-1,2-Dichloroethene	88000	4000	ug/L	4000	10/05/2018	10/05/2018 13:52	EPA 8260B	D
trans-1,2-Dichloroethene	480	200	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	D
1,1-Dichloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	
Vinyl chloride	3200	200	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	D
1,4-Dioxane	ND	400	ug/L	200	10/05/2018	10/05/2018 10:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>106 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 10:57</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

SB-109_15-19_100518

V184011-03 (Water)

Date Sampled
 10/05/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810015

Tetrachloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	
Trichloroethene	110000	2000	ug/L	2000	10/05/2018	10/05/2018 14:07	EPA 8260B	D
cis-1,2-Dichloroethene	22000	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	D
trans-1,2-Dichloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	
1,1-Dichloroethene	ND	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	
Vinyl chloride	1600	200	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	D
1,4-Dioxane	ND	400	ug/L	200	10/05/2018	10/05/2018 11:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/05/2018</i>	<i>10/05/2018 11:27</i>	<i>EPA 8260B</i>	



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DUP-15_100518

Date Sampled

V184011-04 (Water)

10/05/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810015

Tetrachloroethene	ND	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	
Trichloroethene	1600	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	D
cis-1,2-Dichloroethene	850	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	D
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	
1,1-Dichloroethene	ND	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	
Vinyl chloride	79	20	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	D
1,4-Dioxane	55	40	ug/L	20	10/05/2018	10/08/2018 14:29	EPA 8260B	D

Surrogate: 4-Bromofluorobenzene 104 % 60-140 10/05/2018 10/08/2018 14:29 EPA 8260B



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LIFHP-108_1-2_100818

V184101-01 (Soil)

Date Sampled
 10/08/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/08/2018	10/08/2018 15:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.3 %		60-140	10/08/2018	10/08/2018 15:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	92.6	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_3-4_100818

V184101-02 (Soil)

Date Sampled
 10/08/2018 12:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
Trichloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
1,1-Dichloroethene	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
Vinyl chloride	ND	38	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
1,4-Dioxane	150	75	ug/kg dry	1	10/08/2018	10/08/2018 16:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		118 %		60-140	10/08/2018	10/08/2018 16:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	86.5	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_5-6_100818
V184101-03 (Soil)

Date Sampled
 10/08/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/08/2018	10/08/2018 16:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		109 %		60-140	10/08/2018	10/08/2018 16:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	94.7	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_7-8_100818
V184101-04 (Soil)

Date Sampled
 10/08/2018 12:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/08/2018	10/08/2018 19:23	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	10/08/2018	10/08/2018 19:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	95.0	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_9-10_100818

V184101-05 (Soil)

Date Sampled
 10/08/2018 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/08/2018	10/08/2018 16:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.9 %		60-140	10/08/2018	10/08/2018 16:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	88.5	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_26-27_100818

V184101-06 (Soil)

Date Sampled
 10/08/2018 14:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/08/2018	10/08/2018 17:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.7 %		60-140	10/08/2018	10/08/2018 17:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	80.9	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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LIFHP-108_29-30_100818

V184101-07 (Soil)

Date Sampled
 10/08/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810019

Tetrachloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/08/2018	10/08/2018 17:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/08/2018	10/08/2018 17:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810020

% Solids	82.9	0.00	% by Weight	1	10/08/2018	10/09/2018 08:51	SM 2540B	
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 Project Number: 2815

LIFHP-108_21-25_100818

V184102-01 (Water)

Date Sampled
 10/08/2018 16:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810018

Tetrachloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
Vinyl chloride	2.0	1.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
1,4-Dioxane	2.3	2.0	ug/L	1	10/08/2018	10/08/2018 19:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.3 %		60-140	10/08/2018	10/08/2018 19:08	EPA 8260B	



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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-108_16-20_100818

V184102-02 (Water)

Date Sampled
 10/08/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810018

Tetrachloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
Vinyl chloride	23	1.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
1,4-Dioxane	4.1	2.0	ug/L	1	10/08/2018	10/08/2018 18:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.7 %		60-140	10/08/2018	10/08/2018 18:54	EPA 8260B	



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LIFHP-108_10-14_100818
V184102-03 (Water)

Date Sampled
 10/08/2018 17:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810018

Tetrachloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
1,4-Dioxane	4.1	2.0	ug/L	1	10/08/2018	10/08/2018 18:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/08/2018	10/08/2018 18:39	EPA 8260B	



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LIFHP-109_23-27_100918

V184103-01 (Water)

Date Sampled
 10/09/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/09/2018	10/09/2018 13:39	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		103 %		60-140	10/09/2018	10/09/2018 13:39	EPA 8260B	



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LIFHP-109_18-22_100918

Date Sampled
 10/09/2018 12:00

V184103-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
Vinyl chloride	1.3	1.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/09/2018	10/09/2018 13:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>104 %</i>		<i>60-140</i>	<i>10/09/2018</i>	<i>10/09/2018 13:24</i>	<i>EPA 8260B</i>	



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LIFHP-109_13-17_100918
V184103-03 (Water)

Date Sampled
 10/09/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
Vinyl chloride	5.3	1.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
1,4-Dioxane	3.0	2.0	ug/L	1	10/09/2018	10/09/2018 13:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/09/2018	10/09/2018 13:10	EPA 8260B	



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LIFHP-111A_20-24_100918

V184103-04 (Water)

Date Sampled
 10/09/2018 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/09/2018	10/09/2018 17:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/09/2018	10/09/2018 17:03	EPA 8260B	



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LIFHP-111A_15-19_100918
V184103-05 (Water)

Date Sampled
 10/09/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
Vinyl chloride	4.4	1.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
1,4-Dioxane	4.9	2.0	ug/L	1	10/09/2018	10/09/2018 17:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/09/2018	10/09/2018 17:18	EPA 8260B	



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LIFHP-111A_8-12_100918
V184103-06 (Water)

Date Sampled
 10/09/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810021

Tetrachloroethene	430	10	ug/L	10	10/09/2018	10/10/2018 09:50	EPA 8260B	D
Trichloroethene	130	1.0	ug/L	1	10/09/2018	10/09/2018 17:32	EPA 8260B	
cis-1,2-Dichloroethene	670	10	ug/L	10	10/09/2018	10/10/2018 09:50	EPA 8260B	D
trans-1,2-Dichloroethene	1.7	1.0	ug/L	1	10/09/2018	10/09/2018 17:32	EPA 8260B	
1,1-Dichloroethene	1.3	1.0	ug/L	1	10/09/2018	10/09/2018 17:32	EPA 8260B	
Vinyl chloride	310	10	ug/L	10	10/09/2018	10/10/2018 09:50	EPA 8260B	D
1,4-Dioxane	2.7	2.0	ug/L	1	10/09/2018	10/09/2018 17:32	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 103 % 60-140 10/09/2018 10/09/2018 17:32 EPA 8260B



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 Project Number: 2815

LIFHP-109_1-2_100918
V184104-01 (Soil)

Date Sampled
 10/09/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 14:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/09/2018	10/09/2018 14:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	94.2	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-109_2-3_100918
V184104-02 (Soil)

Date Sampled
 10/09/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	80	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
cis-1,2-Dichloroethene	82	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/09/2018	10/09/2018 15:38	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.0 %		60-140	10/09/2018	10/09/2018 15:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	91.8	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-109_3-4_100918
V184104-03 (Soil)

Date Sampled
 10/09/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/09/2018	10/09/2018 14:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		123 %		60-140	10/09/2018	10/09/2018 14:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	90.4	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-109_7-8_100918
V184104-04 (Soil)

Date Sampled
 10/09/2018 11:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	2.3	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
Trichloroethene	ND	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
cis-1,2-Dichloroethene	16	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
1,1-Dichloroethene	ND	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
Vinyl chloride	2.5	1.1	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	
1,4-Dioxane	ND	2.3	ug/kg dry	1	10/09/2018	10/09/2018 14:39	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 101 % 60-140 10/09/2018 10/09/2018 14:39 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	87.6	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-109_9-10_100918

V184104-05 (Soil)

Date Sampled
 10/09/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/09/2018	10/09/2018 14:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/09/2018	10/09/2018 14:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	90.1	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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 Project Number: 2815

LIFHP-109_21-22_100918
V184104-06 (Soil)

Date Sampled
 10/09/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	49	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
cis-1,2-Dichloroethene	6700	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
Vinyl chloride	290	47	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/09/2018	10/09/2018 15:09	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 102 % 60-140 10/09/2018 10/09/2018 15:09 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	82.5	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

Dup-16_100918
V184104-07 (Soil)

Date Sampled
 10/09/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 15:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/09/2018	10/09/2018 15:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	81.2	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-111A_1-2_100918

V184104-08 (Soil)

Date Sampled
 10/09/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 18:02	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/09/2018	10/09/2018 18:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	93.4	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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 Project Number: 2815

LIFHP-111A_3-4_100918

V184104-09 (Soil)

Date Sampled
 10/09/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/09/2018	10/09/2018 18:16	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/09/2018	10/09/2018 18:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	94.0	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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 Project Number: 2815

LIFHP-111A_4-5_100918
V184104-10 (Soil)

Date Sampled
 10/09/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/09/2018	10/09/2018 18:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/09/2018	10/09/2018 18:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	88.6	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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 Project Number: 2815

LIFHP-111A_5-6_100918

V184104-11 (Soil)

Date Sampled
 10/09/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 18:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/09/2018	10/09/2018 18:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	87.2	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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LIFHP-111A_7-8_100918

V184104-12 (Soil)

Date Sampled
 10/09/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
cis-1,2-Dichloroethene	2000	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
Vinyl chloride	260	50	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/09/2018	10/09/2018 19:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/09/2018	10/09/2018 19:00	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	83.5	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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 Project Number: 2815

LIFHP-111A_26-27_100918

V184104-13 (Soil)

Date Sampled
 10/09/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810022

Tetrachloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/09/2018	10/09/2018 19:14	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/09/2018	10/09/2018 19:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810023

% Solids	80.6	0.00	% by Weight	1	10/09/2018	10/10/2018 09:06	SM 2540B	
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 Project Number: 2815

LIFHP-107_1-2_100218
V184105-01 (Soil)

Date Sampled
 10/02/2018 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/10/2018	10/10/2018 11:43	EPA 8260B	M
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>10/10/2018</i>	<i>10/10/2018 11:43</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	97.3	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-107_3-4_100218
V184105-02 (Soil)

Date Sampled
 10/02/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
1,4-Dioxane	340	94	ug/kg dry	1	10/10/2018	10/10/2018 11:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.3 %		60-140	10/10/2018	10/10/2018 11:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	91.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-107_5-6_100218
V184105-03 (Soil)

Date Sampled
 10/02/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
1,4-Dioxane	1200	87	ug/kg dry	1	10/10/2018	10/10/2018 12:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.1 %		60-140	10/10/2018	10/10/2018 12:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	89.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-107_7-8_100218
V184105-04 (Soil)

Date Sampled
 10/02/2018 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
Vinyl chloride	44	44	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
1,4-Dioxane	270	87	ug/kg dry	1	10/10/2018	10/10/2018 12:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		60-140	10/10/2018	10/10/2018 12:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	98.0	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-107_9-10_100218

V184105-05 (Soil)

Date Sampled
 10/02/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/10/2018	10/10/2018 12:43	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		110 %		60-140	10/10/2018	10/10/2018 12:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	85.3	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-107_21-22_100218
V184105-06 (Soil)

Date Sampled
 10/02/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/10/2018	10/10/2018 12:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.5 %</i>		<i>60-140</i>	<i>10/10/2018</i>	<i>10/10/2018 12:57</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	80.8	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_22-26_101018

V184106-01 (Water)

Date Sampled
 10/10/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	
1,4-Dioxane	6.7	2.0	ug/L	1	10/10/2018	10/10/2018 14:25	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 102 % 60-140 10/10/2018 10/10/2018 14:25 EPA 8260B



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LIFHP-110_15-19_101018
V184106-02 (Water)

Date Sampled
 10/10/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
Vinyl chloride	3.3	1.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
1,4-Dioxane	4.2	2.0	ug/L	1	10/10/2018	10/10/2018 14:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/10/2018	10/10/2018 14:10	EPA 8260B	



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LIFHP-110_8-12_101018

V184106-03 (Water)

Date Sampled
 10/10/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	2.0	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
cis-1,2-Dichloroethene	4.7	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
Vinyl chloride	9.7	1.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
1,4-Dioxane	2.1	2.0	ug/L	1	10/10/2018	10/10/2018 13:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/10/2018	10/10/2018 13:56	EPA 8260B	



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LIFHP-114_18-22_101018

V184106-04 (Water)

Date Sampled
 10/10/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
Vinyl chloride	35	1.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
1,4-Dioxane	16	2.0	ug/L	1	10/10/2018	10/10/2018 17:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/10/2018	10/10/2018 17:35	EPA 8260B	



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LIFHP-114_13-17_101018

V184106-05 (Water)

Date Sampled
 10/10/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
Vinyl chloride	1.6	1.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
1,4-Dioxane	7.1	2.0	ug/L	1	10/10/2018	10/10/2018 17:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %		60-140	10/10/2018	10/10/2018 17:50	EPA 8260B	



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LIFHP-114_8-12_101018

V184106-06 (Water)

Date Sampled
 10/10/2018 15:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810024

Tetrachloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
Vinyl chloride	1.8	1.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
1,4-Dioxane	9.8	2.0	ug/L	1	10/10/2018	10/10/2018 18:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/10/2018	10/10/2018 18:04	EPA 8260B	



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LIFHP-110_1-2_101018
V184107-01 (Soil)

Date Sampled
 10/10/2018 10:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	54000	720	ug/kg dry	10	10/10/2018	10/10/2018 16:36	EPA 8260B	D
Trichloroethene	260	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
cis-1,2-Dichloroethene	180	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
1,1-Dichloroethene	ND	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
Vinyl chloride	ND	72	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	
1,4-Dioxane	ND	140	ug/kg dry	1	10/10/2018	10/10/2018 14:39	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 99.4 % 60-140 10/10/2018 10/10/2018 14:39 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	99.0	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_3-4_101018
V184107-02 (Soil)

Date Sampled
 10/10/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	1000000	12000	ug/kg dry	250	10/10/2018	10/10/2018 17:20	EPA 8260B	D
Trichloroethene	4900	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	3000	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/10/2018	10/10/2018 14:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.0 %		60-140	10/10/2018	10/10/2018 14:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	93.3	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_4-5_101018
V184107-03 (Soil)

Date Sampled
 10/10/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	8100	480	ug/kg dry	10	10/10/2018	10/10/2018 16:51	EPA 8260B	D
Trichloroethene	680	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
cis-1,2-Dichloroethene	4700	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
Vinyl chloride	55	48	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/10/2018	10/10/2018 15:09	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 101 % 60-140 10/10/2018 10/10/2018 15:09 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	91.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_5-6_101018
V184107-04 (Soil)

Date Sampled
 10/10/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	1700	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
Trichloroethene	130	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
cis-1,2-Dichloroethene	78000	2700	ug/kg dry	50	10/10/2018	10/10/2018 17:06	EPA 8260B	D
trans-1,2-Dichloroethene	480	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
1,1-Dichloroethene	81	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
Vinyl chloride	4500	54	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/10/2018	10/10/2018 15:23	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 99.9 % 60-140 10/10/2018 10/10/2018 15:23 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	83.7	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_6-7_101018
V184107-05 (Soil)

Date Sampled
10/10/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	1500	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
Trichloroethene	74	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
cis-1,2-Dichloroethene	6500	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
trans-1,2-Dichloroethene	51	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
Vinyl chloride	61	50	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/10/2018	10/10/2018 15:38	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 99.2 % 60-140 10/10/2018 10/10/2018 15:38 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	88.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-110_26-27_101018

V184107-06 (Soil)

Date Sampled
 10/10/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 15:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/10/2018	10/10/2018 15:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	82.3	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-114_1-2_101018
V184107-07 (Soil)

Date Sampled
 10/10/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 18:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/10/2018	10/10/2018 18:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	94.5	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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LIFHP-114_2-3_101018
V184107-08 (Soil)

Date Sampled
 10/10/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/10/2018	10/10/2018 18:33	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.3 %		60-140	10/10/2018	10/10/2018 18:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	97.7	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-114_3-4_101018
V184107-09 (Soil)

Date Sampled
 10/10/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 18:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.6 %		60-140	10/10/2018	10/10/2018 18:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	96.7	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-114_4-5_101018
V184107-10 (Soil)

Date Sampled
 10/10/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 19:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/10/2018	10/10/2018 19:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	92.8	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-114_5-6_101018
V184107-11 (Soil)

Date Sampled
 10/10/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/10/2018	10/10/2018 19:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/10/2018	10/10/2018 19:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	94.0	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-114_26-27_101018

V184107-12 (Soil)

Date Sampled
 10/10/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810025

Tetrachloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/10/2018	10/10/2018 19:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>	<i>60-140</i>		<i>10/10/2018</i>	<i>10/10/2018 19:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810026

% Solids	80.7	0.00	% by Weight	1	10/10/2018	10/11/2018 08:37	SM 2540B	
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 Project Number: 2815

LIFHP-116_23-27_101118

V184108-01 (Water)

Date Sampled
 10/11/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
1,4-Dioxane	6.5	2.0	ug/L	1	10/11/2018	10/11/2018 13:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/11/2018	10/11/2018 13:58	EPA 8260B	



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LIFHP-116_16-20_101118

V184108-02 (Water)

Date Sampled
 10/11/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
1,4-Dioxane	11	2.0	ug/L	1	10/11/2018	10/11/2018 14:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/11/2018	10/11/2018 14:13	EPA 8260B	



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 Project Number: 2815

LIFHP-116_11-15_101118

V184108-03 (Water)

Date Sampled
 10/11/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
Vinyl chloride	2.5	1.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
1,4-Dioxane	8.8	2.0	ug/L	1	10/11/2018	10/11/2018 13:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		103 %		60-140	10/11/2018	10/11/2018 13:43	EPA 8260B	



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 Project Number: 2815

LIFHP-113_18-22_101118

V184108-04 (Water)

Date Sampled
 10/11/2018 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
Vinyl chloride	3.7	1.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
1,4-Dioxane	8.4	2.0	ug/L	1	10/11/2018	10/11/2018 19:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/11/2018	10/11/2018 19:35	EPA 8260B	



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LIFHP-113_13-17_101118

V184108-05 (Water)

Date Sampled
 10/11/2018 16:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
Vinyl chloride	2.0	1.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
1,4-Dioxane	4.8	2.0	ug/L	1	10/11/2018	10/11/2018 19:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/11/2018	10/11/2018 19:50	EPA 8260B	



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 Project Number: 2815

LIFHP-113_8-12_101118

V184108-06 (Water)

Date Sampled
 10/11/2018 17:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810027

Tetrachloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
Vinyl chloride	2.7	1.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
1,4-Dioxane	2.0	2.0	ug/L	1	10/11/2018	10/11/2018 20:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/11/2018	10/11/2018 20:04	EPA 8260B	



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 Project Number: 2815

LIFHP-116_1-2_101118
V184109-01 (Soil)

Date Sampled
 10/11/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/11/2018	10/11/2018 14:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.3 %		60-140	10/11/2018	10/11/2018 14:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	93.8	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-116_3-4_101118
V184109-02 (Soil)

Date Sampled
 10/11/2018 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/11/2018	10/11/2018 14:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.4 %</i>		<i>60-140</i>	<i>10/11/2018</i>	<i>10/11/2018 14:42</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	93.3	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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 Project Number: 2815

LIFHP-116_5-6_101118
V184109-03 (Soil)

Date Sampled
 10/11/2018 09:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/11/2018	10/11/2018 14:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.4 %</i>		<i>60-140</i>	<i>10/11/2018</i>	<i>10/11/2018 14:56</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	90.9	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-116_7-8_101118
V184109-04 (Soil)

Date Sampled
 10/11/2018 09:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/11/2018	10/11/2018 15:11	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		82.9 %		60-140	10/11/2018	10/11/2018 15:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	96.6	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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 Project Number: 2815

LIFHP-116_9-10_101118
V184109-05 (Soil)

Date Sampled
 10/11/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/11/2018	10/11/2018 15:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/11/2018	10/11/2018 15:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	93.1	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-116_23-24_101118

V184109-06 (Soil)

Date Sampled
 10/11/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/11/2018	10/11/2018 15:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.8 %		60-140	10/11/2018	10/11/2018 15:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	82.9	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_1-2_101118
V184109-07 (Soil)

Date Sampled
 10/11/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	10/11/2018	10/11/2018 17:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.9 %</i>		<i>60-140</i>	<i>10/11/2018</i>	<i>10/11/2018 17:38</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	88.9	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_2-3_101118
V184109-08 (Soil)

Date Sampled
 10/11/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/11/2018	10/11/2018 17:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		115 %		60-140	10/11/2018	10/11/2018 17:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	92.7	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_3-4_101118
V184109-09 (Soil)

Date Sampled
 10/11/2018 14:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/11/2018	10/11/2018 18:08	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.3 %		60-140	10/11/2018	10/11/2018 18:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	90.6	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_4-5_101118
V184109-10 (Soil)

Date Sampled
 10/11/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/11/2018	10/11/2018 18:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.7 %		60-140	10/11/2018	10/11/2018 18:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	86.6	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_5-6_101118
V184109-11 (Soil)

Date Sampled
 10/11/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/11/2018	10/11/2018 18:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/11/2018</i>	<i>10/11/2018 18:37</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	91.5	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_21-22_101118

V184109-12 (Soil)

Date Sampled
 10/11/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/11/2018	10/11/2018 18:51	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.4 %		60-140	10/11/2018	10/11/2018 18:51	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	80.6	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-113_22-23_101118

V184109-13 (Soil)

Date Sampled
 10/11/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810028

Tetrachloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/11/2018	10/11/2018 19:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/11/2018	10/11/2018 19:06	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810029

% Solids	83.8	0.00	% by Weight	1	10/11/2018	10/12/2018 08:57	SM 2540B	
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LIFHP-115_24-28_101218

V184110-01 (Water)

Date Sampled
 10/12/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
Vinyl chloride	3.2	1.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
1,4-Dioxane	28	2.0	ug/L	1	10/12/2018	10/12/2018 13:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/12/2018	10/12/2018 13:12	EPA 8260B	



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LIFHP-115_19-20_101218

V184110-02 (Water)

Date Sampled
 10/12/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
Vinyl chloride	2.4	1.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
1,4-Dioxane	26	2.0	ug/L	1	10/12/2018	10/12/2018 15:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.4 %		60-140	10/12/2018	10/12/2018 15:52	EPA 8260B	



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LIFHP-115_14-18_101218

V184110-03 (Water)

Date Sampled
 10/12/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
1,4-Dioxane	3.0	2.0	ug/L	1	10/12/2018	10/12/2018 13:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/12/2018</i>	<i>10/12/2018 13:26</i>	<i>EPA 8260B</i>	



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DUP-18

V184110-04 (Water)

Date Sampled
 10/12/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
Vinyl chloride	2.6	1.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
1,4-Dioxane	21	2.0	ug/L	1	10/12/2018	10/12/2018 13:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/12/2018</i>	<i>10/12/2018 13:41</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

LIFHP-118_21-25_101218

V184110-05 (Water)

Date Sampled
 10/12/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
1,4-Dioxane	36	2.0	ug/L	1	10/12/2018	10/12/2018 17:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/12/2018	10/12/2018 17:20	EPA 8260B	



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 Project Number: 2815

LIFHP-118_16-20_101218
V184110-06 (Water)

Date Sampled
 10/12/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
1,4-Dioxane	55	2.0	ug/L	1	10/12/2018	10/12/2018 17:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.1 %		60-140	10/12/2018	10/12/2018 17:35	EPA 8260B	



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LIFHP-118_11-15_101218

V184110-07 (Water)

Date Sampled
 10/12/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	M
1,4-Dioxane	31	2.0	ug/L	1	10/12/2018	10/12/2018 17:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	10/12/2018	10/12/2018 17:49	EPA 8260B	



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DUP-19

V184110-08 (Water)

Date Sampled
 10/12/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810030

Tetrachloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
1,4-Dioxane	36	2.0	ug/L	1	10/12/2018	10/12/2018 18:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %		60-140	10/12/2018	10/12/2018 18:04	EPA 8260B	



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LIFHP-115_1-2_101218
V184111-01 (Soil)

Date Sampled
 10/12/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
Trichloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
1,1-Dichloroethene	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
Vinyl chloride	ND	60	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/12/2018	10/12/2018 13:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	10/12/2018	10/12/2018 13:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	89.0	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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 Project Number: 2815

LIFHP-115_4-5_101218
V184111-02 (Soil)

Date Sampled
 10/12/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
Trichloroethene	890	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
cis-1,2-Dichloroethene	360	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/12/2018	10/12/2018 14:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>76.9 %</i>		<i>60-140</i>	<i>10/12/2018</i>	<i>10/12/2018 14:10</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	87.6	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_6-7_101218
V184111-03 (Soil)

Date Sampled
 10/12/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
Trichloroethene	3000	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	2200	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	87	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
1,1-Dichloroethene	440	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
Vinyl chloride	46	46	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/12/2018	10/12/2018 14:25	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 80.3 % 60-140 10/12/2018 10/12/2018 14:25 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	92.8	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_8-9_101218
V184111-04 (Soil)

Date Sampled
 10/12/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/12/2018	10/12/2018 14:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.0 %		60-140	10/12/2018	10/12/2018 14:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	88.4	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_10-11_101218

V184111-05 (Soil)

Date Sampled
 10/12/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/12/2018	10/12/2018 14:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.9 %		60-140	10/12/2018	10/12/2018 14:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	86.3	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_19-20_101218
V184111-06 (Soil)

Date Sampled
 10/12/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/12/2018	10/12/2018 15:08	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		86.5 %		60-140	10/12/2018	10/12/2018 15:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	83.1	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-115_22-23_101218

V184111-07 (Soil)

Date Sampled
 10/12/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/12/2018	10/12/2018 15:23	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		91.4 %		60-140	10/12/2018	10/12/2018 15:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	83.5	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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DUP-17
V184111-08 (Soil)

Date Sampled
10/12/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/12/2018	10/12/2018 15:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.3 %		60-140	10/12/2018	10/12/2018 15:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	83.4	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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 Project Number: 2815

LIFHP-118_1-2_101218
V184111-09 (Soil)

Date Sampled
 10/12/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/12/2018	10/12/2018 18:19	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		91.2 %		60-140	10/12/2018	10/12/2018 18:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	94.1	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_3-4_101218
V184111-10 (Soil)

Date Sampled
 10/12/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/12/2018	10/12/2018 18:33	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		87.8 %		60-140	10/12/2018	10/12/2018 18:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	94.4	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_5-6_101218

V184111-11 (Soil)

Date Sampled
 10/12/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/12/2018	10/12/2018 18:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		83.8 %		60-140	10/12/2018	10/12/2018 18:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	94.8	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_8-9_101218
V184111-12 (Soil)

Date Sampled
 10/12/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

CN

Tetrachloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/12/2018	10/12/2018 19:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		72.5 %		60-140	10/12/2018	10/12/2018 19:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	90.8	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_10-11_101218
V184111-13 (Soil)

Date Sampled
 10/12/2018 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

CN

Tetrachloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/12/2018	10/12/2018 19:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.2 %		60-140	10/12/2018	10/12/2018 19:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	92.2	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-118_25-26_101218
V184111-14 (Soil)

Date Sampled
 10/12/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	10/12/2018	10/12/2018 19:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %		60-140	10/12/2018	10/12/2018 19:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	81.5	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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DUP-20
V184111-15 (Soil)

Date Sampled
 10/12/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810031

Tetrachloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/12/2018	10/12/2018 19:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		116 %		60-140	10/12/2018	10/12/2018 19:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810032

% Solids	92.3	0.00	% by Weight	1	10/12/2018	10/14/2018 11:21	SM 2540B	
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LIFHP-122_21-25_101318

V184201-01 (Water)

Date Sampled
 10/13/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
Vinyl chloride	1.3	1.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	
1,4-Dioxane	92	2.0	ug/L	1	10/14/2018	10/14/2018 10:08	EPA 8260B	M
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.8 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 10:08</i>	<i>EPA 8260B</i>	



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LIFHP-122_16-20_101318

V184201-02 (Water)

Date Sampled
 10/13/2018 17:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
1,4-Dioxane	110	2.0	ug/L	1	10/14/2018	10/14/2018 10:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.3 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 10:23</i>	<i>EPA 8260B</i>	



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LIFHP-122_11-15_101318

V184201-03 (Water)

Date Sampled
 10/13/2018 17:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
1,4-Dioxane	53	2.0	ug/L	1	10/14/2018	10/14/2018 10:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %		60-140	10/14/2018	10/14/2018 10:37	EPA 8260B	



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LIFHP-121_22-26_101318
V184201-04 (Water)

Date Sampled
 10/13/2018 17:22

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
Vinyl chloride	1.1	1.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
1,4-Dioxane	100	2.0	ug/L	1	10/14/2018	10/14/2018 10:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.4 %		60-140	10/14/2018	10/14/2018 10:52	EPA 8260B	



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LIFHP-121_16-20_101318
V184201-05 (Water)

Date Sampled
 10/13/2018 17:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
Vinyl chloride	2.9	1.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
1,4-Dioxane	91	2.0	ug/L	1	10/14/2018	10/14/2018 11:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/14/2018	10/14/2018 11:06	EPA 8260B	



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LIFHP-121_11-15_101318

Date Sampled
 10/13/2018 18:16

V184201-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
Vinyl chloride	1.3	1.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
1,4-Dioxane	49	2.0	ug/L	1	10/14/2018	10/14/2018 11:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %		60-140	10/14/2018	10/14/2018 11:21	EPA 8260B	



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LIFHP-117B_22-26_101318
V184201-07 (Water)

Date Sampled
 10/13/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
1,4-Dioxane	29	2.0	ug/L	1	10/14/2018	10/14/2018 11:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/14/2018	10/14/2018 11:35	EPA 8260B	



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LIFHP-117B_17-21_101318

V184201-08 (Water)

Date Sampled
 10/13/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
1,4-Dioxane	31	2.0	ug/L	1	10/14/2018	10/14/2018 11:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/14/2018	10/14/2018 11:50	EPA 8260B	



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LIFHP-117B_12-16_101318
V184201-09 (Water)

Date Sampled
 10/13/2018 12:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810033

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
1,4-Dioxane	2.6	2.0	ug/L	1	10/14/2018	10/14/2018 12:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.8 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 12:05</i>	<i>EPA 8260B</i>	



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Project Number: 2815

LIFHP-117B_1-2_101318

V184202-01 (Soil)

Date Sampled
10/13/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/14/2018	10/14/2018 13:32	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		106 %		60-140	10/14/2018	10/14/2018 13:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	90.1	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-117B_3-4_101318
V184202-02 (Soil)

Date Sampled
 10/13/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/14/2018	10/14/2018 13:46	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		89.0 %		60-140	10/14/2018	10/14/2018 13:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.2	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-117B_6-7_101318
V184202-03 (Soil)

Date Sampled
 10/13/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/14/2018	10/14/2018 14:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.8 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 14:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	87.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-117B_9-10_101318
V184202-04 (Soil)

Date Sampled
 10/13/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/14/2018	10/14/2018 14:15	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		77.8 %		60-140	10/14/2018	10/14/2018 14:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	89.9	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-117B_10-11_101318

V184202-05 (Soil)

Date Sampled
 10/13/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/14/2018	10/14/2018 14:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		110 %		60-140	10/14/2018	10/14/2018 14:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	84.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-117B_29-30_101318

V184202-06 (Soil)

Date Sampled
 10/13/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 14:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>109 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 14:45</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	81.2	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_1-2_101318
V184202-07 (Soil)

Date Sampled
 10/13/2018 14:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/14/2018	10/14/2018 14:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.6 %		60-140	10/14/2018	10/14/2018 14:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.2	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_3-4_101318
V184202-08 (Soil)

Date Sampled
 10/13/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/14/2018	10/14/2018 15:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.0 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 15:14</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	95.1	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_6-7_101318
V184202-09 (Soil)

Date Sampled
 10/13/2018 14:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 15:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.0 %		60-140	10/14/2018	10/14/2018 15:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.2	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_9-10_101318
V184202-10 (Soil)

Date Sampled
 10/13/2018 14:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/14/2018	10/14/2018 15:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/14/2018	10/14/2018 15:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	93.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_8-9_101318
V184202-11 (Soil)

Date Sampled
 10/13/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/14/2018	10/14/2018 15:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/14/2018	10/14/2018 15:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-122_25-26_101318
V184202-12 (Soil)

Date Sampled
 10/13/2018 16:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/14/2018	10/14/2018 16:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/14/2018	10/14/2018 16:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	80.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_1-2_101318
V184202-13 (Soil)

Date Sampled
 10/13/2018 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/14/2018	10/14/2018 16:27	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.1 %		60-140	10/14/2018	10/14/2018 16:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	96.0	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-121_2-3_101318
V184202-14 (Soil)

Date Sampled
 10/13/2018 16:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/14/2018	10/14/2018 17:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	10/14/2018	10/14/2018 17:10	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	96.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-121_4-5_101318
V184202-15 (Soil)

Date Sampled
 10/13/2018 16:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
Trichloroethene	64	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
cis-1,2-Dichloroethene	71	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
1,1-Dichloroethene	63	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/14/2018	10/14/2018 17:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>	<i>60-140</i>		<i>10/14/2018</i>	<i>10/14/2018 17:25</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	95.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_8-9_101318
V184202-16 (Soil)

Date Sampled
 10/13/2018 16:56

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/14/2018	10/14/2018 17:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/14/2018	10/14/2018 17:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	93.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_9-10_101318
V184202-17 (Soil)

Date Sampled
 10/13/2018 16:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/14/2018	10/14/2018 17:54	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.4 %		60-140	10/14/2018	10/14/2018 17:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	86.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-121_23-24_101318
V184202-18 (Soil)

Date Sampled
 10/13/2018 17:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810034

Tetrachloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/14/2018	10/14/2018 18:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/14/2018	10/14/2018 18:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	83.4	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-123_22-26_101418

Date Sampled
 10/14/2018 12:50

V184203-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
Vinyl chloride	1.1	1.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
1,4-Dioxane	24	2.0	ug/L	1	10/14/2018	10/14/2018 18:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.0 %		60-140	10/14/2018	10/14/2018 18:52	EPA 8260B	



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LIFHP-123_16-20_101418
V184203-02 (Water)

Date Sampled
 10/14/2018 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
1,4-Dioxane	67	2.0	ug/L	1	10/14/2018	10/14/2018 19:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.1 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 19:07</i>	<i>EPA 8260B</i>	



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 Project Number: 2815

LIFHP-123_10-14_101418
V184203-03 (Water)

Date Sampled
 10/14/2018 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
1,4-Dioxane	47	2.0	ug/L	1	10/14/2018	10/14/2018 19:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.4 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 19:22</i>	<i>EPA 8260B</i>	



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DUP-21_101418

Date Sampled

V184203-04 (Water)

10/14/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
1,4-Dioxane	45	2.0	ug/L	1	10/14/2018	10/14/2018 19:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 19:36</i>	<i>EPA 8260B</i>	



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LIFHP-124_21-25_101418

V184203-05 (Water)

Date Sampled
 10/14/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
1,4-Dioxane	79	2.0	ug/L	1	10/14/2018	10/14/2018 19:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/14/2018	10/14/2018 19:51	EPA 8260B	



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LIFHP-124_16-20_101418
V184203-06 (Water)

Date Sampled
 10/14/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
1,4-Dioxane	68	2.0	ug/L	1	10/14/2018	10/14/2018 20:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.4 %		60-140	10/14/2018	10/14/2018 20:05	EPA 8260B	



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LIFHP-124_11-15_101418

V184203-07 (Water)

Date Sampled
 10/14/2018 16:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810035

Tetrachloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
1,4-Dioxane	60	2.0	ug/L	1	10/14/2018	10/14/2018 20:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.5 %		60-140	10/14/2018	10/14/2018 20:20	EPA 8260B	



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LIFHP-123_1-2_101418
V184204-01 (Soil)

Date Sampled
 10/14/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/14/2018	10/14/2018 21:04	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/14/2018	10/14/2018 21:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.7	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-123_3-4_101418
V184204-02 (Soil)

Date Sampled
 10/14/2018 11:12

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/14/2018	10/14/2018 21:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %		60-140	10/14/2018	10/14/2018 21:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.1	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

LIFHP-123_4-5_101418
V184204-03 (Soil)

Date Sampled
 10/14/2018 11:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/14/2018	10/14/2018 21:33	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.1 %		60-140	10/14/2018	10/14/2018 21:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	93.8	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-123_5-6_101418
V184204-04 (Soil)

Date Sampled
 10/14/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/14/2018	10/14/2018 21:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.8 %		60-140	10/14/2018	10/14/2018 21:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	95.3	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-123_7-8_101418
V184204-05 (Soil)

Date Sampled
 10/14/2018 11:42

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/14/2018	10/14/2018 22:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.4 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 22:02</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	88.7	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-123_22-23_101418
V184204-06 (Soil)

Date Sampled
 10/14/2018 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/14/2018	10/14/2018 22:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.8 %		60-140	10/14/2018	10/14/2018 22:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	77.4	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-123_25-26_101418
V184204-07 (Soil)

Date Sampled
 10/14/2018 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 22:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/14/2018	10/14/2018 22:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	80.3	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-124_1-2_101418
V184204-08 (Soil)

Date Sampled
 10/14/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/14/2018	10/14/2018 22:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	10/14/2018	10/14/2018 22:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	95.4	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-124_3-4_101418
V184204-09 (Soil)

Date Sampled
 10/14/2018 14:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
Trichloroethene	81	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 23:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 23:00</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	93.1	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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 Project Number: 2815

LIFHP-124_6-7_101418
V184204-10 (Soil)

Date Sampled
 10/14/2018 14:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/14/2018	10/14/2018 23:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.9 %		60-140	10/14/2018	10/14/2018 23:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	94.7	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-124_8-9_101418
V184204-11 (Soil)

Date Sampled
 10/14/2018 14:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
Trichloroethene	620	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/14/2018	10/14/2018 23:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.0 %</i>		<i>60-140</i>	<i>10/14/2018</i>	<i>10/14/2018 23:30</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	91.6	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-124_9-10_101418
V184204-12 (Soil)

Date Sampled
 10/14/2018 14:38

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/14/2018	10/14/2018 23:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/14/2018	10/14/2018 23:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	88.3	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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LIFHP-124_24-25_101418
V184204-13 (Soil)

Date Sampled
 10/14/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810036

Tetrachloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/14/2018	10/14/2018 23:59	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.4 %		60-140	10/14/2018	10/14/2018 23:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810037

% Solids	80.4	0.00	% by Weight	1	10/14/2018	10/15/2018 10:32	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-110_8-12_101618

Date Sampled
 10/16/2018 12:00

V184205-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
Vinyl chloride	2.4	1.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 12:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/16/2018	10/16/2018 12:37	EPA 8260B	



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LIFHP-119_10-14_101618
V184205-02 (Water)

Date Sampled
 10/16/2018 13:12

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
Vinyl chloride	7.4	1.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 16:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/16/2018	10/16/2018 16:09	EPA 8260B	



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 Project Number: 2815

LIFHP-119_15-19_101618

V184205-03 (Water)

Date Sampled
 10/16/2018 12:57

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
Vinyl chloride	44	1.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 16:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.6 %</i>		<i>60-140</i>	<i>10/16/2018</i>	<i>10/16/2018 16:24</i>	<i>EPA 8260B</i>	



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SB-111_8-12_101618
V184205-04 (Water)

Date Sampled
 10/16/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
cis-1,2-Dichloroethene	1.4	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
Vinyl chloride	1.1	1.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 18:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/16/2018	10/16/2018 18:51	EPA 8260B	



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SB-113_8-12_101618

V184205-05 (Water)

Date Sampled
 10/16/2018 16:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 19:20	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.0 %		60-140	10/16/2018	10/16/2018 19:20	EPA 8260B	



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 Project Number: 2815

DUP-22_101618

Date Sampled

V184205-06 (Water)

10/16/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810038

Tetrachloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/16/2018	10/16/2018 19:35	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.9 %		60-140	10/16/2018	10/16/2018 19:35	EPA 8260B	



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 Project Number: 2815

SB-110_1-2_101618

V184206-01 (Soil)

Date Sampled
 10/16/2018 11:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/16/2018	10/16/2018 13:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.6 %		60-140	10/16/2018	10/16/2018 13:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	92.7	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-110_3-4_101618

V184206-02 (Soil)

Date Sampled
 10/16/2018 11:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/16/2018	10/16/2018 13:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/16/2018	10/16/2018 13:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	95.1	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-110_4-5_101618

V184206-03 (Soil)

Date Sampled
 10/16/2018 11:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 14:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.5 %		60-140	10/16/2018	10/16/2018 14:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	88.5	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-110_5-6_101618

V184206-04 (Soil)

Date Sampled
 10/16/2018 11:38

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
Trichloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
1,1-Dichloroethene	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
Vinyl chloride	ND	56	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 14:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	10/16/2018	10/16/2018 14:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	93.3	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-110_7-8_101618

V184206-05 (Soil)

Date Sampled
 10/16/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/16/2018	10/16/2018 14:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.2 %		60-140	10/16/2018	10/16/2018 14:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	93.1	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_1-2_101618
V184206-06 (Soil)

Date Sampled
 10/16/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
Trichloroethene	62	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 16:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/16/2018	10/16/2018 16:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	86.7	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_4-5_101618
V184206-07 (Soil)

Date Sampled
 10/16/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	110	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
cis-1,2-Dichloroethene	240	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/16/2018	10/16/2018 22:59	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		78.7 %		60-140	10/16/2018	10/16/2018 22:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	97.7	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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 Project Number: 2815

LIFHP-119_6-7_101618
V184206-08 (Soil)

Date Sampled
 10/16/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
cis-1,2-Dichloroethene	450	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/16/2018	10/16/2018 17:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		90.4 %		60-140	10/16/2018	10/16/2018 17:24	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	87.9	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_7-8_101618
V184206-09 (Soil)

Date Sampled
 10/16/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	150	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
cis-1,2-Dichloroethene	3800	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
trans-1,2-Dichloroethene	53	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
Vinyl chloride	330	47	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/16/2018	10/16/2018 17:38	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 73.8 % 60-140 10/16/2018 10/16/2018 17:38 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	94.7	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_9-10_101618

V184206-10 (Soil)

Date Sampled
 10/16/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/16/2018	10/16/2018 17:53	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.0 %		60-140	10/16/2018	10/16/2018 17:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	83.6	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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LIFHP-119_22-23_101618

V184206-11 (Soil)

Date Sampled
 10/16/2018 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	10/16/2018	10/16/2018 18:07	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.1 %		60-140	10/16/2018	10/16/2018 18:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	84.4	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_1-2_101618

V184206-12 (Soil)

Date Sampled
 10/16/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 20:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/16/2018	10/16/2018 20:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	90.8	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_3-4_101618

Date Sampled
 10/16/2018 14:30

V184206-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
Trichloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
1,1-Dichloroethene	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
Vinyl chloride	ND	61	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/16/2018	10/16/2018 20:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/16/2018	10/16/2018 20:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	93.5	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_4-5_101618

V184206-14 (Soil)

Date Sampled
 10/16/2018 14:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 20:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/16/2018	10/16/2018 20:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	87.2	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_5-6_101618
V184206-15 (Soil)

Date Sampled
 10/16/2018 14:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/16/2018	10/16/2018 20:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.5 %		60-140	10/16/2018	10/16/2018 20:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	91.2	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-111_7-8_101618

V184206-16 (Soil)

Date Sampled
 10/16/2018 14:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810039

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 21:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/16/2018	10/16/2018 21:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	88.3	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_2-3_101618

V184206-17 (Soil)

Date Sampled
 10/16/2018 16:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/16/2018	10/16/2018 21:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>92.1 %</i>		<i>60-140</i>	<i>10/16/2018</i>	<i>10/16/2018 21:46</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	85.8	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_3-4_101618

V184206-18 (Soil)

Date Sampled
 10/16/2018 16:12

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 22:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.5 %</i>		<i>60-140</i>	<i>10/16/2018</i>	<i>10/16/2018 22:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	89.3	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_4-5_101618

V184206-19 (Soil)

Date Sampled
 10/16/2018 16:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/16/2018	10/16/2018 22:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/16/2018	10/16/2018 22:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	91.0	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_5-6_101618

V184206-20 (Soil)

Date Sampled
 10/16/2018 16:16

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/16/2018	10/16/2018 22:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		60-140	10/16/2018	10/16/2018 22:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	87.4	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-113_6-7_101618

V184206-21 (Soil)

Date Sampled
 10/16/2018 16:18

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810040

Tetrachloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/16/2018	10/16/2018 22:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/16/2018	10/16/2018 22:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810041

% Solids	90.0	0.00	% by Weight	1	10/16/2018	10/17/2018 09:40	SM 2540B	
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SB-114_6-10_101718

Date Sampled
10/17/2018 10:20

V184207-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 11:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.5 %		60-140	10/17/2018	10/17/2018 11:18	EPA 8260B	



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SB-112_10-14_101718

V184207-02 (Water)

Date Sampled
 10/17/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
Vinyl chloride	1.9	1.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 13:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %		60-140	10/17/2018	10/17/2018 13:07	EPA 8260B	



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SB-112_15-19_101718

Date Sampled
 10/17/2018 11:05

V184207-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
Vinyl chloride	2.7	1.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 13:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.5 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 13:21</i>	<i>EPA 8260B</i>	



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SB-112_20-24_101718

V184207-04 (Water)

Date Sampled
10/17/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
Vinyl chloride	2.5	1.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 13:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	10/17/2018	10/17/2018 13:36	EPA 8260B	



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SB-115_6-10_101718

V184207-05 (Water)

Date Sampled
10/17/2018 12:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 15:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.3 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 15:47</i>	<i>EPA 8260B</i>	



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SB-116_20-24_101718

V184207-06 (Water)

Date Sampled
10/17/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 18:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.2 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 18:02</i>	<i>EPA 8260B</i>	



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SB-116_15-19_101718

V184207-07 (Water)

Date Sampled
10/17/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 18:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/17/2018	10/17/2018 18:17	EPA 8260B	



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SB-116_10-14_101718

Date Sampled
 10/17/2018 15:05

V184207-08 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 18:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/17/2018	10/17/2018 18:31	EPA 8260B	



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SB-117_8-12_101718

V184207-09 (Water)

Date Sampled
10/17/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810042

Tetrachloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/17/2018	10/17/2018 18:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/17/2018	10/17/2018 18:46	EPA 8260B	



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SB-114_1-2_101718

V184208-01 (Soil)

Date Sampled
10/17/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/17/2018	10/17/2018 11:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 11:39</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.5	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-114_2-3_101718

V184208-02 (Soil)

Date Sampled
10/17/2018 10:03

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/17/2018	10/17/2018 11:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 11:54</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	91.8	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-114_3-4_101718

V184208-03 (Soil)

Date Sampled
10/17/2018 09:57

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 12:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.7 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 12:08</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	90.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-114_4-5_101718

V184208-04 (Soil)

Date Sampled
10/17/2018 09:59

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/17/2018	10/17/2018 12:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.6 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 12:37</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	87.7	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-114_5-6_101718

V184208-05 (Soil)

Date Sampled
10/17/2018 10:01

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 12:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/17/2018	10/17/2018 12:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.0	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_1-2_101718
V184208-06 (Soil)

Date Sampled
 10/17/2018 09:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 14:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.9 %		60-140	10/17/2018	10/17/2018 14:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	97.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-112_3-4_101718

V184208-07 (Soil)

Date Sampled
10/17/2018 09:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/17/2018	10/17/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.6 %		60-140	10/17/2018	10/17/2018 14:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	92.7	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_5-6_101718

V184208-08 (Soil)

Date Sampled
10/17/2018 09:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 14:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>89.4 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 14:49</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	93.4	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_6-7_101718

V184208-09 (Soil)

Date Sampled
 10/17/2018 09:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 15:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.5 %		60-140	10/17/2018	10/17/2018 15:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	96.5	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_7-8_101718

V184208-10 (Soil)

Date Sampled
10/17/2018 09:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 15:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		83.4 %		60-140	10/17/2018	10/17/2018 15:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	96.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-112_24-25_101718

V184208-11 (Soil)

Date Sampled
 10/17/2018 09:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/17/2018	10/17/2018 15:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.3 %		60-140	10/17/2018	10/17/2018 15:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	81.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-115_0-1_101718

V184208-12 (Soil)

Date Sampled
 10/17/2018 12:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/17/2018	10/17/2018 16:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.8 %		60-140	10/17/2018	10/17/2018 16:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.2	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-115_1-2_101718

V184208-13 (Soil)

Date Sampled
 10/17/2018 12:17

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/17/2018	10/17/2018 16:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.7 %		60-140	10/17/2018	10/17/2018 16:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.8	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-115_2-3_101718

V184208-14 (Soil)

Date Sampled
 10/17/2018 12:19

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 16:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.2 %		60-140	10/17/2018	10/17/2018 16:32	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	80.3	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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V184208-15 (Soil)

Date Sampled
 10/17/2018 12:21

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 17:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.4 %		60-140	10/17/2018	10/17/2018 17:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	87.9	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-115_4-5_101718

V184208-16 (Soil)

Date Sampled
 10/17/2018 12:23

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810043

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/17/2018	10/17/2018 17:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.2 %		60-140	10/17/2018	10/17/2018 17:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	88.0	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_1-2_101718

V184208-17 (Soil)

Date Sampled
10/17/2018 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/17/2018	10/17/2018 19:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/17/2018	10/17/2018 19:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	95.5	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_3-4_101718

V184208-18 (Soil)

Date Sampled
10/17/2018 13:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/17/2018	10/17/2018 19:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/17/2018	10/17/2018 19:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	96.4	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_5-6_101718

V184208-19 (Soil)

Date Sampled
10/17/2018 13:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/17/2018	10/17/2018 19:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		60-140	10/17/2018	10/17/2018 19:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	94.6	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-116_6-7_101718

V184208-20 (Soil)

Date Sampled
 10/17/2018 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
1,4-Dioxane	ND	82	ug/kg dry	1	10/17/2018	10/17/2018 20:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.9 %		60-140	10/17/2018	10/17/2018 20:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	92.3	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_7-8_101718

V184208-21 (Soil)

Date Sampled
 10/17/2018 13:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/17/2018	10/17/2018 20:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/17/2018	10/17/2018 20:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	87.4	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-116_21-22_101718

V184208-22 (Soil)

Date Sampled
 10/17/2018 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 20:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/17/2018	10/17/2018 20:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	76.6	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-117_1-2_101718

Date Sampled
 10/17/2018 14:43

V184208-23 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 20:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/17/2018	10/17/2018 20:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	91.1	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-117_2-3_101718

V184208-24 (Soil)

Date Sampled
 10/17/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
Trichloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
1,1-Dichloroethene	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
Vinyl chloride	ND	58	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/17/2018	10/17/2018 21:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.0 %		60-140	10/17/2018	10/17/2018 21:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	89.4	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-117_3-4_101718

V184208-25 (Soil)

Date Sampled
 10/17/2018 14:47

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/17/2018	10/17/2018 21:26	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.0 %		60-140	10/17/2018	10/17/2018 21:26	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	80.5	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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SB-117_4-5_101718

V184208-26 (Soil)

Date Sampled
 10/17/2018 14:49

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/17/2018	10/17/2018 21:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	10/17/2018	10/17/2018 21:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	83.8	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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DUP-23_101718

Date Sampled

V184208-27 (Soil)

10/17/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810044

Tetrachloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/17/2018	10/17/2018 21:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.9 %</i>		<i>60-140</i>	<i>10/17/2018</i>	<i>10/17/2018 21:56</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810045

% Solids	93.8	0.00	% by Weight	1	10/17/2018	10/18/2018 09:07	SM 2540B	
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 Project Number: 2815

SB-118_6-10_101818

Date Sampled
 10/18/2018 09:10

V184209-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/18/2018	10/18/2018 10:00	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/18/2018	10/18/2018 10:00	EPA 8260B	



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 Project Number: 2815

SB-120_8-12_101818
V184209-02 (Water)

Date Sampled
 10/18/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
Trichloroethene	330	10	ug/L	10	10/18/2018	10/22/2018 17:26	EPA 8260B	D
cis-1,2-Dichloroethene	38	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
trans-1,2-Dichloroethene	4.2	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
1,1-Dichloroethene	4.5	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
Vinyl chloride	13	1.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	
1,4-Dioxane	5.6	2.0	ug/L	1	10/18/2018	10/18/2018 11:57	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 101 % 60-140 10/18/2018 10/18/2018 11:57 EPA 8260B



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SB-119_25-29_101818

Date Sampled
 10/18/2018 12:15

V184209-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
cis-1,2-Dichloroethene	14	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
1,4-Dioxane	61	2.0	ug/L	1	10/18/2018	10/18/2018 14:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %		60-140	10/18/2018	10/18/2018 14:19	EPA 8260B	



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SB-119_20-24_101818

Date Sampled
 10/18/2018 12:35

V184209-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
Vinyl chloride	10	1.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
1,4-Dioxane	250	2.0	ug/L	1	10/18/2018	10/18/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/18/2018	10/18/2018 14:34	EPA 8260B	



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SB-119_15-19_101818

V184209-05 (Water)

Date Sampled
 10/18/2018 12:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
Vinyl chloride	25	1.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
1,4-Dioxane	47	2.0	ug/L	1	10/18/2018	10/18/2018 14:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/18/2018	10/18/2018 14:48	EPA 8260B	



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SB-121_8-12_101818

Date Sampled
 10/18/2018 14:05

V184209-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
Trichloroethene	8.2	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
cis-1,2-Dichloroethene	1.3	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/18/2018	10/18/2018 15:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.0 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 15:03</i>	<i>EPA 8260B</i>	



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DUP-24_101818

Date Sampled

V184209-07 (Water)

10/18/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
Trichloroethene	4.8	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
cis-1,2-Dichloroethene	6.2	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
Vinyl chloride	3.6	1.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/18/2018	10/18/2018 17:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		92.7 %		60-140	10/18/2018	10/18/2018 17:58	EPA 8260B	



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SB-123_8-12_101818
V184209-08 (Water)

Date Sampled
 10/18/2018 15:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
Trichloroethene	3.8	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
cis-1,2-Dichloroethene	5.6	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
Vinyl chloride	3.1	1.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/18/2018	10/18/2018 18:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>93.9 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 18:12</i>	<i>EPA 8260B</i>	



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SB-122_25-29_101818

V184209-09 (Water)

Date Sampled
 10/18/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
cis-1,2-Dichloroethene	130	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
Vinyl chloride	190	10	ug/L	10	10/18/2018	10/22/2018 18:09	EPA 8260B	D
1,4-Dioxane	27	2.0	ug/L	1	10/18/2018	10/18/2018 18:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.4 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 18:27</i>	<i>EPA 8260B</i>	



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SB-122_20-24_101818

Date Sampled
 10/18/2018 16:10

V184209-10 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	
cis-1,2-Dichloroethene	2700	100	ug/L	100	10/18/2018	10/22/2018 18:53	EPA 8260B	D
trans-1,2-Dichloroethene	19	1.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	
1,1-Dichloroethene	2.5	1.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	
Vinyl chloride	6300	100	ug/L	100	10/18/2018	10/22/2018 18:53	EPA 8260B	D
1,4-Dioxane	18	2.0	ug/L	1	10/18/2018	10/18/2018 18:41	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 96.3 % 60-140 10/18/2018 10/18/2018 18:41 EPA 8260B



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SB-122_15-19_101818

Date Sampled
 10/18/2018 16:30

V184209-11 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	
cis-1,2-Dichloroethene	5900	100	ug/L	100	10/18/2018	10/22/2018 19:23	EPA 8260B	D
trans-1,2-Dichloroethene	34	1.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	
1,1-Dichloroethene	5.9	1.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	
Vinyl chloride	9400	100	ug/L	100	10/18/2018	10/22/2018 19:23	EPA 8260B	D
1,4-Dioxane	48	2.0	ug/L	1	10/18/2018	10/18/2018 18:56	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 95.8 % 60-140 10/18/2018 10/18/2018 18:56 EPA 8260B



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DUP-25_101818

Date Sampled

V184209-12 (Water)

10/18/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810046

Tetrachloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	
cis-1,2-Dichloroethene	6800	100	ug/L	100	10/18/2018	10/22/2018 17:55	EPA 8260B	D
trans-1,2-Dichloroethene	33	1.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	
1,1-Dichloroethene	5.7	1.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	
Vinyl chloride	9800	100	ug/L	100	10/18/2018	10/22/2018 17:55	EPA 8260B	D
1,4-Dioxane	51	2.0	ug/L	1	10/18/2018	10/18/2018 19:11	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 97.3 % 60-140 10/18/2018 10/18/2018 19:11 EPA 8260B



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SB-118_1-2_101818

V184210-01 (Soil)

Date Sampled
 10/18/2018 08:44

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/18/2018	10/18/2018 10:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/18/2018	10/18/2018 10:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	85.9	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-118_2-3_101818

V184210-02 (Soil)

Date Sampled
 10/18/2018 08:46

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
Trichloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
1,1-Dichloroethene	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
Vinyl chloride	ND	56	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/18/2018	10/18/2018 10:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/18/2018	10/18/2018 10:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.5	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-118_3-4_101818

V184210-03 (Soil)

Date Sampled
 10/18/2018 08:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/18/2018	10/18/2018 11:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/18/2018	10/18/2018 11:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	90.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-118_4-5_101818

V184210-04 (Soil)

Date Sampled
 10/18/2018 08:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/18/2018 11:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 11:28</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	84.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-118_5-6_101818

V184210-05 (Soil)

Date Sampled
 10/18/2018 08:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/18/2018	10/18/2018 11:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/18/2018	10/18/2018 11:42	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	85.6	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-120_1-2_101818

V184210-06 (Soil)

Date Sampled
 10/18/2018 10:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
Trichloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
1,1-Dichloroethene	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
Vinyl chloride	ND	39	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
1,4-Dioxane	ND	77	ug/kg dry	1	10/18/2018	10/18/2018 13:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.9 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 13:21</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	92.8	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-120_3-4_101818

V184210-07 (Soil)

Date Sampled
10/18/2018 10:38

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
Trichloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
1,4-Dioxane	ND	80	ug/kg dry	1	10/18/2018	10/18/2018 13:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 13:35</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	87.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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Date Sampled
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V184210-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/18/2018	10/18/2018 13:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.7 %		60-140	10/18/2018	10/18/2018 13:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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 Project Number: 2815

SB-120_7-8_101818

V184210-09 (Soil)

Date Sampled
 10/18/2018 10:42

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
Trichloroethene	130	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/18/2018	10/18/2018 14:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 14:04</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	91.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_1-2_101818

V184210-10 (Soil)

Date Sampled
 10/18/2018 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/18/2018	10/18/2018 16:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.2 %		60-140	10/18/2018	10/18/2018 16:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	94.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_5-6_101818

Date Sampled
 10/18/2018 09:50

V184210-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
1,4-Dioxane	140	97	ug/kg dry	1	10/18/2018	10/18/2018 16:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.7 %		60-140	10/18/2018	10/18/2018 16:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	92.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_7-8_101818

Date Sampled
 10/18/2018 09:55

V184210-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/18/2018 16:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		89.0 %		60-140	10/18/2018	10/18/2018 16:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	95.7	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_9-10_101818
V184210-13 (Soil)

Date Sampled
 10/18/2018 10:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	180	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
trans-1,2-Dichloroethene	240	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
Vinyl chloride	370	45	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/18/2018	10/18/2018 16:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		76.5 %		60-140	10/18/2018	10/18/2018 16:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	92.7	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_11-12_101818

V184210-14 (Soil)

Date Sampled
 10/18/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

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Tetrachloroethene	810	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
cis-1,2-Dichloroethene	16000	480	ug/kg dry	10	10/18/2018	10/22/2018 23:46	EPA 8260B	D
trans-1,2-Dichloroethene	2100	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
1,1-Dichloroethene	1100	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
Vinyl chloride	3600	48	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/18/2018	10/18/2018 16:59	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 72.4 % 60-140 10/18/2018 10/18/2018 16:59 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	87.5	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_19-20_101818

V184210-15 (Soil)

Date Sampled
10/18/2018 10:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/18/2018	10/18/2018 17:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 17:14</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.7	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_23.5-24.5_101818

V184210-16 (Soil)

Date Sampled
 10/18/2018 10:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/18/2018	10/18/2018 17:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		113 %		60-140	10/18/2018	10/18/2018 17:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	87.0	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-119_26-27_101818

V184210-17 (Soil)

Date Sampled
10/18/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810047

Tetrachloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/18/2018	10/18/2018 17:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>90.2 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 17:43</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_2-3_101818

V184210-18 (Soil)

Date Sampled
 10/18/2018 13:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
Trichloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
1,1-Dichloroethene	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
Vinyl chloride	ND	58	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/18/2018	10/22/2018 22:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/18/2018	10/22/2018 22:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	81.7	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_3-4_101818

V184210-19 (Soil)

Date Sampled
 10/18/2018 13:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/22/2018 22:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.4 %		60-140	10/18/2018	10/22/2018 22:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	94.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_4-5_101818

V184210-20 (Soil)

Date Sampled
 10/18/2018 13:56

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/18/2018	10/22/2018 22:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/18/2018	10/22/2018 22:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	91.8	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_5-6_101818

V184210-21 (Soil)

Date Sampled
 10/18/2018 13:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/18/2018	10/18/2018 20:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	10/18/2018	10/18/2018 20:38	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	92.4	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-121_6-7_101818

Date Sampled
 10/18/2018 14:00

V184210-22 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/18/2018	10/18/2018 20:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %		60-140	10/18/2018	10/18/2018 20:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	84.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_1-2_101818

V184210-23 (Soil)

Date Sampled
 10/18/2018 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/18/2018	10/18/2018 21:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.0 %		60-140	10/18/2018	10/18/2018 21:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	96.8	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_5-6_101818

V184210-24 (Soil)

Date Sampled
 10/18/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/18/2018	10/18/2018 21:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>97.0 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 21:22</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	95.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_7-8_101818

V184210-25 (Soil)

Date Sampled
 10/18/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/18/2018	10/18/2018 21:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.6 %		60-140	10/18/2018	10/18/2018 21:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	89.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_9-10_101818

Date Sampled
 10/18/2018 15:10

V184210-26 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/18/2018	10/18/2018 21:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.7 %		60-140	10/18/2018	10/18/2018 21:51	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	97.1	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_11-12_101818

V184210-27 (Soil)

Date Sampled
 10/18/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
Vinyl chloride	53	49	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/18/2018	10/22/2018 23:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>96.9 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/22/2018 23:02</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	84.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_19-20_101818

V184210-28 (Soil)

Date Sampled
 10/18/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
cis-1,2-Dichloroethene	8000	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
trans-1,2-Dichloroethene	76	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
Vinyl chloride	1200	47	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/18/2018	10/18/2018 22:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.7 %</i>	<i>60-140</i>		<i>10/18/2018</i>	<i>10/18/2018 22:20</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	85.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_23.5-24.5_101818

V184210-29 (Soil)

Date Sampled
 10/18/2018 15:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/18/2018	10/18/2018 22:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.3 %		60-140	10/18/2018	10/18/2018 22:35	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	83.2	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-122_26-27_101818

V184210-30 (Soil)

Date Sampled
 10/18/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
Vinyl chloride	47	47	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/18/2018	10/18/2018 22:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.7 %		60-140	10/18/2018	10/18/2018 22:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	81.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-123_1-2_101818

Date Sampled
 10/18/2018 15:24

V184210-31 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/18/2018 23:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.5 %		60-140	10/18/2018	10/18/2018 23:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	88.8	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-123_3-4_101818

Date Sampled
 10/18/2018 15:28

V184210-32 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/18/2018	10/18/2018 23:19	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.6 %		60-140	10/18/2018	10/18/2018 23:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	93.4	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-123_4-5_101818

V184210-33 (Soil)

Date Sampled
 10/18/2018 15:26

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/18/2018	10/18/2018 23:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>10/18/2018</i>	<i>10/18/2018 23:33</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	90.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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Date Sampled
 10/18/2018 15:30

V184210-34 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/18/2018	10/18/2018 23:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/18/2018	10/18/2018 23:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	91.3	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-123_7-8_101818

V184210-35 (Soil)

Date Sampled
 10/18/2018 15:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810048

Tetrachloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/18/2018	10/19/2018 00:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %		60-140	10/18/2018	10/19/2018 00:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810049

% Solids	87.9	0.00	% by Weight	1	10/18/2018	10/23/2018 10:52	SM 2540B	
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SB-124_6-10_101818
V184301-01 (Water)

Date Sampled
 10/18/2018 16:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
Trichloroethene	1.1	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/22/2018	10/22/2018 19:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/22/2018	10/22/2018 19:52	EPA 8260B	



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SB-125_6-10_101918
V184301-02 (Water)

Date Sampled
 10/19/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/22/2018	10/22/2018 20:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/22/2018	10/22/2018 20:06	EPA 8260B	



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SB-126_6-10_101918
V184301-03 (Water)

Date Sampled
 10/19/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/22/2018	10/22/2018 20:21	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/22/2018	10/22/2018 20:21	EPA 8260B	



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SB-127_25-29_102218

Date Sampled
 10/22/2018 15:30

V184301-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
Vinyl chloride	22	1.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
1,4-Dioxane	32	2.0	ug/L	1	10/22/2018	10/22/2018 19:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/22/2018	10/22/2018 19:37	EPA 8260B	



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SB-127_20-24_102218

V184301-05 (Water)

Date Sampled
 10/22/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
Trichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
1,1-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	
Vinyl chloride	2800	100	ug/L	100	10/22/2018	10/22/2018 19:08	EPA 8260B	D
1,4-Dioxane	61	20	ug/L	10	10/22/2018	10/22/2018 20:37	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/22/2018	10/22/2018 20:37	EPA 8260B	



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SB-127_15-19_102218

V184301-06 (Water)

Date Sampled
 10/22/2018 16:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810050

Tetrachloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	
Trichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	
cis-1,2-Dichloroethene	220	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	D
trans-1,2-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	
1,1-Dichloroethene	ND	10	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	
Vinyl chloride	3100	100	ug/L	100	10/22/2018	10/22/2018 18:39	EPA 8260B	D
1,4-Dioxane	65	20	ug/L	10	10/22/2018	10/22/2018 20:51	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	10/22/2018	10/22/2018 20:51	EPA 8260B	



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SB-124_1-2_101818

V184302-01 (Soil)

Date Sampled
 10/18/2018 16:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/22/2018	10/23/2018 00:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.3 %		60-140	10/22/2018	10/23/2018 00:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	89.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-124_2-3_101818

V184302-02 (Soil)

Date Sampled
 10/18/2018 16:36

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 01:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.6 %		60-140	10/22/2018	10/23/2018 01:14	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	81.3	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-124_3-4_101818

V184302-03 (Soil)

Date Sampled
 10/18/2018 16:38

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/22/2018	10/23/2018 01:28	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.8 %		60-140	10/22/2018	10/23/2018 01:28	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	87.8	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-124_4-5_101818

V184302-04 (Soil)

Date Sampled
 10/18/2018 16:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/22/2018	10/23/2018 01:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.8 %		60-140	10/22/2018	10/23/2018 01:43	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	87.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-124_5-6_101818

V184302-05 (Soil)

Date Sampled
 10/18/2018 16:42

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/22/2018	10/23/2018 01:57	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.2 %		60-140	10/22/2018	10/23/2018 01:57	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	85.8	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_1-2_101918

V184302-06 (Soil)

Date Sampled
 10/19/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/22/2018	10/23/2018 02:12	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.6 %		60-140	10/22/2018	10/23/2018 02:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	86.4	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_2-3_101918

V184302-07 (Soil)

Date Sampled
 10/19/2018 09:53

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/22/2018	10/23/2018 02:27	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.2 %		60-140	10/22/2018	10/23/2018 02:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	90.9	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_3-4_101918

V184302-08 (Soil)

Date Sampled
 10/19/2018 09:56

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/22/2018	10/23/2018 02:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.8 %		60-140	10/22/2018	10/23/2018 02:41	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	88.7	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_4-5_101918

Date Sampled
 10/19/2018 09:58

V184302-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 10:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	10/22/2018	10/23/2018 10:55	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	89.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-125_0-1_101918

Date Sampled
 10/19/2018 10:02

V184302-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 11:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/22/2018	10/23/2018 11:24	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	91.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-126_0-1_101918

Date Sampled
 10/19/2018 13:50

V184302-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 11:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		91.5 %		60-140	10/22/2018	10/23/2018 11:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	97.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-126_1-2_101918

V184302-12 (Soil)

Date Sampled
 10/19/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 11:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.7 %		60-140	10/22/2018	10/23/2018 11:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	88.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-126_2-3_101918

V184302-13 (Soil)

Date Sampled
 10/19/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/22/2018	10/23/2018 12:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/22/2018	10/23/2018 12:08	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	87.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-126_3-4_101918

V184302-14 (Soil)

Date Sampled
 10/19/2018 14:03

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/22/2018	10/23/2018 12:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.1 %</i>		<i>60-140</i>	<i>10/22/2018</i>	<i>10/23/2018 12:22</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	89.1	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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V184302-15 (Soil)

Date Sampled
 10/19/2018 14:07

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/22/2018	10/23/2018 12:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.5 %		60-140	10/22/2018	10/23/2018 12:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	90.0	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_1-2_102218

V184302-16 (Soil)

Date Sampled
 10/22/2018 14:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/22/2018	10/23/2018 12:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.1 %		60-140	10/22/2018	10/23/2018 12:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	97.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_5-6_102218

V184302-17 (Soil)

Date Sampled
10/22/2018 14:44

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
Trichloroethene	160	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
cis-1,2-Dichloroethene	120	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/22/2018	10/23/2018 13:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>80.1 %</i>		<i>60-140</i>	<i>10/22/2018</i>	<i>10/23/2018 13:06</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	94.2	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_7-8_102218

V184302-18 (Soil)

Date Sampled
 10/22/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 13:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		81.2 %		60-140	10/22/2018	10/23/2018 13:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	91.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_9-10_102218

V184302-19 (Soil)

Date Sampled
 10/22/2018 14:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

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Tetrachloroethene	ND	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
Trichloroethene	79	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
cis-1,2-Dichloroethene	4600	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
trans-1,2-Dichloroethene	180	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
1,1-Dichloroethene	170	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
Vinyl chloride	580	45	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/22/2018	10/23/2018 13:35	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 89.2 % 60-140 10/22/2018 10/23/2018 13:35 EPA 8260B

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	91.6	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_11-12_102218

V184302-20 (Soil)

Date Sampled
 10/22/2018 14:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/22/2018	10/23/2018 13:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		112 %		60-140	10/22/2018	10/23/2018 13:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	83.4	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_19-20_102218

V184302-21 (Soil)

Date Sampled
 10/22/2018 15:12

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
Vinyl chloride	990	48	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/22/2018	10/23/2018 14:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>95.1 %</i>		<i>60-140</i>	<i>10/22/2018</i>	<i>10/23/2018 14:34</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	83.5	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_23.5-24.5_102218

V184302-22 (Soil)

Date Sampled
 10/22/2018 15:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
Vinyl chloride	53	49	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/22/2018	10/23/2018 14:48	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.7 %</i>	<i>60-140</i>		<i>10/22/2018</i>	<i>10/23/2018 14:48</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	80.8	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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SB-127_26-27_102218

V184302-23 (Soil)

Date Sampled
 10/22/2018 15:16

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810051

Tetrachloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/22/2018	10/23/2018 15:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/22/2018	10/23/2018 15:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810052

% Solids	80.8	0.00	% by Weight	1	10/22/2018	10/23/2018 14:01	SM 2540B	
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LIFHP-128_21-25_102318
V184303-01 (Water)

Date Sampled
 10/23/2018 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/23/2018	10/23/2018 17:25	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		114 %		60-140	10/23/2018	10/23/2018 17:25	EPA 8260B	



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LIFHP-128_16-20_102318
V184303-02 (Water)

Date Sampled
 10/23/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
Vinyl chloride	18	1.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/23/2018	10/23/2018 17:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.8 %		60-140	10/23/2018	10/23/2018 17:39	EPA 8260B	



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LIFHP-128_11-15_102318

V184303-03 (Water)

Date Sampled
 10/23/2018 14:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
Vinyl chloride	3.6	1.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/23/2018	10/23/2018 17:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.0 %		60-140	10/23/2018	10/23/2018 17:54	EPA 8260B	



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SB-128_20-24_102318

V184303-04 (Water)

Date Sampled
 10/23/2018 18:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
Vinyl chloride	7.7	1.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
1,4-Dioxane	130	2.0	ug/L	1	10/23/2018	10/23/2018 22:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.0 %		60-140	10/23/2018	10/23/2018 22:31	EPA 8260B	



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SB-128_15-19_102318

V184303-05 (Water)

Date Sampled
 10/23/2018 19:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810053

Tetrachloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:45	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/23/2018	10/23/2018 22:45	EPA 8260B	
cis-1,2-Dichloroethene	1600	20	ug/L	20	10/23/2018	10/24/2018 10:45	EPA 8260B	D
trans-1,2-Dichloroethene	3.5	1.0	ug/L	1	10/23/2018	10/23/2018 22:45	EPA 8260B	
1,1-Dichloroethene	2.1	1.0	ug/L	1	10/23/2018	10/23/2018 22:45	EPA 8260B	
Vinyl chloride	1300	20	ug/L	20	10/23/2018	10/24/2018 10:45	EPA 8260B	D
1,4-Dioxane	660	40	ug/L	20	10/23/2018	10/24/2018 10:45	EPA 8260B	D
<i>Surrogate: 4-Bromofluorobenzene</i>		95.7 %		60-140	10/23/2018	10/23/2018 22:45	EPA 8260B	



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LIFHP-128_1-2_102318
V184304-01 (Soil)

Date Sampled
 10/23/2018 12:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/23/2018	10/23/2018 18:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.8 %		60-140	10/23/2018	10/23/2018 18:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	95.4	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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LIFHP-128_3-4_102318
V184304-02 (Soil)

Date Sampled
 10/23/2018 12:16

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/23/2018	10/23/2018 18:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.6 %</i>		<i>60-140</i>	<i>10/23/2018</i>	<i>10/23/2018 18:52</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.0	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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LIFHP-128_5-6_102318
V184304-03 (Soil)

Date Sampled
 10/23/2018 12:18

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
1,4-Dioxane	96	95	ug/kg dry	1	10/23/2018	10/23/2018 19:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.0 %		60-140	10/23/2018	10/23/2018 19:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.3	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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LIFHP-128_7-8_102318
V184304-04 (Soil)

Date Sampled
 10/23/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/23/2018	10/23/2018 19:21	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		88.7 %		60-140	10/23/2018	10/23/2018 19:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	85.5	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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LIFHP-128_9-10_102318

V184304-05 (Soil)

Date Sampled
 10/23/2018 12:22

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/23/2018	10/23/2018 19:36	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		114 %		60-140	10/23/2018	10/23/2018 19:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	84.2	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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 Project Number: 2815

LIFHP-128_19-20_102318
V184304-06 (Soil)

Date Sampled
 10/23/2018 12:42

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	M
Trichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	10/23/2018	10/23/2018 19:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.9 %		60-140	10/23/2018	10/23/2018 19:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	79.9	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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DUP-26_102318

Date Sampled

V184304-07 (Soil)

10/23/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/23/2018	10/23/2018 20:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	10/23/2018	10/23/2018 20:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	85.4	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_1-2_102318

V184304-08 (Soil)

Date Sampled
 10/23/2018 17:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/23/2018	10/23/2018 20:19	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.6 %		60-140	10/23/2018	10/23/2018 20:19	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.5	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_5-6_102318

V184304-09 (Soil)

Date Sampled
 10/23/2018 17:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/23/2018	10/23/2018 20:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		91.7 %		60-140	10/23/2018	10/23/2018 20:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.3	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_7-8_102318

V184304-10 (Soil)

Date Sampled
 10/23/2018 17:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/23/2018	10/23/2018 20:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.3 %</i>		<i>60-140</i>	<i>10/23/2018</i>	<i>10/23/2018 20:49</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	91.7	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_9-10_102318
V184304-11 (Soil)

Date Sampled
 10/23/2018 17:54

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
Trichloroethene	230	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
cis-1,2-Dichloroethene	1200	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
Vinyl chloride	94	48	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/23/2018	10/23/2018 21:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>72.1 %</i>		<i>60-140</i>	<i>10/23/2018</i>	<i>10/23/2018 21:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	94.3	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_11-12_102318

V184304-12 (Soil)

Date Sampled
 10/23/2018 17:56

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
cis-1,2-Dichloroethene	1400	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
Vinyl chloride	150	49	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/23/2018	10/23/2018 21:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		86.2 %		60-140	10/23/2018	10/23/2018 21:18	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	86.2	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_19-20_102318

V184304-13 (Soil)

Date Sampled
 10/23/2018 17:58

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
Vinyl chloride	73	46	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/23/2018	10/23/2018 21:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>115 %</i>		<i>60-140</i>	<i>10/23/2018</i>	<i>10/23/2018 21:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	86.7	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_23.5-24.5_102318

V184304-14 (Soil)

Date Sampled
 10/23/2018 18:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/23/2018	10/23/2018 21:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		121 %		60-140	10/23/2018	10/23/2018 21:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	79.4	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-128_26-27_102318

V184304-15 (Soil)

Date Sampled
 10/23/2018 18:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810054

Tetrachloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/23/2018	10/23/2018 22:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		94.7 %		60-140	10/23/2018	10/23/2018 22:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810055

% Solids	80.8	0.00	% by Weight	1	10/23/2018	10/24/2018 10:30	SM 2540B	
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SB-129_22-26_102418

V184305-01 (Water)

Date Sampled
 10/24/2018 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
Vinyl chloride	59	1.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
1,4-Dioxane	10	2.0	ug/L	1	10/24/2018	10/24/2018 12:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.8 %</i>		<i>60-140</i>	<i>10/24/2018</i>	<i>10/24/2018 12:58</i>	<i>EPA 8260B</i>	



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SB-129_16-20_102418

Date Sampled
 10/24/2018 12:15

V184305-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
trans-1,2-Dichloroethene	1.4	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
1,1-Dichloroethene	1.6	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
Vinyl chloride	39	1.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
1,4-Dioxane	3.6	2.0	ug/L	1	10/24/2018	10/24/2018 13:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.1 %		60-140	10/24/2018	10/24/2018 13:12	EPA 8260B	



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SB-129_11-15_102418

Date Sampled

V184305-03 (Water)

10/24/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
Vinyl chloride	11	1.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
1,4-Dioxane	68	2.0	ug/L	1	10/24/2018	10/24/2018 13:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.8 %		60-140	10/24/2018	10/24/2018 13:27	EPA 8260B	



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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-130_21-25_102418

V184305-04 (Soil)

Date Sampled
 10/24/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/24/2018	10/24/2018 17:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.2 %		60-140	10/24/2018	10/24/2018 17:06	EPA 8260B	



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SB-130_16-20_102418

V184305-05 (Soil)

Date Sampled
 10/24/2018 16:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/24/2018	10/24/2018 17:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/24/2018	10/24/2018 17:21	EPA 8260B	



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SB-130_11-15_102418

V184305-06 (Soil)

Date Sampled
 10/24/2018 16:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810056

Tetrachloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/24/2018	10/24/2018 17:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		87.0 %		60-140	10/24/2018	10/24/2018 17:35	EPA 8260B	



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SB-129_1-2_102418

V184306-01 (Soil)

Date Sampled
 10/24/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/24/2018	10/24/2018 13:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.8 %		60-140	10/24/2018	10/24/2018 13:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	92.3	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_3-4_102418

V184306-02 (Soil)

Date Sampled
 10/24/2018 11:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/24/2018	10/24/2018 14:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.4 %		60-140	10/24/2018	10/24/2018 14:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	93.5	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_6-7_102418

V184306-03 (Soil)

Date Sampled
 10/24/2018 11:14

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/24/2018	10/24/2018 14:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	10/24/2018	10/24/2018 14:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	91.0	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_7-8_102418

V184306-04 (Soil)

Date Sampled
 10/24/2018 11:16

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/24/2018	10/24/2018 14:40	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		82.4 %		60-140	10/24/2018	10/24/2018 14:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	95.5	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_9-10_102418

Date Sampled
 10/24/2018 11:18

V184306-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
1,4-Dioxane	290	100	ug/kg dry	1	10/24/2018	10/24/2018 14:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.8 %</i>		<i>60-140</i>	<i>10/24/2018</i>	<i>10/24/2018 14:54</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	84.1	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-129_24-25_102418

V184306-06 (Soil)

Date Sampled
 10/24/2018 12:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/24/2018	10/24/2018 15:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.0 %</i>		<i>60-140</i>	<i>10/24/2018</i>	<i>10/24/2018 15:09</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	82.7	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_1-2_102418

V184306-07 (Soil)

Date Sampled
 10/24/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/24/2018	10/24/2018 17:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/24/2018	10/24/2018 17:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	98.1	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_2-3_102418

V184306-08 (Soil)

Date Sampled
 10/24/2018 15:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/24/2018	10/24/2018 18:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %		60-140	10/24/2018	10/24/2018 18:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	93.3	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_3-4_102418

V184306-09 (Soil)

Date Sampled
 10/24/2018 15:04

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/24/2018	10/24/2018 18:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/24/2018	10/24/2018 18:25	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	92.4	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_7-8_102418

V184306-10 (Soil)

Date Sampled
 10/24/2018 15:06

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/24/2018	10/24/2018 18:40	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/24/2018	10/24/2018 18:40	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	86.2	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_9-10_102418

V184306-11 (Soil)

Date Sampled
 10/24/2018 15:08

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/24/2018	10/24/2018 18:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	10/24/2018	10/24/2018 18:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	88.0	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_21-22_102418

V184306-12 (Soil)

Date Sampled
 10/24/2018 15:24

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/24/2018	10/24/2018 19:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/24/2018	10/24/2018 19:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	78.1	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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SB-130_24-25_102418

V184306-13 (Soil)

Date Sampled
 10/24/2018 15:26

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810057

Tetrachloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	10/24/2018	10/24/2018 19:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	10/24/2018	10/24/2018 19:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810058

% Solids	82.6	0.00	% by Weight	1	10/24/2018	10/25/2018 09:56	SM 2540B	
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LIFHP-112_21-25_102418

V184307-01 (Water)

Date Sampled
 10/24/2018 18:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
Vinyl chloride	35	1.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
1,4-Dioxane	2.1	2.0	ug/L	1	10/25/2018	10/25/2018 10:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/25/2018	10/25/2018 10:55	EPA 8260B	



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LIFHP-112_15-19_102418

V184307-02 (Water)

Date Sampled
 10/24/2018 19:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
Vinyl chloride	52	1.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 11:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		106 %		60-140	10/25/2018	10/25/2018 11:10	EPA 8260B	



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LIFHP-112_10-14_102418

V184307-03 (Water)

Date Sampled
 10/24/2018 19:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
Vinyl chloride	27	1.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 11:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>103 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 11:25</i>	<i>EPA 8260B</i>	



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HPT-180_20-24_102518

Date Sampled
 10/25/2018 11:50

V184307-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 13:51	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.6 %		60-140	10/25/2018	10/25/2018 13:51	EPA 8260B	



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HPT-180_14-18_102518
V184307-05 (Water)

Date Sampled
 10/25/2018 12:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 14:06	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.9 %		60-140	10/25/2018	10/25/2018 14:06	EPA 8260B	



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HPT-180_6-10_102518

Date Sampled
 10/25/2018 12:30

V184307-06 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 14:20	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.5 %		60-140	10/25/2018	10/25/2018 14:20	EPA 8260B	



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DUP-27_102518

V184307-07 (Water)

Date Sampled
 10/25/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810059

Tetrachloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/25/2018	10/25/2018 14:35	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/25/2018	10/25/2018 14:35	EPA 8260B	



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LIFHP-112_1-2_102418
V184308-01 (Soil)

Date Sampled
 10/24/2018 17:44

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
1,4-Dioxane	ND	98	ug/kg dry	1	10/25/2018	10/25/2018 12:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.5 %		60-140	10/25/2018	10/25/2018 12:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	94.1	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_3-4_102418
V184308-02 (Soil)

Date Sampled
 10/24/2018 17:46

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
cis-1,2-Dichloroethene	110	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/25/2018	10/25/2018 12:24	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		108 %		60-140	10/25/2018	10/25/2018 12:24	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	95.9	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_4-5_102418
V184308-03 (Soil)

Date Sampled
 10/24/2018 17:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
cis-1,2-Dichloroethene	100	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/25/2018	10/25/2018 12:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>91.9 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 12:38</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	91.3	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_6-7_102418
V184308-04 (Soil)

Date Sampled
 10/24/2018 17:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
cis-1,2-Dichloroethene	240	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/25/2018	10/25/2018 12:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.1 %		60-140	10/25/2018	10/25/2018 12:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	94.9	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_8-9_102418
V184308-05 (Soil)

Date Sampled
 10/24/2018 17:52

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
cis-1,2-Dichloroethene	43	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/25/2018	10/25/2018 13:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		88.8 %		60-140	10/25/2018	10/25/2018 13:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	89.8	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_26-27_102418

V184308-06 (Soil)

Date Sampled
 10/24/2018 18:48

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/25/2018	10/25/2018 13:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.1 %</i>	<i>60-140</i>		<i>10/25/2018</i>	<i>10/25/2018 13:22</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	82.6	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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LIFHP-112_29-30_102418

V184308-07 (Soil)

Date Sampled
 10/24/2018 18:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
Trichloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
1,1-Dichloroethene	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
Vinyl chloride	ND	40	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
1,4-Dioxane	ND	80	ug/kg dry	1	10/25/2018	10/25/2018 13:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %		60-140	10/25/2018	10/25/2018 13:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	84.7	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-180_1-2_102518
V184308-08 (Soil)

Date Sampled
 10/25/2018 10:26

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
Trichloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
1,1-Dichloroethene	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
Vinyl chloride	ND	38	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
1,4-Dioxane	ND	75	ug/kg dry	1	10/25/2018	10/25/2018 14:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.1 %		60-140	10/25/2018	10/25/2018 14:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	98.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-180_2-3_102518

V184308-09 (Soil)

Date Sampled
 10/25/2018 10:28

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
Trichloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
1,1-Dichloroethene	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
Vinyl chloride	ND	39	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
1,4-Dioxane	ND	79	ug/kg dry	1	10/25/2018	10/25/2018 15:04	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.7 %		60-140	10/25/2018	10/25/2018 15:04	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	94.6	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-180_3-4_102518

V184308-10 (Soil)

Date Sampled
 10/25/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/25/2018	10/25/2018 15:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 15:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	94.5	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-180_4-5_102518
V184308-11 (Soil)

Date Sampled
 10/25/2018 10:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/25/2018	10/25/2018 15:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/25/2018	10/25/2018 15:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	89.3	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-180_23-24_102518
V184308-12 (Soil)

Date Sampled
 10/25/2018 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/25/2018	10/25/2018 15:48	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/25/2018	10/25/2018 15:48	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	84.4	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-180_25-26_102518
V184308-13 (Soil)

Date Sampled
 10/25/2018 11:57

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/25/2018	10/25/2018 16:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/25/2018	10/25/2018 16:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	81.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-181_1-2_102518
V184308-14 (Soil)

Date Sampled
 10/25/2018 14:26

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/25/2018	10/25/2018 17:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/25/2018	10/25/2018 17:34	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	90.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-181_2-3_102518

V184308-15 (Soil)

Date Sampled
 10/25/2018 14:28

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/25/2018	10/25/2018 17:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/25/2018	10/25/2018 17:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	88.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-181_3-4_102518
V184308-16 (Soil)

Date Sampled
 10/25/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
Trichloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
1,1-Dichloroethene	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
Vinyl chloride	ND	64	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
1,4-Dioxane	ND	130	ug/kg dry	1	10/25/2018	10/25/2018 18:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>108 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 18:03</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	82.5	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-181_4-5_102518

V184308-17 (Soil)

Date Sampled
 10/25/2018 14:32

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
Trichloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
1,1-Dichloroethene	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
Vinyl chloride	ND	62	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	10/25/2018	10/25/2018 18:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 18:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	85.6	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-181_5-6_102518
V184308-18 (Soil)

Date Sampled
 10/25/2018 15:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/25/2018	10/25/2018 18:33	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/25/2018</i>	<i>10/25/2018 18:33</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	87.2	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-181_22-23_102518
V184308-19 (Soil)

Date Sampled
 10/25/2018 16:22

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810060

Tetrachloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/25/2018	10/25/2018 18:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/25/2018	10/25/2018 18:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810061

% Solids	81.6	0.00	% by Weight	1	10/25/2018	10/26/2018 09:15	SM 2540B	
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HPT-181_24-28_102618

Date Sampled
 10/26/2018 10:00

V184309-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
Trichloroethene	4.9	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 11:55	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.2 %		60-140	10/26/2018	10/26/2018 11:55	EPA 8260B	



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HPT-181_11-15_102618

Date Sampled

V184309-02 (Water)

10/26/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
Trichloroethene	360	10	ug/L	10	10/26/2018	10/26/2018 12:42	EPA 8260B	D
cis-1,2-Dichloroethene	170	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
trans-1,2-Dichloroethene	52	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
Vinyl chloride	11	1.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 12:09	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 102 % 60-140 10/26/2018 10/26/2018 12:09 EPA 8260B



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HPT-181_6-10_102618

Date Sampled
 10/26/2018 11:35

V184309-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	
Trichloroethene	150	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	M
cis-1,2-Dichloroethene	140	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	M
trans-1,2-Dichloroethene	26	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	
Vinyl chloride	15	1.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 12:24	EPA 8260B	

Surrogate: 4-Bromofluorobenzene 103 % 60-140 10/26/2018 10/26/2018 12:24 EPA 8260B



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HPT-184_16-20_102618
V184309-04 (Water)

Date Sampled
 10/26/2018 13:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
cis-1,2-Dichloroethene	180	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
trans-1,2-Dichloroethene	160	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 16:06	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>102 %</i>		<i>60-140</i>	<i>10/26/2018</i>	<i>10/26/2018 16:06</i>	<i>EPA 8260B</i>	



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HPT-184_11-15_102618

V184309-05 (Water)

Date Sampled
 10/26/2018 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
Trichloroethene	200	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
cis-1,2-Dichloroethene	36	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
trans-1,2-Dichloroethene	32	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 16:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/26/2018</i>	<i>10/26/2018 16:20</i>	<i>EPA 8260B</i>	



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HPT-184_6-10_102618

V184309-06 (Water)

Date Sampled
 10/26/2018 14:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810062

Tetrachloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
Trichloroethene	56	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
cis-1,2-Dichloroethene	19	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
trans-1,2-Dichloroethene	17	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/26/2018	10/26/2018 16:35	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.6 %</i>		<i>60-140</i>	<i>10/26/2018</i>	<i>10/26/2018 16:35</i>	<i>EPA 8260B</i>	



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HPT-184_1-2_102618

Date Sampled
 10/26/2018 12:32

V184310-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/26/2018	10/26/2018 14:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/26/2018	10/26/2018 14:39	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	92.0	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_2-3_102618

V184310-02 (Soil)

Date Sampled
 10/26/2018 12:34

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/26/2018	10/26/2018 14:53	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/26/2018	10/26/2018 14:53	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	91.4	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_3-4_102618

Date Sampled
 10/26/2018 12:36

V184310-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/26/2018	10/26/2018 15:08	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/26/2018</i>	<i>10/26/2018 15:08</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	87.0	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_4-5_102618
V184310-04 (Soil)

Date Sampled
 10/26/2018 12:38

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	10/26/2018	10/26/2018 15:22	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		102 %		60-140	10/26/2018	10/26/2018 15:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	83.3	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_5-6_102618

V184310-05 (Soil)

Date Sampled
 10/26/2018 12:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	10/26/2018	10/26/2018 15:37	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/26/2018	10/26/2018 15:37	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	83.5	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-184_21-22_102618

V184310-06 (Soil)

Date Sampled
 10/26/2018 13:02

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810063

Tetrachloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
1,4-Dioxane	ND	87	ug/kg dry	1	10/26/2018	10/26/2018 15:51	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>	<i>60-140</i>		<i>10/26/2018</i>	<i>10/26/2018 15:51</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810064

% Solids	81.9	0.00	% by Weight	1	10/26/2018	10/29/2018 08:52	SM 2540B	
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HPT-182_22-26_102918

Date Sampled
 10/29/2018 15:05

V184401-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810065

Tetrachloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/29/2018	10/29/2018 17:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		94.4 %		60-140	10/29/2018	10/29/2018 17:17	EPA 8260B	



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HPT-182_13-17_102918

V184401-02 (Water)

Date Sampled
 10/29/2018 15:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810065

Tetrachloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
Trichloroethene	10	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
cis-1,2-Dichloroethene	2.8	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
trans-1,2-Dichloroethene	6.4	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/29/2018	10/29/2018 17:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>10/29/2018</i>	<i>10/29/2018 17:32</i>	<i>EPA 8260B</i>	



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HPT-182_5-9_102918

V184401-03 (Water)

Date Sampled
 10/29/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810065

Tetrachloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
Trichloroethene	2500	20	ug/L	20	10/29/2018	10/29/2018 18:30	EPA 8260B	D
cis-1,2-Dichloroethene	74	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
trans-1,2-Dichloroethene	150	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/29/2018	10/29/2018 17:46	EPA 8260B	
1,4-Dioxane	ND	40	ug/L	20	10/29/2018	10/29/2018 18:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/29/2018</i>	<i>10/29/2018 17:46</i>	<i>EPA 8260B</i>	



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HPT-182_1-2_102918

Date Sampled
 10/29/2018 14:20

V184402-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	10/29/2018	10/29/2018 18:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.4 %</i>		<i>60-140</i>	<i>10/29/2018</i>	<i>10/29/2018 18:16</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	81.9	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-182_2-3_102918

Date Sampled

V184402-02 (Soil)

10/29/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/29/2018	10/29/2018 18:45	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/29/2018	10/29/2018 18:45	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	84.2	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-182_3-4_102918

Date Sampled

V184402-03 (Soil)

10/29/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
Trichloroethene	1200	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
cis-1,2-Dichloroethene	200	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/29/2018	10/29/2018 19:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/29/2018	10/29/2018 19:00	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	84.8	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-182_4-5_102918

Date Sampled
 10/29/2018 14:35

V184402-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
Trichloroethene	2800	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
cis-1,2-Dichloroethene	190	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
trans-1,2-Dichloroethene	82	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/29/2018	10/29/2018 19:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.8 %</i>		<i>60-140</i>	<i>10/29/2018</i>	<i>10/29/2018 19:14</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	85.1	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-182_5-6_102918

Date Sampled

V184402-05 (Soil)

10/29/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
Trichloroethene	8300	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
cis-1,2-Dichloroethene	640	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
trans-1,2-Dichloroethene	950	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	10/29/2018	10/29/2018 18:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %		60-140	10/29/2018	10/29/2018 18:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	83.2	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-182_27-28_102918
V184402-06 (Soil)

Date Sampled
 10/29/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810066

Tetrachloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/29/2018	10/29/2018 19:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	10/29/2018	10/29/2018 19:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810067

% Solids	82.0	0.00	% by Weight	1	10/29/2018	10/30/2018 08:34	SM 2540B	
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HPT-185_19-23_103018

Date Sampled
 10/30/2018 11:50

V184403-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 13:34	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/30/2018	10/30/2018 13:34	EPA 8260B	



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HPT-185_14-18_103018

Date Sampled
 10/30/2018 12:15

V184403-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 13:49	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		101 %		60-140	10/30/2018	10/30/2018 13:49	EPA 8260B	



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HPT-185_4-8_103018

Date Sampled
 10/30/2018 12:40

V184403-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 14:04	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/30/2018	10/30/2018 14:04	EPA 8260B	



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SB-131_14-18_103018

V184403-04 (Water)

Date Sampled
 10/30/2018 15:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 17:08	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/30/2018	10/30/2018 17:08	EPA 8260B	



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SB-131_5-9_103018

Date Sampled
 10/30/2018 16:05

V184403-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810068

Tetrachloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/30/2018	10/30/2018 17:23	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	10/30/2018	10/30/2018 17:23	EPA 8260B	



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 Project Number: 2815

HPT-185_1-2_103018

Date Sampled
 10/30/2018 10:30

V184404-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
Trichloroethene	170	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
cis-1,2-Dichloroethene	74	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
trans-1,2-Dichloroethene	1000	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/30/2018	10/30/2018 14:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>88.9 %</i>	<i>60-140</i>		<i>10/30/2018</i>	<i>10/30/2018 14:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	79.4	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_2-3_103018

V184404-02 (Soil)

Date Sampled
 10/30/2018 10:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	10/30/2018	10/30/2018 14:33	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.8 %		60-140	10/30/2018	10/30/2018 14:33	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	83.3	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_3-4_103018
V184404-03 (Soil)

Date Sampled
 10/30/2018 10:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/30/2018	10/30/2018 14:47	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.6 %		60-140	10/30/2018	10/30/2018 14:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	82.8	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_4-5_103018

Date Sampled
 10/30/2018 10:45

V184404-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/30/2018	10/30/2018 15:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.4 %		60-140	10/30/2018	10/30/2018 15:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	85.5	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_5-6_103018

V184404-05 (Soil)

Date Sampled
 10/30/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
1,4-Dioxane	ND	94	ug/kg dry	1	10/30/2018	10/30/2018 15:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		95.5 %		60-140	10/30/2018	10/30/2018 15:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	82.9	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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HPT-185_21-22_103018
V184404-06 (Soil)

Date Sampled
 10/30/2018 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/30/2018	10/30/2018 15:31	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %		60-140	10/30/2018	10/30/2018 15:31	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	79.8	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_1-2_103018

Date Sampled
 10/30/2018 14:45

V184404-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/30/2018	10/30/2018 17:52	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.0 %		60-140	10/30/2018	10/30/2018 17:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	88.7	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_2-3_103018

V184404-08 (Soil)

Date Sampled
 10/30/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
Trichloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
1,1-Dichloroethene	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
Vinyl chloride	ND	39	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
1,4-Dioxane	ND	78	ug/kg dry	1	10/30/2018	10/30/2018 18:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		118 %		60-140	10/30/2018	10/30/2018 18:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	103	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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Date Sampled
 10/30/2018 14:55

V184404-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	10/30/2018	10/30/2018 18:21	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	10/30/2018	10/30/2018 18:21	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	82.7	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_4-5_103018

V184404-10 (Soil)

Date Sampled
 10/30/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/30/2018	10/30/2018 18:36	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.2 %		60-140	10/30/2018	10/30/2018 18:36	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	81.4	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_5-6_103018

V184404-11 (Soil)

Date Sampled
 10/30/2018 15:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/30/2018	10/30/2018 18:50	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.5 %		60-140	10/30/2018	10/30/2018 18:50	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	88.9	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-131_19-20_103018

V184404-12 (Soil)

Date Sampled
 10/30/2018 15:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810069

Tetrachloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/30/2018	10/30/2018 19:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.7 %		60-140	10/30/2018	10/30/2018 19:05	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810070

% Solids	83.8	0.00	% by Weight	1	10/30/2018	10/31/2018 08:56	SM 2540B	
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SB-132_22-26_103118

V184405-01 (Water)

Date Sampled
 10/31/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 13:05	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		101 %		60-140	10/31/2018	10/31/2018 13:05	EPA 8260B	



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SB-132_13-17_103118

Date Sampled
 10/31/2018 11:25

V184405-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
Trichloroethene	510	4.0	ug/L	4	10/31/2018	10/31/2018 15:31	EPA 8260B	D
cis-1,2-Dichloroethene	160	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
trans-1,2-Dichloroethene	94	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 13:20	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 13:20</i>	<i>EPA 8260B</i>	



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SB-132_5-9_103118
V184405-03 (Water)

Date Sampled
 10/31/2018 11:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	
Trichloroethene	43	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	M
cis-1,2-Dichloroethene	40	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	M
trans-1,2-Dichloroethene	9.9	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	
Vinyl chloride	47	1.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	M
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 13:34	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 13:34</i>	<i>EPA 8260B</i>	



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SB-133_16-20_103118

V184405-04 (Water)

Date Sampled
 10/31/2018 15:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 17:00	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.9 %		60-140	10/31/2018	10/31/2018 17:00	EPA 8260B	



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SB-133_11-15_103118

V184405-05 (Water)

Date Sampled
 10/31/2018 15:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 17:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.4 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 17:14</i>	<i>EPA 8260B</i>	



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SB-133_6-10_103118
V184405-06 (Water)

Date Sampled
 10/31/2018 15:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810071

Tetrachloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
Trichloroethene	1.2	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	10/31/2018	10/31/2018 17:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>101 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 17:29</i>	<i>EPA 8260B</i>	



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SB-132_1-2_103118

V184406-01 (Soil)

Date Sampled
 10/31/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/31/2018	10/31/2018 13:49	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/31/2018	10/31/2018 13:49	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	89.6	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_2-3_103118

V184406-02 (Soil)

Date Sampled
 10/31/2018 11:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/31/2018	10/31/2018 14:03	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		117 %		60-140	10/31/2018	10/31/2018 14:03	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	87.7	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_3-4_103118

V184406-03 (Soil)

Date Sampled
 10/31/2018 11:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	10/31/2018	10/31/2018 14:18	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.1 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 14:18</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	88.8	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_4-5_103118

V184406-04 (Soil)

Date Sampled
 10/31/2018 11:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	10/31/2018	10/31/2018 14:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 14:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	87.5	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_5-6_103118
V184406-05 (Soil)

Date Sampled
 10/31/2018 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
Trichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
cis-1,2-Dichloroethene	75	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
1,4-Dioxane	ND	82	ug/kg dry	1	10/31/2018	10/31/2018 14:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.3 %		60-140	10/31/2018	10/31/2018 14:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	89.9	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-132_21-22_103118

V184406-06 (Soil)

Date Sampled
 10/31/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
Trichloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
1,1-Dichloroethene	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
Vinyl chloride	ND	54	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	10/31/2018	10/31/2018 15:02	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	10/31/2018	10/31/2018 15:02	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	80.8	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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DUP-28_103118

Date Sampled

V184406-07 (Soil)

10/31/2018 11:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	10/31/2018	10/31/2018 15:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.9 %		60-140	10/31/2018	10/31/2018 15:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	80.8	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-133_1-2_103118

V184406-08 (Soil)

Date Sampled
 10/31/2018 14:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
1,4-Dioxane	ND	86	ug/kg dry	1	10/31/2018	10/31/2018 17:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.3 %		60-140	10/31/2018	10/31/2018 17:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	98.2	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-133_2-3_103118

V184406-09 (Soil)

Date Sampled
 10/31/2018 14:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
Trichloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	10/31/2018	10/31/2018 18:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/31/2018	10/31/2018 18:13	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	91.7	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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 Project Number: 2815

SB-133_3-4_103118

V184406-10 (Soil)

Date Sampled
 10/31/2018 14:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
Trichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
1,1-Dichloroethene	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
Vinyl chloride	ND	43	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
1,4-Dioxane	ND	85	ug/kg dry	1	10/31/2018	10/31/2018 18:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 18:27</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	93.3	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-133_4-5_103118

V184406-11 (Soil)

Date Sampled
 10/31/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	10/31/2018	10/31/2018 18:42	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>10/31/2018</i>	<i>10/31/2018 18:42</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	89.2	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-133_5-6_103118

V184406-12 (Soil)

Date Sampled
 10/31/2018 14:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
1,4-Dioxane	ND	93	ug/kg dry	1	10/31/2018	10/31/2018 18:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.8 %		60-140	10/31/2018	10/31/2018 18:56	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	83.8	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-133_26-27_103118

V184406-13 (Soil)

Date Sampled
 10/31/2018 15:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V810072

Tetrachloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
Trichloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
cis-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
trans-1,2-Dichloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
1,1-Dichloroethene	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
Vinyl chloride	ND	50	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
1,4-Dioxane	ND	99	ug/kg dry	1	10/31/2018	10/31/2018 19:11	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %		60-140	10/31/2018	10/31/2018 19:11	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V810073

% Solids	81.6	0.00	% by Weight	1	10/31/2018	11/01/2018 08:31	SM 2540B	
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SB-134_24-28_110118

V184407-01 (Water)

Date Sampled
 11/01/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
Trichloroethene	1.3	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
trans-1,2-Dichloroethene	2.1	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 12:25	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.7 %		60-140	11/01/2018	11/01/2018 12:25	EPA 8260B	



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SB-134_11-15_110118

V184407-02 (Water)

Date Sampled
 11/01/2018 11:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
Trichloroethene	270	2.0	ug/L	2	11/01/2018	11/01/2018 15:14	EPA 8260B	D
cis-1,2-Dichloroethene	31	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
trans-1,2-Dichloroethene	57	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 12:39	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>121 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 12:39</i>	<i>EPA 8260B</i>	



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SB-134_6-10_110118
V184407-03 (Water)

Date Sampled
 11/01/2018 11:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
Trichloroethene	47	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
cis-1,2-Dichloroethene	3.8	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
trans-1,2-Dichloroethene	2.4	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 12:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	11/01/2018	11/01/2018 12:54	EPA 8260B	



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HPT-183_14-18_110118
V184407-04 (Water)

Date Sampled
 11/01/2018 14:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
cis-1,2-Dichloroethene	1.1	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
Vinyl chloride	23	1.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 16:27	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		122 %		60-140	11/01/2018	11/01/2018 16:27	EPA 8260B	



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HPT-183_9-13_110118

Date Sampled
 11/01/2018 15:05

V184407-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
Vinyl chloride	32	1.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 16:41	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.7 %		60-140	11/01/2018	11/01/2018 16:41	EPA 8260B	



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HPT-183_3-8_110118
V184407-06 (Water)

Date Sampled
 11/01/2018 15:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
trans-1,2-Dichloroethene	2.0	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
Vinyl chloride	4.9	1.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 16:56	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.6 %		60-140	11/01/2018	11/01/2018 16:56	EPA 8260B	



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DUP-29_110118

Date Sampled

V184407-07 (Water)

11/01/2018 00:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811001

Tetrachloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
trans-1,2-Dichloroethene	1.9	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
Vinyl chloride	5.7	1.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/01/2018	11/01/2018 17:10	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.7 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 17:10</i>	<i>EPA 8260B</i>	



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SB-134_1-2_1101118

V184408-01 (Soil)

Date Sampled
 11/01/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	11/01/2018	11/01/2018 13:17	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	11/01/2018	11/01/2018 13:17	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	90.9	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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SB-134_2-3_1101118
V184408-02 (Soil)

Date Sampled
 11/01/2018 10:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
Trichloroethene	47	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
1,4-Dioxane	ND	91	ug/kg dry	1	11/01/2018	11/01/2018 13:32	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.9 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 13:32</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	88.6	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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 Project Number: 2815

SB-134_3-4_1101118
V184408-03 (Soil)

Date Sampled
 11/01/2018 10:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
Trichloroethene	45	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
cis-1,2-Dichloroethene	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
1,1-Dichloroethene	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
Vinyl chloride	ND	42	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
1,4-Dioxane	ND	84	ug/kg dry	1	11/01/2018	11/01/2018 13:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	11/01/2018	11/01/2018 13:47	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	89.5	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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SB-134_4-5_1101118
V184408-04 (Soil)

Date Sampled
 11/01/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
Trichloroethene	55	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
1,1-Dichloroethene	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
Vinyl chloride	ND	41	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
1,4-Dioxane	ND	83	ug/kg dry	1	11/01/2018	11/01/2018 14:01	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 14:01</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	89.8	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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SB-134_5-6_1101118

V184408-05 (Soil)

Date Sampled
 11/01/2018 11:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	11/01/2018	11/01/2018 14:16	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	11/01/2018	11/01/2018 14:16	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	87.1	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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SB-134_23-24_1101118

Date Sampled

V184408-06 (Soil)

11/01/2018 11:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	11/01/2018	11/01/2018 14:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.1 %		60-140	11/01/2018	11/01/2018 14:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	83.1	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_1-2_1101118

V184408-07 (Soil)

Date Sampled
 11/01/2018 13:35

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
1,4-Dioxane	ND	90	ug/kg dry	1	11/01/2018	11/01/2018 17:54	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.3 %		60-140	11/01/2018	11/01/2018 17:54	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	89.9	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_2-3_1101118

Date Sampled

V184408-08 (Soil)

11/01/2018 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	11/01/2018	11/01/2018 18:09	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	11/01/2018	11/01/2018 18:09	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	87.6	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_3-4_1101118

V184408-09 (Soil)

Date Sampled
 11/01/2018 13:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
Trichloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
cis-1,2-Dichloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
trans-1,2-Dichloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
1,1-Dichloroethene	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
Vinyl chloride	ND	48	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
1,4-Dioxane	ND	96	ug/kg dry	1	11/01/2018	11/01/2018 18:23	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.2 %		60-140	11/01/2018	11/01/2018 18:23	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	80.4	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_4-5_1101118

V184408-10 (Soil)

Date Sampled
 11/01/2018 13:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
Trichloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
cis-1,2-Dichloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
trans-1,2-Dichloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
1,1-Dichloroethene	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
Vinyl chloride	ND	47	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
1,4-Dioxane	ND	95	ug/kg dry	1	11/01/2018	11/01/2018 18:38	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.1 %</i>		<i>60-140</i>	<i>11/01/2018</i>	<i>11/01/2018 18:38</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	79.6	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_5-6_1101118

V184408-11 (Soil)

Date Sampled
 11/01/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
cis-1,2-Dichloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	11/01/2018	11/01/2018 18:52	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.1 %		60-140	11/01/2018	11/01/2018 18:52	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	80.8	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_17-18_1101118
V184408-12 (Soil)

Date Sampled
 11/01/2018 14:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
Trichloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
cis-1,2-Dichloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
trans-1,2-Dichloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
1,1-Dichloroethene	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
Vinyl chloride	ND	55	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	11/01/2018	11/01/2018 19:07	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		100 %		60-140	11/01/2018	11/01/2018 19:07	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	77.3	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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HPT-183_28-19_1101118
V184408-13 (Soil)

Date Sampled
 11/01/2018 14:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811002

Tetrachloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	11/01/2018	11/01/2018 19:22	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.1 %		60-140	11/01/2018	11/01/2018 19:22	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811003

% Solids	83.8	0.00	% by Weight	1	11/01/2018	11/02/2018 08:52	SM 2540B	
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 Project Number: 2815

HPT-186_14-18_110218
V184409-01 (Water)

Date Sampled
 11/02/2018 10:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 12:13	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		102 %		60-140	11/02/2018	11/02/2018 12:13	EPA 8260B	



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HPT-186_8-12_110218

Date Sampled

V184409-02 (Water)

11/02/2018 11:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 12:28	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		97.2 %		60-140	11/02/2018	11/02/2018 12:28	EPA 8260B	



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HPT-186_3-7_110218

Date Sampled

V184409-03 (Water)

11/02/2018 11:15

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 12:42	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		100 %		60-140	11/02/2018	11/02/2018 12:42	EPA 8260B	



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SB-135_1-5_110218
V184409-04 (Water)

Date Sampled
 11/02/2018 14:10

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
cis-1,2-Dichloroethene	1.3	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 14:47	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.0 %		60-140	11/02/2018	11/02/2018 14:47	EPA 8260B	



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SB-135_6-10_110218

Date Sampled

V184409-05 (Water)

11/02/2018 13:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 15:02	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		96.2 %		60-140	11/02/2018	11/02/2018 15:02	EPA 8260B	



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SB-135_11-15_110218

V184409-06 (Water)

Date Sampled
 11/02/2018 13:40

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 15:17	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.2 %		60-140	11/02/2018	11/02/2018 15:17	EPA 8260B	



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SB-135_16-20_110218

V184409-07 (Water)

Date Sampled
 11/02/2018 13:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811004

Tetrachloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
Trichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
1,1-Dichloroethene	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
Vinyl chloride	ND	1.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
1,4-Dioxane	ND	2.0	ug/L	1	11/02/2018	11/02/2018 15:31	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		99.0 %		60-140	11/02/2018	11/02/2018 15:31	EPA 8260B	



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HPT-186_1-2_110218

V184410-01 (Soil)

Date Sampled
 11/02/2018 09:45

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
Trichloroethene	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
cis-1,2-Dichloroethene	110	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
1,1-Dichloroethene	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
Vinyl chloride	ND	49	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
1,4-Dioxane	ND	97	ug/kg dry	1	11/02/2018	11/02/2018 12:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>100 %</i>		<i>60-140</i>	<i>11/02/2018</i>	<i>11/02/2018 12:59</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	85.9	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_2-3_110218

V184410-02 (Soil)

Date Sampled
 11/02/2018 09:50

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
Trichloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
cis-1,2-Dichloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
trans-1,2-Dichloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
1,1-Dichloroethene	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
Vinyl chloride	ND	61	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
1,4-Dioxane	ND	120	ug/kg dry	1	11/02/2018	11/02/2018 13:14	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>98.9 %</i>		<i>60-140</i>	<i>11/02/2018</i>	<i>11/02/2018 13:14</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	82.5	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_3-4_110218
V184410-03 (Soil)

Date Sampled
 11/02/2018 09:55

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	11/02/2018	11/02/2018 13:29	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.8 %		60-140	11/02/2018	11/02/2018 13:29	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	86.1	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_4-5_110218

Date Sampled
 11/02/2018 10:00

V184410-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
Trichloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
cis-1,2-Dichloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
trans-1,2-Dichloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
1,1-Dichloroethene	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
Vinyl chloride	ND	51	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	11/02/2018	11/02/2018 13:43	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>99.0 %</i>		<i>60-140</i>	<i>11/02/2018</i>	<i>11/02/2018 13:43</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	81.3	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_5-6_110218
V184410-05 (Soil)

Date Sampled
 11/02/2018 10:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	11/02/2018	11/02/2018 13:58	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		99.1 %		60-140	11/02/2018	11/02/2018 13:58	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	86.4	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_18-19_110218
V184410-06 (Soil)

Date Sampled
 11/02/2018 10:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	11/02/2018	11/02/2018 14:12	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		98.4 %		60-140	11/02/2018	11/02/2018 14:12	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	83.1	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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HPT-186_28-29_110218
V184410-07 (Soil)

Date Sampled
 11/02/2018 10:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
Trichloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
cis-1,2-Dichloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
trans-1,2-Dichloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
1,1-Dichloroethene	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
Vinyl chloride	ND	52	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
1,4-Dioxane	ND	100	ug/kg dry	1	11/02/2018	11/02/2018 14:27	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		98.7 %		60-140	11/02/2018	11/02/2018 14:27	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	81.8	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_1-2_110218

V184410-08 (Soil)

Date Sampled
 11/02/2018 12:20

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	11/02/2018	11/02/2018 15:46	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %		60-140	11/02/2018	11/02/2018 15:46	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	86.3	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_2-3_110218

V184410-09 (Soil)

Date Sampled
 11/02/2018 12:25

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	89	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
Trichloroethene	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
cis-1,2-Dichloroethene	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
trans-1,2-Dichloroethene	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
1,1-Dichloroethene	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
Vinyl chloride	ND	56	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	11/02/2018	11/02/2018 16:01	EPA 8260B	
Surrogate: 4-Bromofluorobenzene		95.1 %		60-140	11/02/2018	11/02/2018 16:01	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	72.5	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

SB-135_3-4_110218
V184410-10 (Soil)

Date Sampled
 11/02/2018 12:30

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	11/02/2018	11/02/2018 16:15	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		93.5 %		60-140	11/02/2018	11/02/2018 16:15	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	82.4	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_4-5_110218

Date Sampled
 11/02/2018 12:35

V184410-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
Trichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
cis-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
trans-1,2-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
1,1-Dichloroethene	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
Vinyl chloride	ND	46	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
1,4-Dioxane	ND	92	ug/kg dry	1	11/02/2018	11/02/2018 16:30	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		117 %		60-140	11/02/2018	11/02/2018 16:30	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	81.9	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_5-6_110218

Date Sampled
 11/02/2018 12:40

V184410-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
Trichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
cis-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
trans-1,2-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
1,1-Dichloroethene	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
Vinyl chloride	ND	44	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
1,4-Dioxane	ND	88	ug/kg dry	1	11/02/2018	11/02/2018 16:44	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		117 %		60-140	11/02/2018	11/02/2018 16:44	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	86.5	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_19.5-20.5_110218

V184410-13 (Soil)

Date Sampled
 11/02/2018 13:00

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
Trichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
cis-1,2-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
trans-1,2-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
1,1-Dichloroethene	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
Vinyl chloride	ND	53	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
1,4-Dioxane	ND	110	ug/kg dry	1	11/02/2018	11/02/2018 16:59	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		97.6 %		60-140	11/02/2018	11/02/2018 16:59	EPA 8260B	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	82.1	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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SB-135_28-29_110218

V184410-14 (Soil)

Date Sampled
 11/02/2018 13:05

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
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Pace Analytical - Lab #23

Volatile Organic Compounds by Method 8260 - Direct Inject

Preparation Batch: V811005

Tetrachloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
Trichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
cis-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
trans-1,2-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
1,1-Dichloroethene	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
Vinyl chloride	ND	45	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
1,4-Dioxane	ND	89	ug/kg dry	1	11/02/2018	11/02/2018 17:13	EPA 8260B	
<i>Surrogate: 4-Bromofluorobenzene</i>		<i>94.8 %</i>		<i>60-140</i>	<i>11/02/2018</i>	<i>11/02/2018 17:13</i>	<i>EPA 8260B</i>	

Classical Chemistry Parameters

Preparation Batch: V811006

% Solids	82.2	0.00	% by Weight	1	11/02/2018	11/04/2018 10:59	SM 2540B	
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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809001 - No Preparation

Blank (V809001-BLK1)										
					Prepared: 09/13/2018 Analyzed: 09/13/2018 13:50					
Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>60-140</i>			

LCS (V809001-BS1)										
					Prepared: 09/13/2018 Analyzed: 09/13/2018 14:04					
Tetrachloroethene	17.6	1.0	ug/L	20.00		88.1	70-130			
Trichloroethene	21.7	1.0	ug/L	20.00		108	70-130			
cis-1,2-Dichloroethene	23.1	1.0	ug/L	20.00		115	70-130			
trans-1,2-Dichloroethene	21.4	1.0	ug/L	20.00		107	70-130			
1,1-Dichloroethene	21.1	1.0	ug/L	20.00		106	70-130			
Vinyl chloride	23.1	1.0	ug/L	20.00		115	70-130			
1,4-Dioxane	49.4	2.0	ug/L	40.00		124	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike (V809001-MS1)										
			Source: V183701-07		Prepared: 09/13/2018 Analyzed: 09/20/2018 15:41					
Tetrachloroethene	20.5	1.0	ug/L	20.00	ND	102	70-130			
Trichloroethene	25.8	1.0	ug/L	20.00	7.78	90.3	70-130			
cis-1,2-Dichloroethene	19.1	1.0	ug/L	20.00	5.07	70.4	70-130			
trans-1,2-Dichloroethene	19.6	1.0	ug/L	20.00	0.230	97.1	70-130			
1,1-Dichloroethene	19.9	1.0	ug/L	20.00	ND	99.3	70-130			
Vinyl chloride	19.2	1.0	ug/L	20.00	ND	96.1	70-130			
1,4-Dioxane	32.7	2.0	ug/L	40.00	ND	81.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.2</i>	<i>70-130</i>			

Matrix Spike Dup (V809001-MSD1)										
			Source: V183701-07		Prepared: 09/13/2018 Analyzed: 09/20/2018 15:55					
Tetrachloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130	0.440	20	
Trichloroethene	25.8	1.0	ug/L	20.00	7.78	90.2	70-130	0.0387	20	
cis-1,2-Dichloroethene	19.7	1.0	ug/L	20.00	5.07	73.2	70-130	2.88	20	
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00	0.230	99.2	70-130	2.12	20	
1,1-Dichloroethene	19.7	1.0	ug/L	20.00	ND	98.6	70-130	0.708	20	
Vinyl chloride	19.1	1.0	ug/L	20.00	ND	95.5	70-130	0.626	20	
1,4-Dioxane	35.3	2.0	ug/L	40.00	ND	88.3	70-130	7.83	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.9</i>	<i>70-130</i>			



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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809004 - EPA 3550B

Blank (V809004-BLK1)

Prepared: 09/13/2018 Analyzed: 09/14/2018 19:43

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V809004-BS1)

Prepared: 09/13/2018 Analyzed: 09/13/2018 20:10

Tetrachloroethene	10.0	0.50	ug/kg wet	10.00		100	70-130			
Trichloroethene	10.9	0.50	ug/kg wet	10.00		109	70-130			
cis-1,2-Dichloroethene	9.75	0.50	ug/kg wet	10.00		97.5	70-130			
trans-1,2-Dichloroethene	9.62	0.50	ug/kg wet	10.00		96.2	70-130			
1,1-Dichloroethene	10.1	0.50	ug/kg wet	10.00		101	70-130			
Vinyl chloride	11.7	0.50	ug/kg wet	10.00		117	70-130			
1,4-Dioxane	20.5	1.0	ug/kg wet	20.00		103	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.6		ug/L	20.00		108	70-130			

Matrix Spike (V809004-MS1)

Source: V183702-23

Prepared: 09/13/2018 Analyzed: 09/13/2018 21:08

Tetrachloroethene	990	51	ug/kg dry	1030	ND	96.1	70-130			
Trichloroethene	1070	51	ug/kg dry	1030	11.6	103	70-130			
cis-1,2-Dichloroethene	1050	51	ug/kg dry	1030	71.4	94.9	70-130			
trans-1,2-Dichloroethene	1000	51	ug/kg dry	1030	ND	97.0	70-130			
1,1-Dichloroethene	1050	51	ug/kg dry	1030	ND	102	70-130			
Vinyl chloride	1220	51	ug/kg dry	1030	ND	119	70-130			
1,4-Dioxane	2450	100	ug/kg dry	2060	ND	119	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.9		ug/L	20.00		105	70-130			

Matrix Spike Dup (V809004-MSD1)

Source: V183702-23

Prepared: 09/13/2018 Analyzed: 09/13/2018 21:23

Tetrachloroethene	943	51	ug/kg dry	1030	ND	91.6	70-130	4.85	20	
Trichloroethene	1090	51	ug/kg dry	1030	11.6	105	70-130	2.00	20	
cis-1,2-Dichloroethene	1140	51	ug/kg dry	1030	71.4	103	70-130	8.11	20	
trans-1,2-Dichloroethene	1050	51	ug/kg dry	1030	ND	102	70-130	4.78	20	
1,1-Dichloroethene	1060	51	ug/kg dry	1030	ND	103	70-130	1.32	20	
Vinyl chloride	1100	51	ug/kg dry	1030	ND	107	70-130	10.4	20	
1,4-Dioxane	2490	100	ug/kg dry	2060	ND	121	70-130	1.71	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	21.8		ug/L	20.00		109	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809005 - EPA 3550B

Blank (V809005-BLK1)

Prepared: 09/13/2018 Analyzed: 09/14/2018 19:57

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V809005-BS1)

Prepared: 09/13/2018 Analyzed: 09/13/2018 20:24

Tetrachloroethene	738	40	ug/kg wet	800.0		92.2	70-130			
Trichloroethene	879	40	ug/kg wet	800.0		110	70-130			
cis-1,2-Dichloroethene	833	40	ug/kg wet	800.0		104	70-130			
trans-1,2-Dichloroethene	790	40	ug/kg wet	800.0		98.8	70-130			
1,1-Dichloroethene	791	40	ug/kg wet	800.0		98.9	70-130			
Vinyl chloride	946	40	ug/kg wet	800.0		118	70-130			
1,4-Dioxane	1800	80	ug/kg wet	1600		113	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Matrix Spike (V809005-MS1)

Source: V183704-10

Prepared: 09/13/2018 Analyzed: 09/13/2018 21:37

Tetrachloroethene	942	46	ug/kg dry	927.5	1.92	101	70-130			
Trichloroethene	998	46	ug/kg dry	927.5	103	96.4	70-130			
cis-1,2-Dichloroethene	913	46	ug/kg dry	927.5	ND	98.5	70-130			
trans-1,2-Dichloroethene	892	46	ug/kg dry	927.5	ND	96.2	70-130			
1,1-Dichloroethene	906	46	ug/kg dry	927.5	ND	97.7	70-130			
Vinyl chloride	801	46	ug/kg dry	927.5	ND	86.4	70-130			
1,4-Dioxane	1530	93	ug/kg dry	1855	53.3	79.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike Dup (V809005-MSD1)

Source: V183704-10

Prepared: 09/13/2018 Analyzed: 09/13/2018 21:52

Tetrachloroethene	868	46	ug/kg dry	927.5	1.92	93.4	70-130	8.20	20	
Trichloroethene	1060	46	ug/kg dry	927.5	103	103	70-130	6.26	20	
cis-1,2-Dichloroethene	1050	46	ug/kg dry	927.5	ND	113	70-130	13.8	20	
trans-1,2-Dichloroethene	940	46	ug/kg dry	927.5	ND	101	70-130	5.22	20	
1,1-Dichloroethene	888	46	ug/kg dry	927.5	ND	95.7	70-130	2.07	20	
Vinyl chloride	769	46	ug/kg dry	927.5	ND	83.0	70-130	4.07	20	
1,4-Dioxane	1630	93	ug/kg dry	1855	53.3	85.2	70-130	6.36	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809006 - EPA 3550B

Blank (V809006-BLK1)

Prepared: 09/14/2018 Analyzed: 09/15/2018 11:17

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>60-140</i>			

Blank (V809006-BLK2)

Prepared: 09/14/2018 Analyzed: 09/15/2018 11:32

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>109</i>	<i>60-140</i>			

LCS (V809006-BS1)

Prepared: 09/14/2018 Analyzed: 09/14/2018 08:44

Tetrachloroethene	871	40	ug/kg wet	800.0		109	70-130			
Trichloroethene	743	40	ug/kg wet	800.0		92.9	70-130			
cis-1,2-Dichloroethene	637	40	ug/kg wet	800.0		79.6	70-130			
trans-1,2-Dichloroethene	666	40	ug/kg wet	800.0		83.2	70-130			
1,1-Dichloroethene	720	40	ug/kg wet	800.0		90.0	70-130			
Vinyl chloride	886	40	ug/kg wet	800.0		111	70-130			
1,4-Dioxane	1980	80	ug/kg wet	1600		123	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>23.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>116</i>	<i>70-130</i>			

LCS (V809006-BS2)

Prepared: 09/14/2018 Analyzed: 09/14/2018 19:28

Tetrachloroethene	854	40	ug/kg wet	800.0		107	70-130			
Trichloroethene	848	40	ug/kg wet	800.0		106	70-130			
cis-1,2-Dichloroethene	829	40	ug/kg wet	800.0		104	70-130			
trans-1,2-Dichloroethene	828	40	ug/kg wet	800.0		104	70-130			
1,1-Dichloroethene	839	40	ug/kg wet	800.0		105	70-130			
Vinyl chloride	755	40	ug/kg wet	800.0		94.4	70-130			
1,4-Dioxane	1680	80	ug/kg wet	1600		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike (V809006-MS1)

Source: V183705-14

Prepared: 09/14/2018 Analyzed: 09/15/2018 04:56

Tetrachloroethene	977	50	ug/kg dry	1002	ND	97.4	70-130			
Trichloroethene	45700	50	ug/kg dry	1002	62600	NR	70-130			M1, E
cis-1,2-Dichloroethene	7250	50	ug/kg dry	1002	7280	NR	70-130			M
trans-1,2-Dichloroethene	1750	50	ug/kg dry	1002	915	83.5	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809006 - EPA 3550B

Matrix Spike (V809006-MS1)		Source: V183705-14		Prepared: 09/14/2018 Analyzed: 09/15/2018 04:56						
1,1-Dichloroethene	1010	50	ug/kg dry	1002	ND	101	70-130			
Vinyl chloride	943	50	ug/kg dry	1002	ND	94.2	70-130			
1,4-Dioxane	2140	100	ug/kg dry	2004	ND	107	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>94.5</i>	<i>70-130</i>			

Matrix Spike (V809006-MS2)		Source: V183705-15		Prepared: 09/14/2018 Analyzed: 09/15/2018 05:25						
Tetrachloroethene	903	51	ug/kg dry	1027	ND	88.0	70-130			
Trichloroethene	1050	51	ug/kg dry	1027	ND	102	70-130			
cis-1,2-Dichloroethene	1180	51	ug/kg dry	1027	ND	115	70-130			
trans-1,2-Dichloroethene	1080	51	ug/kg dry	1027	ND	105	70-130			
1,1-Dichloroethene	1130	51	ug/kg dry	1027	ND	110	70-130			
Vinyl chloride	1090	51	ug/kg dry	1027	ND	107	70-130			
1,4-Dioxane	2670	100	ug/kg dry	2053	ND	130	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike Dup (V809006-MSD1)		Source: V183705-14		Prepared: 09/14/2018 Analyzed: 09/15/2018 05:11						
Tetrachloroethene	1030	50	ug/kg dry	1002	ND	103	70-130	5.39	20	
Trichloroethene	48400	50	ug/kg dry	1002	62600	NR	70-130	5.66	20	M1, E
cis-1,2-Dichloroethene	7830	50	ug/kg dry	1002	7280	54.2	70-130	7.60	20	M
trans-1,2-Dichloroethene	1870	50	ug/kg dry	1002	915	94.8	70-130	6.29	20	
1,1-Dichloroethene	1080	50	ug/kg dry	1002	ND	108	70-130	7.04	20	
Vinyl chloride	993	50	ug/kg dry	1002	ND	99.0	70-130	5.07	20	
1,4-Dioxane	2760	100	ug/kg dry	2004	ND	138	70-130	25.5	20	M, X
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.9</i>	<i>70-130</i>			

Matrix Spike Dup (V809006-MSD2)		Source: V183705-15		Prepared: 09/14/2018 Analyzed: 09/15/2018 05:40						
Tetrachloroethene	928	51	ug/kg dry	1027	ND	90.4	70-130	2.69	20	
Trichloroethene	1030	51	ug/kg dry	1027	ND	101	70-130	1.48	20	
cis-1,2-Dichloroethene	1130	51	ug/kg dry	1027	ND	110	70-130	3.69	20	
trans-1,2-Dichloroethene	1050	51	ug/kg dry	1027	ND	102	70-130	2.80	20	
1,1-Dichloroethene	1120	51	ug/kg dry	1027	ND	109	70-130	0.961	20	
Vinyl chloride	1050	51	ug/kg dry	1027	ND	103	70-130	3.87	20	
1,4-Dioxane	2640	100	ug/kg dry	2053	ND	129	70-130	1.16	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809008 - No Preparation

Blank (V809008-BLK1)

Prepared: 09/15/2018 Analyzed: 09/20/2018 17:52

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>60-140</i>			

LCS (V809008-BS1)

Prepared: 09/15/2018 Analyzed: 09/20/2018 18:07

Tetrachloroethene	19.4	1.0	ug/L	20.00		97.2	70-130			
Trichloroethene	18.5	1.0	ug/L	20.00		92.6	70-130			
cis-1,2-Dichloroethene	17.4	1.0	ug/L	20.00		86.8	70-130			
trans-1,2-Dichloroethene	18.1	1.0	ug/L	20.00		90.7	70-130			
1,1-Dichloroethene	18.6	1.0	ug/L	20.00		93.1	70-130			
Vinyl chloride	18.8	1.0	ug/L	20.00		94.2	70-130			
1,4-Dioxane	33.7	2.0	ug/L	40.00		84.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.0</i>	<i>70-130</i>			

Matrix Spike (V809008-MS1)

Source: V183706-02

Prepared: 09/15/2018 Analyzed: 09/20/2018 18:21

Tetrachloroethene	20.1	1.0	ug/L	20.00	ND	101	70-130			
Trichloroethene	22.7	1.0	ug/L	20.00	2.52	101	70-130			
cis-1,2-Dichloroethene	21.8	1.0	ug/L	20.00	4.78	85.3	70-130			
trans-1,2-Dichloroethene	18.6	1.0	ug/L	20.00	ND	93.2	70-130			
1,1-Dichloroethene	19.2	1.0	ug/L	20.00	ND	96.2	70-130			
Vinyl chloride	21.8	1.0	ug/L	20.00	ND	109	70-130			
1,4-Dioxane	36.4	2.0	ug/L	40.00	ND	91.0	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike Dup (V809008-MSD1)

Source: V183706-02

Prepared: 09/15/2018 Analyzed: 09/20/2018 18:36

Tetrachloroethene	19.8	1.0	ug/L	20.00	ND	99.0	70-130	1.55	20	
Trichloroethene	21.7	1.0	ug/L	20.00	2.52	96.0	70-130	4.46	20	
cis-1,2-Dichloroethene	20.7	1.0	ug/L	20.00	4.78	79.4	70-130	5.56	20	
trans-1,2-Dichloroethene	17.7	1.0	ug/L	20.00	ND	88.7	70-130	4.89	20	
1,1-Dichloroethene	18.8	1.0	ug/L	20.00	ND	94.2	70-130	2.10	20	
Vinyl chloride	22.4	1.0	ug/L	20.00	ND	112	70-130	2.90	20	
1,4-Dioxane	33.2	2.0	ug/L	40.00	ND	82.9	70-130	9.26	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809009 - No Preparation

Blank (V809009-BLK1)

Prepared: 09/17/2018 Analyzed: 09/17/2018 18:06

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V809009-BS1)

Prepared: 09/17/2018 Analyzed: 09/17/2018 17:36

Tetrachloroethene	18.2	1.0	ug/L	20.00		90.8	70-130			
Trichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
cis-1,2-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
trans-1,2-Dichloroethene	21.4	1.0	ug/L	20.00		107	70-130			
1,1-Dichloroethene	21.4	1.0	ug/L	20.00		107	70-130			
Vinyl chloride	17.9	1.0	ug/L	20.00		89.4	70-130			
1,4-Dioxane	35.0	2.0	ug/L	40.00		87.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.2		ug/L	20.00		96.1	70-130			

Matrix Spike (V809009-MS1)

Source: V183802-01

Prepared: 09/17/2018 Analyzed: 09/18/2018 14:03

Tetrachloroethene	17.5	1.0	ug/L	20.00	0.180	86.7	70-130			
Trichloroethene	425	1.0	ug/L	20.00	294	653	70-130			M1, E
cis-1,2-Dichloroethene	632	1.0	ug/L	20.00	630	8.50	70-130			M1, E
trans-1,2-Dichloroethene	30.3	1.0	ug/L	20.00	12.5	89.1	70-130			
1,1-Dichloroethene	18.6	1.0	ug/L	20.00	0.460	90.8	70-130			
Vinyl chloride	25.8	1.0	ug/L	20.00	3.17	113	70-130			
1,4-Dioxane	38.5	2.0	ug/L	40.00	1.86	91.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	24.2		ug/L	20.00		121	70-130			

Matrix Spike Dup (V809009-MSD1)

Source: V183802-01

Prepared: 09/17/2018 Analyzed: 09/18/2018 14:18

Tetrachloroethene	20.7	1.0	ug/L	20.00	0.180	102	70-130	16.5	20	
Trichloroethene	263	1.0	ug/L	20.00	294	NR	70-130	47.1	20	M1, E
cis-1,2-Dichloroethene	561	1.0	ug/L	20.00	630	NR	70-130	11.9	20	M1, E
trans-1,2-Dichloroethene	26.0	1.0	ug/L	20.00	12.5	67.6	70-130	15.3	20	M
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	0.460	94.6	70-130	4.05	20	
Vinyl chloride	25.2	1.0	ug/L	20.00	3.17	110	70-130	2.39	20	
1,4-Dioxane	43.5	2.0	ug/L	40.00	1.86	104	70-130	12.4	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	22.1		ug/L	20.00		111	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809010 - EPA 3550B

Blank (V809010-BLK1)

Prepared: 09/17/2018 Analyzed: 09/17/2018 20:49

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>17.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>88.9</i>	<i>60-140</i>			

LCS (V809010-BS1)

Prepared: 09/17/2018 Analyzed: 09/17/2018 17:21

Tetrachloroethene	802	40	ug/kg wet	800.0		100	70-130			
Trichloroethene	799	40	ug/kg wet	800.0		99.9	70-130			
cis-1,2-Dichloroethene	833	40	ug/kg wet	800.0		104	70-130			
trans-1,2-Dichloroethene	884	40	ug/kg wet	800.0		111	70-130			
1,1-Dichloroethene	922	40	ug/kg wet	800.0		115	70-130			
Vinyl chloride	690	40	ug/kg wet	800.0		86.3	70-130			
1,4-Dioxane	1450	80	ug/kg wet	1600		90.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>93.4</i>	<i>70-130</i>			

Matrix Spike (V809010-MS1)

Source: V183801-01

Prepared: 09/17/2018 Analyzed: 09/24/2018 10:59

Tetrachloroethene	918	44	ug/kg dry	888.6	ND	103	70-130			
Trichloroethene	1280	44	ug/kg dry	888.6	317	108	70-130			
cis-1,2-Dichloroethene	968	44	ug/kg dry	888.6	43.5	104	70-130			
trans-1,2-Dichloroethene	911	44	ug/kg dry	888.6	ND	103	70-130			
1,1-Dichloroethene	892	44	ug/kg dry	888.6	ND	100	70-130			
Vinyl chloride	817	44	ug/kg dry	888.6	ND	92.0	70-130			
1,4-Dioxane	1590	89	ug/kg dry	1777	ND	89.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike Dup (V809010-MSD1)

Source: V183801-01

Prepared: 09/17/2018 Analyzed: 09/24/2018 11:14

Tetrachloroethene	965	44	ug/kg dry	888.6	ND	109	70-130	4.95	20	
Trichloroethene	1370	44	ug/kg dry	888.6	317	119	70-130	6.97	20	
cis-1,2-Dichloroethene	1030	44	ug/kg dry	888.6	43.5	111	70-130	6.18	20	
trans-1,2-Dichloroethene	978	44	ug/kg dry	888.6	ND	110	70-130	7.10	20	
1,1-Dichloroethene	964	44	ug/kg dry	888.6	ND	109	70-130	7.75	20	
Vinyl chloride	894	44	ug/kg dry	888.6	ND	101	70-130	9.03	20	
1,4-Dioxane	1610	89	ug/kg dry	1777	ND	90.6	70-130	1.56	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809012 - No Preparation

Blank (V809012-BLK1)

Prepared: 09/18/2018 Analyzed: 09/18/2018 12:21

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	22.3		ug/L	20.00		112	60-140			

LCS (V809012-BS1)

Prepared: 09/18/2018 Analyzed: 09/18/2018 17:25

Tetrachloroethene	19.6	1.0	ug/L	20.00		98.2	70-130			
Trichloroethene	18.2	1.0	ug/L	20.00		91.0	70-130			
cis-1,2-Dichloroethene	16.2	1.0	ug/L	20.00		81.1	70-130			
trans-1,2-Dichloroethene	16.7	1.0	ug/L	20.00		83.4	70-130			
1,1-Dichloroethene	18.1	1.0	ug/L	20.00		90.7	70-130			
Vinyl chloride	25.1	1.0	ug/L	20.00		125	70-130			
1,4-Dioxane	42.5	2.0	ug/L	40.00		106	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	24.1		ug/L	20.00		120	70-130			

Matrix Spike (V809012-MS1)

Source: V183803-01

Prepared: 09/18/2018 Analyzed: 09/18/2018 16:56

Tetrachloroethene	17.0	1.0	ug/L	20.00	ND	85.2	70-130			
Trichloroethene	19.7	1.0	ug/L	20.00	ND	98.6	70-130			
cis-1,2-Dichloroethene	18.5	1.0	ug/L	20.00	ND	92.7	70-130			
trans-1,2-Dichloroethene	17.7	1.0	ug/L	20.00	ND	88.3	70-130			
1,1-Dichloroethene	17.5	1.0	ug/L	20.00	ND	87.6	70-130			
Vinyl chloride	25.0	1.0	ug/L	20.00	ND	125	70-130			
1,4-Dioxane	38.1	2.0	ug/L	40.00	ND	95.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	24.1		ug/L	20.00		121	70-130			

Matrix Spike Dup (V809012-MSD1)

Source: V183803-01

Prepared: 09/18/2018 Analyzed: 09/18/2018 17:11

Tetrachloroethene	18.0	1.0	ug/L	20.00	ND	90.2	70-130	5.65	20	
Trichloroethene	19.6	1.0	ug/L	20.00	ND	98.0	70-130	0.560	20	
cis-1,2-Dichloroethene	18.3	1.0	ug/L	20.00	ND	91.5	70-130	1.30	20	
trans-1,2-Dichloroethene	18.1	1.0	ug/L	20.00	ND	90.7	70-130	2.63	20	
1,1-Dichloroethene	18.3	1.0	ug/L	20.00	ND	91.5	70-130	4.41	20	
Vinyl chloride	24.3	1.0	ug/L	20.00	ND	121	70-130	3.09	20	
1,4-Dioxane	39.3	2.0	ug/L	40.00	ND	98.2	70-130	3.10	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	24.1		ug/L	20.00		121	70-130			

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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809013 - EPA 3550B

Blank (V809013-BLK1)

Prepared: 09/18/2018 Analyzed: 09/24/2018 16:49

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>60-140</i>			

LCS (V809013-BS1)

Prepared: 09/18/2018 Analyzed: 09/24/2018 10:45

Tetrachloroethene	848	40	ug/kg wet	800.0		106	70-130			
Trichloroethene	770	40	ug/kg wet	800.0		96.3	70-130			
cis-1,2-Dichloroethene	760	40	ug/kg wet	800.0		95.1	70-130			
trans-1,2-Dichloroethene	778	40	ug/kg wet	800.0		97.3	70-130			
1,1-Dichloroethene	779	40	ug/kg wet	800.0		97.4	70-130			
Vinyl chloride	680	40	ug/kg wet	800.0		85.0	70-130			
1,4-Dioxane	1450	80	ug/kg wet	1600		90.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike (V809013-MS1)

Source: V183804-01

Prepared: 09/18/2018 Analyzed: 09/24/2018 17:09

Tetrachloroethene	849	47	ug/kg dry	937.0	0.433	90.6	70-130			
Trichloroethene	1060	47	ug/kg dry	937.0	ND	113	70-130			
cis-1,2-Dichloroethene	1200	47	ug/kg dry	937.0	ND	128	70-130			
trans-1,2-Dichloroethene	1110	47	ug/kg dry	937.0	ND	119	70-130			
1,1-Dichloroethene	1010	47	ug/kg dry	937.0	ND	108	70-130			
Vinyl chloride	944	47	ug/kg dry	937.0	ND	101	70-130			
1,4-Dioxane	1730	94	ug/kg dry	1874	117	86.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>108</i>	<i>70-130</i>			

Matrix Spike Dup (V809013-MSD1)

Source: V183804-01

Prepared: 09/18/2018 Analyzed: 09/24/2018 17:24

Tetrachloroethene	933	47	ug/kg dry	937.0	0.433	99.6	70-130	9.41	20	
Trichloroethene	1010	47	ug/kg dry	937.0	ND	108	70-130	4.75	20	
cis-1,2-Dichloroethene	1070	47	ug/kg dry	937.0	ND	114	70-130	11.1	20	
trans-1,2-Dichloroethene	1030	47	ug/kg dry	937.0	ND	110	70-130	8.06	20	
1,1-Dichloroethene	973	47	ug/kg dry	937.0	ND	104	70-130	4.10	20	
Vinyl chloride	881	47	ug/kg dry	937.0	ND	94.0	70-130	6.93	20	
1,4-Dioxane	1400	94	ug/kg dry	1874	117	68.6	70-130	21.0	20	M, X
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809015 - No Preparation

Blank (V809015-BLK1)

Prepared: 09/19/2018 Analyzed: 09/19/2018 21:34

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		103	60-140			

LCS (V809015-BS1)

Prepared: 09/19/2018 Analyzed: 09/19/2018 21:19

Tetrachloroethene	20.9	1.0	ug/L	20.00		105	70-130			
Trichloroethene	18.9	1.0	ug/L	20.00		94.6	70-130			
cis-1,2-Dichloroethene	17.4	1.0	ug/L	20.00		87.1	70-130			
trans-1,2-Dichloroethene	19.3	1.0	ug/L	20.00		96.5	70-130			
1,1-Dichloroethene	20.7	1.0	ug/L	20.00		104	70-130			
Vinyl chloride	19.6	1.0	ug/L	20.00		97.8	70-130			
1,4-Dioxane	37.8	2.0	ug/L	40.00		94.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.6		ug/L	20.00		98.1	70-130			

Matrix Spike (V809015-MS1)

Source: V183805-04

Prepared: 09/19/2018 Analyzed: 09/19/2018 22:47

Tetrachloroethene	17.5	1.0	ug/L	20.00	ND	87.6	70-130			
Trichloroethene	18.7	1.0	ug/L	20.00	ND	93.4	70-130			
cis-1,2-Dichloroethene	18.5	1.0	ug/L	20.00	ND	92.3	70-130			
trans-1,2-Dichloroethene	25.5	1.0	ug/L	20.00	5.28	101	70-130			
1,1-Dichloroethene	18.8	1.0	ug/L	20.00	ND	94.1	70-130			
Vinyl chloride	681	1.0	ug/L	20.00	595	429	70-130			M1, E
1,4-Dioxane	40.6	2.0	ug/L	40.00	1.62	97.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.9		ug/L	20.00		99.7	70-130			

Matrix Spike Dup (V809015-MSD1)

Source: V183805-04

Prepared: 09/19/2018 Analyzed: 09/19/2018 23:01

Tetrachloroethene	18.4	1.0	ug/L	20.00	ND	91.9	70-130	4.79	20	
Trichloroethene	19.8	1.0	ug/L	20.00	ND	99.1	70-130	5.87	20	
cis-1,2-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.1	70-130	7.11	20	
trans-1,2-Dichloroethene	27.8	1.0	ug/L	20.00	5.28	113	70-130	8.55	20	
1,1-Dichloroethene	20.3	1.0	ug/L	20.00	ND	102	70-130	7.62	20	
Vinyl chloride	773	1.0	ug/L	20.00	595	889	70-130	12.6	20	M1, E
1,4-Dioxane	44.6	2.0	ug/L	40.00	1.62	107	70-130	9.36	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.8		ug/L	20.00		104	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809016 - EPA 3550B

Blank (V809016-BLK1)

Prepared: 09/19/2018 Analyzed: 09/19/2018 23:31

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>60-140</i>			

LCS (V809016-BS1)

Prepared: 09/19/2018 Analyzed: 09/19/2018 23:16

Tetrachloroethene	766	40	ug/kg wet	800.0		95.8	70-130			
Trichloroethene	732	40	ug/kg wet	800.0		91.5	70-130			
cis-1,2-Dichloroethene	708	40	ug/kg wet	800.0		88.5	70-130			
trans-1,2-Dichloroethene	751	40	ug/kg wet	800.0		93.9	70-130			
1,1-Dichloroethene	793	40	ug/kg wet	800.0		99.1	70-130			
Vinyl chloride	930	40	ug/kg wet	800.0		116	70-130			
1,4-Dioxane	1400	80	ug/kg wet	1600		87.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.4</i>	<i>70-130</i>			

Matrix Spike (V809016-MS1)

Source: V183806-04

Prepared: 09/19/2018 Analyzed: 09/20/2018 03:09

Tetrachloroethene	972	51	ug/kg dry	1011	0.506	96.1	70-130			
Trichloroethene	1120	51	ug/kg dry	1011	0.506	111	70-130			
cis-1,2-Dichloroethene	1300	51	ug/kg dry	1011	53.1	123	70-130			
trans-1,2-Dichloroethene	1200	51	ug/kg dry	1011	ND	119	70-130			
1,1-Dichloroethene	1180	51	ug/kg dry	1011	ND	116	70-130			
Vinyl chloride	768	51	ug/kg dry	1011	ND	75.9	70-130			
1,4-Dioxane	1870	100	ug/kg dry	2023	ND	92.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>15.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>79.2</i>	<i>70-130</i>			

Matrix Spike Dup (V809016-MSD1)

Source: V183806-04

Prepared: 09/19/2018 Analyzed: 09/20/2018 03:24

Tetrachloroethene	1050	51	ug/kg dry	1011	0.506	104	70-130	7.65	20	
Trichloroethene	1200	51	ug/kg dry	1011	0.506	118	70-130	6.54	20	
cis-1,2-Dichloroethene	1270	51	ug/kg dry	1011	53.1	121	70-130	1.89	20	
trans-1,2-Dichloroethene	1210	51	ug/kg dry	1011	ND	120	70-130	0.670	20	
1,1-Dichloroethene	1170	51	ug/kg dry	1011	ND	116	70-130	0.387	20	
Vinyl chloride	762	51	ug/kg dry	1011	ND	75.3	70-130	0.794	20	
1,4-Dioxane	1850	100	ug/kg dry	2023	ND	91.2	70-130	1.55	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>16.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>82.9</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809018 - No Preparation

Blank (V809018-BLK1)

Prepared: 09/20/2018 Analyzed: 09/20/2018 12:38

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>92.8</i>	<i>60-140</i>			

LCS (V809018-BS1)

Prepared: 09/20/2018 Analyzed: 09/20/2018 14:37

Tetrachloroethene	20.0	1.0	ug/L	20.00		99.9	70-130			
Trichloroethene	19.9	1.0	ug/L	20.00		99.7	70-130			
cis-1,2-Dichloroethene	19.1	1.0	ug/L	20.00		95.5	70-130			
trans-1,2-Dichloroethene	19.9	1.0	ug/L	20.00		99.5	70-130			
1,1-Dichloroethene	19.6	1.0	ug/L	20.00		97.8	70-130			
Vinyl chloride	18.2	1.0	ug/L	20.00		91.2	70-130			
1,4-Dioxane	33.7	2.0	ug/L	40.00		84.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.3</i>	<i>70-130</i>			

Matrix Spike (V809018-MS1)

Source: V183807-03

Prepared: 09/20/2018 Analyzed: 09/20/2018 17:23

Tetrachloroethene	16.8	1.0	ug/L	20.00	ND	83.8	70-130			
Trichloroethene	19.7	1.0	ug/L	20.00	0.220	97.3	70-130			
cis-1,2-Dichloroethene	20.0	1.0	ug/L	20.00	0.150	99.2	70-130			
trans-1,2-Dichloroethene	19.4	1.0	ug/L	20.00	ND	97.2	70-130			
1,1-Dichloroethene	18.3	1.0	ug/L	20.00	ND	91.6	70-130			
Vinyl chloride	19.4	1.0	ug/L	20.00	ND	97.0	70-130			
1,4-Dioxane	37.5	2.0	ug/L	40.00	ND	93.9	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.6</i>	<i>70-130</i>			

Matrix Spike Dup (V809018-MSD1)

Source: V183807-03

Prepared: 09/20/2018 Analyzed: 09/20/2018 17:37

Tetrachloroethene	19.5	1.0	ug/L	20.00	ND	97.4	70-130	15.1	20	
Trichloroethene	19.6	1.0	ug/L	20.00	0.220	97.1	70-130	0.153	20	
cis-1,2-Dichloroethene	18.7	1.0	ug/L	20.00	0.150	92.9	70-130	6.46	20	
trans-1,2-Dichloroethene	19.5	1.0	ug/L	20.00	ND	97.7	70-130	0.513	20	
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	ND	97.2	70-130	5.99	20	
Vinyl chloride	19.8	1.0	ug/L	20.00	ND	99.0	70-130	1.99	20	
1,4-Dioxane	35.0	2.0	ug/L	40.00	ND	87.6	70-130	6.92	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.7</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809019 - EPA 3550B

Blank (V809019-BLK1)

Prepared: 09/20/2018 Analyzed: 09/20/2018 15:06

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.8</i>	<i>60-140</i>			

LCS (V809019-BS1)

Prepared: 09/20/2018 Analyzed: 09/20/2018 14:51

Tetrachloroethene	967	40	ug/kg wet	800.0		121	70-130			
Trichloroethene	771	40	ug/kg wet	800.0		96.4	70-130			
cis-1,2-Dichloroethene	687	40	ug/kg wet	800.0		85.9	70-130			
trans-1,2-Dichloroethene	749	40	ug/kg wet	800.0		93.7	70-130			
1,1-Dichloroethene	794	40	ug/kg wet	800.0		99.2	70-130			
Vinyl chloride	718	40	ug/kg wet	800.0		89.8	70-130			
1,4-Dioxane	1520	80	ug/kg wet	1600		95.2	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.9</i>	<i>70-130</i>			

Matrix Spike (V809019-MS1)

Source: V183808-04

Prepared: 09/20/2018 Analyzed: 09/20/2018 20:32

Tetrachloroethene	1340	50	ug/kg dry	1003	ND	133	70-130			M
Trichloroethene	918	50	ug/kg dry	1003	ND	91.6	70-130			
cis-1,2-Dichloroethene	860	50	ug/kg dry	1003	ND	85.8	70-130			
trans-1,2-Dichloroethene	1000	50	ug/kg dry	1003	ND	99.8	70-130			
1,1-Dichloroethene	1110	50	ug/kg dry	1003	ND	111	70-130			
Vinyl chloride	745	50	ug/kg dry	1003	ND	74.3	70-130			
1,4-Dioxane	1530	100	ug/kg dry	2006	ND	76.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>16.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>84.3</i>	<i>70-130</i>			

Matrix Spike Dup (V809019-MSD1)

Source: V183808-04

Prepared: 09/20/2018 Analyzed: 09/20/2018 20:47

Tetrachloroethene	1040	50	ug/kg dry	1003	ND	104	70-130	24.6	20	X
Trichloroethene	1010	50	ug/kg dry	1003	ND	100	70-130	9.22	20	
cis-1,2-Dichloroethene	1130	50	ug/kg dry	1003	ND	112	70-130	26.8	20	X
trans-1,2-Dichloroethene	1180	50	ug/kg dry	1003	ND	118	70-130	16.3	20	
1,1-Dichloroethene	1150	50	ug/kg dry	1003	ND	115	70-130	3.82	20	
Vinyl chloride	804	50	ug/kg dry	1003	ND	80.2	70-130	7.64	20	
1,4-Dioxane	1900	100	ug/kg dry	2006	ND	94.8	70-130	21.3	20	X
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>16.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>83.0</i>	<i>70-130</i>			



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Novi MI, 48377

Project: Ford Livonia 2018 Site Investigation
Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809021 - No Preparation

Blank (V809021-BLK1)

Prepared: 09/21/2018 Analyzed: 09/21/2018 15:47

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	22.7		ug/L	20.00		114	60-140			

LCS (V809021-BS1)

Prepared: 09/21/2018 Analyzed: 09/21/2018 15:33

Tetrachloroethene	19.0	1.0	ug/L	20.00		95.0	70-130			
Trichloroethene	20.7	1.0	ug/L	20.00		104	70-130			
cis-1,2-Dichloroethene	21.7	1.0	ug/L	20.00		108	70-130			
trans-1,2-Dichloroethene	21.5	1.0	ug/L	20.00		107	70-130			
1,1-Dichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
Vinyl chloride	20.4	1.0	ug/L	20.00		102	70-130			
1,4-Dioxane	40.5	2.0	ug/L	40.00		101	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	22.4		ug/L	20.00		112	70-130			

Matrix Spike (V809021-MS1)

Source: V183809-02

Prepared: 09/21/2018 Analyzed: 09/24/2018 10:15

Tetrachloroethene	20.8	1.0	ug/L	20.00	ND	104	70-130			
Trichloroethene	22.1	1.0	ug/L	20.00	0.160	110	70-130			
cis-1,2-Dichloroethene	23.2	1.0	ug/L	20.00	0.180	115	70-130			
trans-1,2-Dichloroethene	23.1	1.0	ug/L	20.00	0.170	115	70-130			
1,1-Dichloroethene	22.0	1.0	ug/L	20.00	0.0100	110	70-130			
Vinyl chloride	22.3	1.0	ug/L	20.00	1.41	105	70-130			
1,4-Dioxane	51.0	2.0	ug/L	40.00	ND	128	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	22.2		ug/L	20.00		111	70-130			

Matrix Spike Dup (V809021-MSD1)

Source: V183809-02

Prepared: 09/21/2018 Analyzed: 09/24/2018 10:30

Tetrachloroethene	19.6	1.0	ug/L	20.00	ND	98.0	70-130	5.80	20	
Trichloroethene	21.6	1.0	ug/L	20.00	0.160	107	70-130	2.61	20	
cis-1,2-Dichloroethene	22.7	1.0	ug/L	20.00	0.180	112	70-130	2.35	20	
trans-1,2-Dichloroethene	22.6	1.0	ug/L	20.00	0.170	112	70-130	2.23	20	
1,1-Dichloroethene	21.3	1.0	ug/L	20.00	0.0100	107	70-130	3.09	20	
Vinyl chloride	21.0	1.0	ug/L	20.00	1.41	98.0	70-130	6.05	20	
1,4-Dioxane	47.3	2.0	ug/L	40.00	ND	118	70-130	7.57	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.9		ug/L	20.00		104	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809022 - EPA 3550B

Blank (V809022-BLK1)

Prepared: 09/21/2018 Analyzed: 09/21/2018 16:45

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V809022-BS1)

Prepared: 09/21/2018 Analyzed: 09/21/2018 16:31

Tetrachloroethene	808	40	ug/kg wet	800.0		101	70-130			
Trichloroethene	752	40	ug/kg wet	800.0		94.1	70-130			
cis-1,2-Dichloroethene	726	40	ug/kg wet	800.0		90.8	70-130			
trans-1,2-Dichloroethene	749	40	ug/kg wet	800.0		93.6	70-130			
1,1-Dichloroethene	759	40	ug/kg wet	800.0		94.9	70-130			
Vinyl chloride	714	40	ug/kg wet	800.0		89.3	70-130			
1,4-Dioxane	1680	80	ug/kg wet	1600		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V809022-MS1)

Source: V183810-04

Prepared: 09/21/2018 Analyzed: 09/21/2018 18:13

Tetrachloroethene	1050	51	ug/kg dry	1026	ND	102	70-130			
Trichloroethene	1020	51	ug/kg dry	1026	ND	99.0	70-130			
cis-1,2-Dichloroethene	1070	51	ug/kg dry	1026	ND	104	70-130			
trans-1,2-Dichloroethene	1050	51	ug/kg dry	1026	ND	102	70-130			
1,1-Dichloroethene	1060	51	ug/kg dry	1026	ND	103	70-130			
Vinyl chloride	1070	51	ug/kg dry	1026	ND	104	70-130			
1,4-Dioxane	2160	100	ug/kg dry	2051	ND	105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Matrix Spike Dup (V809022-MSD1)

Source: V183810-04

Prepared: 09/21/2018 Analyzed: 09/21/2018 18:28

Tetrachloroethene	1020	51	ug/kg dry	1026	ND	99.6	70-130	2.43	20	
Trichloroethene	953	51	ug/kg dry	1026	ND	92.9	70-130	6.36	20	
cis-1,2-Dichloroethene	976	51	ug/kg dry	1026	ND	95.2	70-130	9.22	20	
trans-1,2-Dichloroethene	995	51	ug/kg dry	1026	ND	97.0	70-130	5.07	20	
1,1-Dichloroethene	1010	51	ug/kg dry	1026	ND	98.5	70-130	4.56	20	
Vinyl chloride	988	51	ug/kg dry	1026	ND	96.3	70-130	8.02	20	
1,4-Dioxane	1840	100	ug/kg dry	2051	ND	89.6	70-130	16.2	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809025 - EPA 3550B

Blank (V809025-BLK1)

Prepared: 09/24/2018 Analyzed: 09/24/2018 13:03

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	21.5		ug/L	20.00		108	60-140			

LCS (V809025-BS1)

Prepared: 09/24/2018 Analyzed: 09/24/2018 12:49

Tetrachloroethene	800	40	ug/kg wet	800.0		100	70-130			
Trichloroethene	788	40	ug/kg wet	800.0		98.5	70-130			
cis-1,2-Dichloroethene	803	40	ug/kg wet	800.0		100	70-130			
trans-1,2-Dichloroethene	806	40	ug/kg wet	800.0		101	70-130			
1,1-Dichloroethene	789	40	ug/kg wet	800.0		98.7	70-130			
Vinyl chloride	689	40	ug/kg wet	800.0		86.2	70-130			
1,4-Dioxane	1410	80	ug/kg wet	1600		87.9	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		102	70-130			

Matrix Spike (V809025-MS1)

Source: V183901-04

Prepared: 09/24/2018 Analyzed: 09/24/2018 19:39

Tetrachloroethene	1200	52	ug/kg dry	1036	12.9	114	70-130			
Trichloroethene	1110	52	ug/kg dry	1036	88.5	99.1	70-130			
cis-1,2-Dichloroethene	1000	52	ug/kg dry	1036	ND	96.6	70-130			
trans-1,2-Dichloroethene	1020	52	ug/kg dry	1036	ND	98.9	70-130			
1,1-Dichloroethene	1050	52	ug/kg dry	1036	ND	101	70-130			
Vinyl chloride	911	52	ug/kg dry	1036	ND	88.0	70-130			
1,4-Dioxane	1530	100	ug/kg dry	2071	ND	73.9	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		102	70-130			

Matrix Spike Dup (V809025-MSD1)

Source: V183901-04

Prepared: 09/24/2018 Analyzed: 09/24/2018 19:53

Tetrachloroethene	1140	52	ug/kg dry	1036	12.9	109	70-130	4.70	20	
Trichloroethene	1150	52	ug/kg dry	1036	88.5	102	70-130	2.93	20	
cis-1,2-Dichloroethene	1080	52	ug/kg dry	1036	ND	105	70-130	8.10	20	
trans-1,2-Dichloroethene	1070	52	ug/kg dry	1036	ND	103	70-130	4.26	20	
1,1-Dichloroethene	1070	52	ug/kg dry	1036	ND	103	70-130	1.81	20	
Vinyl chloride	958	52	ug/kg dry	1036	ND	92.6	70-130	5.10	20	
1,4-Dioxane	1930	100	ug/kg dry	2071	ND	93.2	70-130	23.1	20	X
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	70-130			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809027 - No Preparation

Blank (V809027-BLK1)

Prepared: 09/25/2018 Analyzed: 09/25/2018 10:32

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V809027-BS1)

Prepared: 09/25/2018 Analyzed: 09/25/2018 10:17

Tetrachloroethene	18.5	1.0	ug/L	20.00		92.7	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	20.9	1.0	ug/L	20.00		105	70-130			
trans-1,2-Dichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
1,1-Dichloroethene	19.7	1.0	ug/L	20.00		98.3	70-130			
Vinyl chloride	18.4	1.0	ug/L	20.00		92.1	70-130			
1,4-Dioxane	38.1	2.0	ug/L	40.00		95.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>70-130</i>			

Matrix Spike (V809027-MS1)

Source: V183902-04

Prepared: 09/25/2018 Analyzed: 09/25/2018 17:01

Tetrachloroethene	23.7	1.0	ug/L	20.00	ND	118	70-130			
Trichloroethene	20.9	1.0	ug/L	20.00	ND	105	70-130			
cis-1,2-Dichloroethene	20.1	1.0	ug/L	20.00	0.0400	100	70-130			
trans-1,2-Dichloroethene	21.0	1.0	ug/L	20.00	ND	105	70-130			
1,1-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130			
Vinyl chloride	20.4	1.0	ug/L	20.00	ND	102	70-130			
1,4-Dioxane	46.5	2.0	ug/L	40.00	ND	116	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>22.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>110</i>	<i>70-130</i>			

Matrix Spike Dup (V809027-MSD1)

Source: V183902-04

Prepared: 09/25/2018 Analyzed: 09/25/2018 17:16

Tetrachloroethene	20.5	1.0	ug/L	20.00	ND	102	70-130	14.6	20	
Trichloroethene	21.7	1.0	ug/L	20.00	ND	109	70-130	3.56	20	
cis-1,2-Dichloroethene	22.5	1.0	ug/L	20.00	0.0400	112	70-130	11.2	20	
trans-1,2-Dichloroethene	22.5	1.0	ug/L	20.00	ND	113	70-130	6.84	20	
1,1-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130	0.278	20	
Vinyl chloride	21.0	1.0	ug/L	20.00	ND	105	70-130	3.24	20	
1,4-Dioxane	44.2	2.0	ug/L	40.00	ND	110	70-130	5.18	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809028 - EPA 3550B

Blank (V809028-BLK1)

Prepared: 09/25/2018 Analyzed: 09/25/2018 09:18

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V809028-BS1)

Prepared: 09/25/2018 Analyzed: 09/25/2018 09:04

Tetrachloroethene	764	40	ug/kg wet	800.0		95.6	70-130			
Trichloroethene	791	40	ug/kg wet	800.0		98.9	70-130			
cis-1,2-Dichloroethene	810	40	ug/kg wet	800.0		101	70-130			
trans-1,2-Dichloroethene	804	40	ug/kg wet	800.0		101	70-130			
1,1-Dichloroethene	771	40	ug/kg wet	800.0		96.4	70-130			
Vinyl chloride	637	40	ug/kg wet	800.0		79.6	70-130			
1,4-Dioxane	1520	80	ug/kg wet	1600		94.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.8</i>	<i>70-130</i>			

Matrix Spike (V809028-MS1)

Source: V183903-04

Prepared: 09/25/2018 Analyzed: 09/25/2018 19:27

Tetrachloroethene	972	46	ug/kg dry	916.9	7.33	105	70-130			
Trichloroethene	925	46	ug/kg dry	916.9	ND	101	70-130			
cis-1,2-Dichloroethene	941	46	ug/kg dry	916.9	ND	103	70-130			
trans-1,2-Dichloroethene	944	46	ug/kg dry	916.9	ND	103	70-130			
1,1-Dichloroethene	963	46	ug/kg dry	916.9	ND	105	70-130			
Vinyl chloride	898	46	ug/kg dry	916.9	ND	97.9	70-130			
1,4-Dioxane	1740	92	ug/kg dry	1834	ND	95.1	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V809028-MSD1)

Source: V183903-04

Prepared: 09/25/2018 Analyzed: 09/25/2018 19:41

Tetrachloroethene	909	46	ug/kg dry	916.9	7.33	98.3	70-130	6.78	20	
Trichloroethene	866	46	ug/kg dry	916.9	ND	94.4	70-130	6.55	20	
cis-1,2-Dichloroethene	869	46	ug/kg dry	916.9	ND	94.8	70-130	7.96	20	
trans-1,2-Dichloroethene	898	46	ug/kg dry	916.9	ND	98.0	70-130	4.98	20	
1,1-Dichloroethene	923	46	ug/kg dry	916.9	ND	101	70-130	4.18	20	
Vinyl chloride	877	46	ug/kg dry	916.9	ND	95.6	70-130	2.38	20	
1,4-Dioxane	1660	92	ug/kg dry	1834	ND	90.4	70-130	5.04	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.3</i>	<i>70-130</i>			

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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809030 - No Preparation

Blank (V809030-BLK1)

Prepared: 09/26/2018 Analyzed: 09/26/2018 09:51

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>109</i>	<i>60-140</i>			

LCS (V809030-BS1)

Prepared: 09/26/2018 Analyzed: 09/26/2018 11:02

Tetrachloroethene	21.1	1.0	ug/L	20.00		105	70-130			
Trichloroethene	20.7	1.0	ug/L	20.00		104	70-130			
cis-1,2-Dichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00		108	70-130			
1,1-Dichloroethene	21.7	1.0	ug/L	20.00		109	70-130			
Vinyl chloride	21.5	1.0	ug/L	20.00		107	70-130			
1,4-Dioxane	35.5	2.0	ug/L	40.00		88.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>109</i>	<i>70-130</i>			

Matrix Spike (V809030-MS1)

Source: V183904-04

Prepared: 09/26/2018 Analyzed: 09/26/2018 22:00

Tetrachloroethene	186	10	ug/L	200.0	0.100	92.7	70-130			D
Trichloroethene	246	10	ug/L	200.0	39.8	103	70-130			D
cis-1,2-Dichloroethene	2970	10	ug/L	200.0	2630	172	70-130			M1, D, E
trans-1,2-Dichloroethene	493	10	ug/L	200.0	269	112	70-130			D
1,1-Dichloroethene	215	10	ug/L	200.0	1.00	107	70-130			D
Vinyl chloride	238	10	ug/L	200.0	41.4	98.4	70-130			D
1,4-Dioxane	345	20	ug/L	400.0	ND	86.3	70-130			D
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike Dup (V809030-MSD1)

Source: V183904-04

Prepared: 09/26/2018 Analyzed: 09/26/2018 22:15

Tetrachloroethene	182	10	ug/L	200.0	0.100	91.0	70-130	1.85	20	D
Trichloroethene	240	10	ug/L	200.0	39.8	99.9	70-130	2.76	20	D
cis-1,2-Dichloroethene	2720	10	ug/L	200.0	2630	47.3	70-130	8.77	20	M1, D, E
trans-1,2-Dichloroethene	459	10	ug/L	200.0	269	95.1	70-130	7.06	20	D
1,1-Dichloroethene	203	10	ug/L	200.0	1.00	101	70-130	6.12	20	D
Vinyl chloride	227	10	ug/L	200.0	41.4	93.0	70-130	4.64	20	D
1,4-Dioxane	351	20	ug/L	400.0	ND	87.7	70-130	1.55	20	D
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809031 - EPA 3550B

Blank (V809031-BLK1)

Prepared: 09/26/2018 Analyzed: 09/26/2018 11:31

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V809031-BS1)

Prepared: 09/26/2018 Analyzed: 09/26/2018 11:16

Tetrachloroethene	791	40	ug/kg wet	800.0		98.9	70-130			
Trichloroethene	713	40	ug/kg wet	800.0		89.2	70-130			
cis-1,2-Dichloroethene	705	40	ug/kg wet	800.0		88.1	70-130			
trans-1,2-Dichloroethene	708	40	ug/kg wet	800.0		88.5	70-130			
1,1-Dichloroethene	706	40	ug/kg wet	800.0		88.3	70-130			
Vinyl chloride	602	40	ug/kg wet	800.0		75.3	70-130			
1,4-Dioxane	1380	80	ug/kg wet	1600		86.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.7</i>	<i>70-130</i>			

Matrix Spike (V809031-MS1)

Source: V183905-04

Prepared: 09/26/2018 Analyzed: 09/26/2018 21:16

Tetrachloroethene	940	51	ug/kg dry	1013	ND	92.8	70-130			
Trichloroethene	1020	51	ug/kg dry	1013	ND	101	70-130			
cis-1,2-Dichloroethene	1150	51	ug/kg dry	1013	ND	114	70-130			
trans-1,2-Dichloroethene	1100	51	ug/kg dry	1013	ND	109	70-130			
1,1-Dichloroethene	1100	51	ug/kg dry	1013	ND	108	70-130			
Vinyl chloride	1030	51	ug/kg dry	1013	ND	102	70-130			
1,4-Dioxane	1710	100	ug/kg dry	2025	ND	84.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>93.4</i>	<i>70-130</i>			

Matrix Spike Dup (V809031-MSD1)

Source: V183905-04

Prepared: 09/26/2018 Analyzed: 09/26/2018 21:31

Tetrachloroethene	896	51	ug/kg dry	1013	ND	88.5	70-130	4.74	20	
Trichloroethene	1110	51	ug/kg dry	1013	ND	109	70-130	8.53	20	
cis-1,2-Dichloroethene	1260	51	ug/kg dry	1013	ND	124	70-130	8.78	20	
trans-1,2-Dichloroethene	1180	51	ug/kg dry	1013	ND	117	70-130	7.08	20	
1,1-Dichloroethene	1110	51	ug/kg dry	1013	ND	110	70-130	1.15	20	
Vinyl chloride	1060	51	ug/kg dry	1013	ND	104	70-130	2.18	20	
1,4-Dioxane	1470	100	ug/kg dry	2025	ND	72.7	70-130	15.2	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809033 - No Preparation

Blank (V809033-BLK1)

Prepared: 09/27/2018 Analyzed: 09/27/2018 12:58

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.9		ug/L	20.00		104	60-140			

LCS (V809033-BS1)

Prepared: 09/27/2018 Analyzed: 09/27/2018 12:44

Tetrachloroethene	19.2	1.0	ug/L	20.00		96.1	70-130			
Trichloroethene	22.0	1.0	ug/L	20.00		110	70-130			
cis-1,2-Dichloroethene	23.5	1.0	ug/L	20.00		118	70-130			
trans-1,2-Dichloroethene	22.0	1.0	ug/L	20.00		110	70-130			
1,1-Dichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
Vinyl chloride	18.5	1.0	ug/L	20.00		92.7	70-130			
1,4-Dioxane	38.1	2.0	ug/L	40.00		95.3	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.7		ug/L	20.00		108	70-130			

Matrix Spike (V809033-MS1)

Source: V183906-03

Prepared: 09/27/2018 Analyzed: 09/27/2018 18:37

Tetrachloroethene	230	10	ug/L	200.0	ND	115	70-130			D
Trichloroethene	1090	10	ug/L	200.0	988	51.6	70-130			M, D
cis-1,2-Dichloroethene	2760	10	ug/L	200.0	2620	67.3	70-130			M1, D, E
trans-1,2-Dichloroethene	327	10	ug/L	200.0	124	102	70-130			D
1,1-Dichloroethene	222	10	ug/L	200.0	4.20	109	70-130			D
Vinyl chloride	362	10	ug/L	200.0	184	89.2	70-130			D
1,4-Dioxane	375	20	ug/L	400.0	ND	93.8	70-130			D
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		102	70-130			

Matrix Spike Dup (V809033-MSD1)

Source: V183906-03

Prepared: 09/27/2018 Analyzed: 09/27/2018 18:51

Tetrachloroethene	222	10	ug/L	200.0	ND	111	70-130	3.14	20	D
Trichloroethene	1100	10	ug/L	200.0	988	56.6	70-130	0.912	20	M, D
cis-1,2-Dichloroethene	2710	10	ug/L	200.0	2620	41.7	70-130	1.88	20	M1, D, E
trans-1,2-Dichloroethene	319	10	ug/L	200.0	124	97.8	70-130	2.60	20	D
1,1-Dichloroethene	214	10	ug/L	200.0	4.20	105	70-130	3.35	20	D
Vinyl chloride	354	10	ug/L	200.0	184	85.3	70-130	2.18	20	D
1,4-Dioxane	334	20	ug/L	400.0	ND	83.5	70-130	11.6	20	D
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809034 - EPA 3550B

Blank (V809034-BLK1)

Prepared: 09/27/2018 Analyzed: 09/27/2018 12:14

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>60-140</i>			

LCS (V809034-BS1)

Prepared: 09/27/2018 Analyzed: 09/27/2018 12:00

Tetrachloroethene	897	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	746	40	ug/kg wet	800.0		93.3	70-130			
cis-1,2-Dichloroethene	718	40	ug/kg wet	800.0		89.7	70-130			
trans-1,2-Dichloroethene	745	40	ug/kg wet	800.0		93.2	70-130			
1,1-Dichloroethene	764	40	ug/kg wet	800.0		95.6	70-130			
Vinyl chloride	617	40	ug/kg wet	800.0		77.2	70-130			
1,4-Dioxane	1480	80	ug/kg wet	1600		92.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike (V809034-MS1)

Source: V183907-04

Prepared: 09/27/2018 Analyzed: 09/27/2018 19:05

Tetrachloroethene	1160	54	ug/kg dry	1074	ND	108	70-130			
Trichloroethene	2350	54	ug/kg dry	1074	1110	115	70-130			
cis-1,2-Dichloroethene	1300	54	ug/kg dry	1074	64.5	115	70-130			
trans-1,2-Dichloroethene	1220	54	ug/kg dry	1074	ND	114	70-130			
1,1-Dichloroethene	1170	54	ug/kg dry	1074	ND	109	70-130			
Vinyl chloride	1140	54	ug/kg dry	1074	ND	106	70-130			
1,4-Dioxane	2390	110	ug/kg dry	2149	ND	111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike Dup (V809034-MSD1)

Source: V183907-04

Prepared: 09/27/2018 Analyzed: 09/27/2018 19:20

Tetrachloroethene	1220	54	ug/kg dry	1074	ND	113	70-130	4.69	20	
Trichloroethene	2320	54	ug/kg dry	1074	1110	113	70-130	1.19	20	
cis-1,2-Dichloroethene	1260	54	ug/kg dry	1074	64.5	111	70-130	3.07	20	
trans-1,2-Dichloroethene	1200	54	ug/kg dry	1074	ND	112	70-130	1.69	20	
1,1-Dichloroethene	1170	54	ug/kg dry	1074	ND	109	70-130	0.0920	20	
Vinyl chloride	1130	54	ug/kg dry	1074	ND	106	70-130	0.284	20	
1,4-Dioxane	2100	110	ug/kg dry	2149	ND	97.8	70-130	12.8	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809036 - No Preparation

Blank (V809036-BLK1)

Prepared: 09/28/2018 Analyzed: 09/28/2018 10:18

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>60-140</i>			

LCS (V809036-BS1)

Prepared: 09/28/2018 Analyzed: 09/28/2018 10:04

Tetrachloroethene	22.1	1.0	ug/L	20.00		110	70-130			
Trichloroethene	21.4	1.0	ug/L	20.00		107	70-130			
cis-1,2-Dichloroethene	22.3	1.0	ug/L	20.00		112	70-130			
trans-1,2-Dichloroethene	22.1	1.0	ug/L	20.00		111	70-130			
1,1-Dichloroethene	21.8	1.0	ug/L	20.00		109	70-130			
Vinyl chloride	19.8	1.0	ug/L	20.00		99.0	70-130			
1,4-Dioxane	34.0	2.0	ug/L	40.00		84.9	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V809036-MS1)

Source: V183908-01

Prepared: 09/28/2018 Analyzed: 09/28/2018 19:32

Tetrachloroethene	20.3	1.0	ug/L	20.00	ND	102	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00	ND	102	70-130			
cis-1,2-Dichloroethene	21.3	1.0	ug/L	20.00	0.0500	106	70-130			
trans-1,2-Dichloroethene	20.8	1.0	ug/L	20.00	ND	104	70-130			
1,1-Dichloroethene	20.7	1.0	ug/L	20.00	ND	104	70-130			
Vinyl chloride	18.8	1.0	ug/L	20.00	ND	93.9	70-130			
1,4-Dioxane	44.9	2.0	ug/L	40.00	ND	112	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>94.9</i>	<i>70-130</i>			

Matrix Spike Dup (V809036-MSD1)

Source: V183908-01

Prepared: 09/28/2018 Analyzed: 09/28/2018 19:46

Tetrachloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130	0.543	20	
Trichloroethene	20.7	1.0	ug/L	20.00	ND	103	70-130	1.85	20	
cis-1,2-Dichloroethene	22.3	1.0	ug/L	20.00	0.0500	111	70-130	4.45	20	
trans-1,2-Dichloroethene	21.7	1.0	ug/L	20.00	ND	109	70-130	4.14	20	
1,1-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130	4.21	20	
Vinyl chloride	20.0	1.0	ug/L	20.00	ND	100	70-130	6.30	20	
1,4-Dioxane	37.2	2.0	ug/L	40.00	ND	93.1	70-130	18.8	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.0</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809037 - EPA 3550B

Blank (V809037-BLK1)

Prepared: 09/28/2018 Analyzed: 09/28/2018 11:31

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V809037-BS1)

Prepared: 09/28/2018 Analyzed: 09/28/2018 13:42

Tetrachloroethene	897	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	834	40	ug/kg wet	800.0		104	70-130			
cis-1,2-Dichloroethene	856	40	ug/kg wet	800.0		107	70-130			
trans-1,2-Dichloroethene	852	40	ug/kg wet	800.0		107	70-130			
1,1-Dichloroethene	852	40	ug/kg wet	800.0		106	70-130			
Vinyl chloride	784	40	ug/kg wet	800.0		98.0	70-130			
1,4-Dioxane	1580	80	ug/kg wet	1600		98.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	70-130			

Matrix Spike (V809037-MS1)

Source: V183910-01

Prepared: 09/28/2018 Analyzed: 09/28/2018 20:01

Tetrachloroethene	1110	49	ug/kg dry	980.1	ND	113	70-130			
Trichloroethene	1010	49	ug/kg dry	980.1	7.22	102	70-130			
cis-1,2-Dichloroethene	1030	49	ug/kg dry	980.1	ND	105	70-130			
trans-1,2-Dichloroethene	1050	49	ug/kg dry	980.1	ND	107	70-130			
1,1-Dichloroethene	1080	49	ug/kg dry	980.1	ND	110	70-130			
Vinyl chloride	1060	49	ug/kg dry	980.1	ND	108	70-130			
1,4-Dioxane	1980	98	ug/kg dry	1960	ND	101	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		100	70-130			

Matrix Spike Dup (V809037-MSD1)

Source: V183910-01

Prepared: 09/28/2018 Analyzed: 09/28/2018 20:16

Tetrachloroethene	987	49	ug/kg dry	980.1	ND	101	70-130	11.6	20	
Trichloroethene	1050	49	ug/kg dry	980.1	7.22	106	70-130	3.72	20	
cis-1,2-Dichloroethene	1130	49	ug/kg dry	980.1	ND	116	70-130	9.23	20	
trans-1,2-Dichloroethene	1110	49	ug/kg dry	980.1	ND	113	70-130	5.08	20	
1,1-Dichloroethene	1110	49	ug/kg dry	980.1	ND	113	70-130	2.59	20	
Vinyl chloride	1050	49	ug/kg dry	980.1	ND	108	70-130	0.649	20	
1,4-Dioxane	1970	98	ug/kg dry	1960	ND	100	70-130	0.572	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810001 - No Preparation

Blank (V810001-BLK1)

Prepared: 10/01/2018 Analyzed: 10/01/2018 13:36

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	24.0		ug/L	20.00		120	60-140			

LCS (V810001-BS1)

Prepared: 10/01/2018 Analyzed: 10/01/2018 13:21

Tetrachloroethene	25.1	1.0	ug/L	20.00		126	70-130			
Trichloroethene	21.6	1.0	ug/L	20.00		108	70-130			
cis-1,2-Dichloroethene	23.3	1.0	ug/L	20.00		116	70-130			
trans-1,2-Dichloroethene	22.1	1.0	ug/L	20.00		110	70-130			
1,1-Dichloroethene	21.2	1.0	ug/L	20.00		106	70-130			
Vinyl chloride	20.2	1.0	ug/L	20.00		101	70-130			
1,4-Dioxane	40.3	2.0	ug/L	40.00		101	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	23.9		ug/L	20.00		119	70-130			

Batch V810002 - EPA 3550B

Blank (V810002-BLK1)

Prepared: 10/01/2018 Analyzed: 10/01/2018 12:38

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	21.7		ug/L	20.00		109	60-140			

LCS (V810002-BS1)

Prepared: 10/01/2018 Analyzed: 10/01/2018 12:23

Tetrachloroethene	918	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	816	40	ug/kg wet	800.0		102	70-130			
cis-1,2-Dichloroethene	776	40	ug/kg wet	800.0		97.0	70-130			
trans-1,2-Dichloroethene	812	40	ug/kg wet	800.0		102	70-130			
1,1-Dichloroethene	845	40	ug/kg wet	800.0		106	70-130			
Vinyl chloride	777	40	ug/kg wet	800.0		97.2	70-130			
1,4-Dioxane	1510	80	ug/kg wet	1600		94.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.6		ug/L	20.00		103	70-130			

Matrix Spike (V810002-MS1)

Source: V184001-03

Prepared: 10/01/2018 Analyzed: 10/02/2018 01:02

Tetrachloroethene	812	44	ug/kg dry	876.8	ND	92.7	70-130			
Trichloroethene	995	44	ug/kg dry	876.8	ND	114	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810002 - EPA 3550B

Matrix Spike (V810002-MS1)		Source: V184001-03		Prepared: 10/01/2018 Analyzed: 10/02/2018 01:02						
cis-1,2-Dichloroethene	1120	44	ug/kg dry	876.8	ND	127	70-130			
trans-1,2-Dichloroethene	1070	44	ug/kg dry	876.8	ND	122	70-130			
1,1-Dichloroethene	1080	44	ug/kg dry	876.8	ND	123	70-130			
Vinyl chloride	1070	44	ug/kg dry	876.8	ND	123	70-130			
1,4-Dioxane	1960	88	ug/kg dry	1754	ND	112	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.3</i>	<i>70-130</i>			

Matrix Spike Dup (V810002-MSD1)		Source: V184001-03		Prepared: 10/01/2018 Analyzed: 10/02/2018 01:16						
Tetrachloroethene	766	44	ug/kg dry	876.8	ND	87.4	70-130	5.89	20	
Trichloroethene	961	44	ug/kg dry	876.8	ND	110	70-130	3.54	20	
cis-1,2-Dichloroethene	1120	44	ug/kg dry	876.8	ND	127	70-130	0.157	20	
trans-1,2-Dichloroethene	1060	44	ug/kg dry	876.8	ND	121	70-130	1.11	20	
1,1-Dichloroethene	1060	44	ug/kg dry	876.8	ND	121	70-130	1.19	20	
Vinyl chloride	1100	44	ug/kg dry	876.8	ND	125	70-130	2.18	20	
1,4-Dioxane	2070	88	ug/kg dry	1754	ND	118	70-130	5.66	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.0</i>	<i>70-130</i>			

Batch V810004 - EPA 3550B

Blank (V810004-BLK1)		Prepared: 10/01/2018 Analyzed: 10/01/2018 20:54								
Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>60-140</i>			

LCS (V810004-BS1)		Prepared: 10/01/2018 Analyzed: 10/01/2018 20:39								
Tetrachloroethene	931	40	ug/kg wet	800.0		116	70-130			
Trichloroethene	798	40	ug/kg wet	800.0		99.8	70-130			
cis-1,2-Dichloroethene	786	40	ug/kg wet	800.0		98.2	70-130			
trans-1,2-Dichloroethene	806	40	ug/kg wet	800.0		101	70-130			
1,1-Dichloroethene	859	40	ug/kg wet	800.0		107	70-130			
Vinyl chloride	806	40	ug/kg wet	800.0		101	70-130			
1,4-Dioxane	1720	80	ug/kg wet	1600		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike (V810004-MS1)		Source: V184001-17		Prepared: 10/01/2018 Analyzed: 10/02/2018 16:27						
Tetrachloroethene	694	42	ug/kg dry	841.7	0.461	82.4	70-130			
Trichloroethene	918	42	ug/kg dry	841.7	5.07	108	70-130			
cis-1,2-Dichloroethene	1030	42	ug/kg dry	841.7	3.23	121	70-130			
trans-1,2-Dichloroethene	1010	42	ug/kg dry	841.7	1.84	120	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810004 - EPA 3550B

Matrix Spike (V810004-MS1)		Source: V184001-17			Prepared: 10/01/2018 Analyzed: 10/02/2018 16:27					
1,1-Dichloroethene	959	42	ug/kg dry	841.7	ND	114	70-130			
Vinyl chloride	930	42	ug/kg dry	841.7	ND	111	70-130			
1,4-Dioxane	1750	84	ug/kg dry	1683	ND	104	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.4</i>	<i>70-130</i>			

Matrix Spike Dup (V810004-MSD1)		Source: V184001-17			Prepared: 10/01/2018 Analyzed: 10/02/2018 16:41					
Tetrachloroethene	709	42	ug/kg dry	841.7	0.461	84.1	70-130	2.04	20	
Trichloroethene	925	42	ug/kg dry	841.7	5.07	109	70-130	0.731	20	
cis-1,2-Dichloroethene	1020	42	ug/kg dry	841.7	3.23	120	70-130	0.990	20	
trans-1,2-Dichloroethene	1010	42	ug/kg dry	841.7	1.84	120	70-130	0.375	20	
1,1-Dichloroethene	971	42	ug/kg dry	841.7	ND	115	70-130	1.31	20	
Vinyl chloride	946	42	ug/kg dry	841.7	ND	112	70-130	1.75	20	
1,4-Dioxane	1790	84	ug/kg dry	1683	ND	106	70-130	2.21	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>93.5</i>	<i>70-130</i>			

Batch V810006 - No Preparation

Blank (V810006-BLK1)		Prepared: 10/02/2018 Analyzed: 10/02/2018 09:12								
Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V810006-BS1)		Prepared: 10/02/2018 Analyzed: 10/02/2018 08:58								
Tetrachloroethene	24.2	1.0	ug/L	20.00		121	70-130			
Trichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
cis-1,2-Dichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
trans-1,2-Dichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
1,1-Dichloroethene	21.6	1.0	ug/L	20.00		108	70-130			
Vinyl chloride	19.3	1.0	ug/L	20.00		96.4	70-130			
1,4-Dioxane	40.1	2.0	ug/L	40.00		100	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Matrix Spike (V810006-MS1)		Source: V184004-02			Prepared: 10/02/2018 Analyzed: 10/02/2018 15:22					
Tetrachloroethene	17.1	1.0	ug/L	20.00	0.0100	85.2	70-130			
Trichloroethene	37.1	1.0	ug/L	20.00	14.7	112	70-130			
cis-1,2-Dichloroethene	41.9	1.0	ug/L	20.00	17.4	123	70-130			
trans-1,2-Dichloroethene	24.6	1.0	ug/L	20.00	0.950	118	70-130			
1,1-Dichloroethene	22.7	1.0	ug/L	20.00	0.0300	113	70-130			
Vinyl chloride	24.7	1.0	ug/L	20.00	3.90	104	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810006 - No Preparation

Matrix Spike (V810006-MS1)		Source: V184004-02		Prepared: 10/02/2018 Analyzed: 10/02/2018 15:22						
1,4-Dioxane	46.6	2.0	ug/L	40.00	2.22	111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Matrix Spike Dup (V810006-MSD1)		Source: V184004-02		Prepared: 10/02/2018 Analyzed: 10/02/2018 15:37						
Tetrachloroethene	19.1	1.0	ug/L	20.00	0.0100	95.5	70-130	11.3	20	
Trichloroethene	37.6	1.0	ug/L	20.00	14.7	114	70-130	1.23	20	
cis-1,2-Dichloroethene	43.3	1.0	ug/L	20.00	17.4	130	70-130	3.36	20	
trans-1,2-Dichloroethene	25.1	1.0	ug/L	20.00	0.950	121	70-130	2.09	20	
1,1-Dichloroethene	22.5	1.0	ug/L	20.00	0.0300	112	70-130	1.02	20	
Vinyl chloride	23.8	1.0	ug/L	20.00	3.90	99.6	70-130	3.79	20	
1,4-Dioxane	47.0	2.0	ug/L	40.00	2.22	112	70-130	0.940	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>70-130</i>			

Batch V810007 - EPA 3550B

Blank (V810007-BLK1)		Prepared: 10/02/2018 Analyzed: 10/02/2018 11:09								
Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>60-140</i>			

LCS (V810007-BS1)		Prepared: 10/02/2018 Analyzed: 10/02/2018 10:54								
Tetrachloroethene	969	40	ug/kg wet	800.0		121	70-130			
Trichloroethene	828	40	ug/kg wet	800.0		104	70-130			
cis-1,2-Dichloroethene	810	40	ug/kg wet	800.0		101	70-130			
trans-1,2-Dichloroethene	843	40	ug/kg wet	800.0		105	70-130			
1,1-Dichloroethene	873	40	ug/kg wet	800.0		109	70-130			
Vinyl chloride	858	40	ug/kg wet	800.0		107	70-130			
1,4-Dioxane	1630	80	ug/kg wet	1600		102	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>70-130</i>			

Matrix Spike (V810007-MS1)		Source: V184005-03		Prepared: 10/02/2018 Analyzed: 10/02/2018 15:51						
Tetrachloroethene	925	43	ug/kg dry	855.4	ND	108	70-130			
Trichloroethene	915	43	ug/kg dry	855.4	ND	107	70-130			
cis-1,2-Dichloroethene	942	43	ug/kg dry	855.4	ND	110	70-130			
trans-1,2-Dichloroethene	941	43	ug/kg dry	855.4	ND	110	70-130			
1,1-Dichloroethene	942	43	ug/kg dry	855.4	ND	110	70-130			
Vinyl chloride	843	43	ug/kg dry	855.4	ND	98.6	70-130			
1,4-Dioxane	1910	86	ug/kg dry	1711	ND	112	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810007 - EPA 3550B

Matrix Spike Dup (V810007-MSD1)		Source: V184005-03		Prepared: 10/02/2018 Analyzed: 10/02/2018 16:06						
Tetrachloroethene	964	43	ug/kg dry	855.4	ND	113	70-130	4.08	20	
Trichloroethene	928	43	ug/kg dry	855.4	ND	109	70-130	1.44	20	
cis-1,2-Dichloroethene	940	43	ug/kg dry	855.4	ND	110	70-130	0.182	20	
trans-1,2-Dichloroethene	953	43	ug/kg dry	855.4	ND	111	70-130	1.26	20	
1,1-Dichloroethene	958	43	ug/kg dry	855.4	ND	112	70-130	1.76	20	
Vinyl chloride	884	43	ug/kg dry	855.4	ND	103	70-130	4.71	20	
1,4-Dioxane	1980	86	ug/kg dry	1711	ND	116	70-130	3.61	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Batch V810009 - No Preparation

Blank (V810009-BLK1)		Prepared: 10/03/2018 Analyzed: 10/03/2018 09:34								
Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V810009-BS1)		Prepared: 10/03/2018 Analyzed: 10/03/2018 09:19								
Tetrachloroethene	23.5	1.0	ug/L	20.00		117	70-130			
Trichloroethene	21.7	1.0	ug/L	20.00		108	70-130			
cis-1,2-Dichloroethene	21.1	1.0	ug/L	20.00		106	70-130			
trans-1,2-Dichloroethene	21.9	1.0	ug/L	20.00		110	70-130			
1,1-Dichloroethene	22.7	1.0	ug/L	20.00		114	70-130			
Vinyl chloride	20.6	1.0	ug/L	20.00		103	70-130			
1,4-Dioxane	36.7	2.0	ug/L	40.00		91.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>109</i>	<i>70-130</i>			

Matrix Spike (V810009-MS1)		Source: V184007-03		Prepared: 10/04/2018 Analyzed: 10/04/2018 09:42						
Tetrachloroethene	21.6	1.0	ug/L	20.00	0.0700	108	70-130			
Trichloroethene	22.9	1.0	ug/L	20.00	0.180	113	70-130			
cis-1,2-Dichloroethene	26.3	1.0	ug/L	20.00	3.32	115	70-130			
trans-1,2-Dichloroethene	23.2	1.0	ug/L	20.00	0.100	116	70-130			
1,1-Dichloroethene	22.9	1.0	ug/L	20.00	0.0600	114	70-130			
Vinyl chloride	26.7	1.0	ug/L	20.00	6.16	103	70-130			
1,4-Dioxane	52.7	2.0	ug/L	40.00	7.34	113	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>22.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>110</i>	<i>70-130</i>			

Matrix Spike Dup (V810009-MSD1)		Source: V184007-03		Prepared: 10/04/2018 Analyzed: 10/04/2018 09:56						
Tetrachloroethene	20.4	1.0	ug/L	20.00	0.0700	102	70-130	5.85	20	
Trichloroethene	22.8	1.0	ug/L	20.00	0.180	113	70-130	0.263	20	



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810009 - No Preparation

Matrix Spike Dup (V810009-MSD1)		Source: V184007-03		Prepared: 10/04/2018 Analyzed: 10/04/2018 09:56						
cis-1,2-Dichloroethene	26.4	1.0	ug/L	20.00	3.32	116	70-130	0.379	20	
trans-1,2-Dichloroethene	23.0	1.0	ug/L	20.00	0.100	115	70-130	0.778	20	
1,1-Dichloroethene	22.3	1.0	ug/L	20.00	0.0600	111	70-130	2.39	20	
Vinyl chloride	26.1	1.0	ug/L	20.00	6.16	99.7	70-130	2.27	20	
1,4-Dioxane	51.0	2.0	ug/L	40.00	7.34	109	70-130	3.26	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>70-130</i>			

Batch V810010 - EPA 3550B

Blank (V810010-BLK1)		Prepared: 10/03/2018 Analyzed: 10/03/2018 10:03								
Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V810010-BS1)		Prepared: 10/03/2018 Analyzed: 10/03/2018 09:48								
Tetrachloroethene	23.3		ug/L	20.00		117	70-130			
Trichloroethene	21.5		ug/L	20.00		108	70-130			
cis-1,2-Dichloroethene	21.5		ug/L	20.00		108	70-130			
trans-1,2-Dichloroethene	22.0		ug/L	20.00		110	70-130			
1,1-Dichloroethene	22.3		ug/L	20.00		112	70-130			
Vinyl chloride	20.2		ug/L	20.00		101	70-130			
1,4-Dioxane	41.1		ug/L	40.00		103	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>108</i>	<i>70-130</i>			

Matrix Spike (V810010-MS1)		Source: V184006-02		Prepared: 10/03/2018 Analyzed: 10/03/2018 15:56						
Tetrachloroethene	24.7		ug/L	20.00	0.230	122	70-130			
Trichloroethene	20.4		ug/L	20.00	0.00	102	70-130			
cis-1,2-Dichloroethene	19.7		ug/L	20.00	0.0800	97.9	70-130			
trans-1,2-Dichloroethene	20.4		ug/L	20.00	0.00	102	70-130			
1,1-Dichloroethene	21.5		ug/L	20.00	0.00	107	70-130			
Vinyl chloride	20.2		ug/L	20.00	0.00	101	70-130			
1,4-Dioxane	38.5		ug/L	40.00	0.00	96.4	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.2</i>	<i>70-130</i>			

Matrix Spike Dup (V810010-MSD1)		Source: V184006-02		Prepared: 10/03/2018 Analyzed: 10/03/2018 16:11						
Tetrachloroethene	24.5		ug/L	20.00	0.230	122	70-130	0.528	20	
Trichloroethene	20.6		ug/L	20.00	0.00	103	70-130	0.585	20	
cis-1,2-Dichloroethene	19.7		ug/L	20.00	0.0800	98.1	70-130	0.203	20	
trans-1,2-Dichloroethene	20.5		ug/L	20.00	0.00	102	70-130	0.441	20	



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810010 - EPA 3550B

Matrix Spike Dup (V810010-MSD1)

Source: V184006-02

Prepared: 10/03/2018 Analyzed: 10/03/2018 16:11

1,1-Dichloroethene	21.7		ug/L	20.00	0.00	108	70-130	1.11	20	
Vinyl chloride	20.0		ug/L	20.00	0.00	100	70-130	1.14	20	
1,4-Dioxane	39.9		ug/L	40.00	0.00	99.7	70-130	3.44	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Batch V810012 - No Preparation

Blank (V810012-BLK1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 09:23

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V810012-BS1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 09:08

Tetrachloroethene	20.2	1.0	ug/L	20.00		101	70-130			
Trichloroethene	23.0	1.0	ug/L	20.00		115	70-130			
cis-1,2-Dichloroethene	24.2	1.0	ug/L	20.00		121	70-130			
trans-1,2-Dichloroethene	23.2	1.0	ug/L	20.00		116	70-130			
1,1-Dichloroethene	22.3	1.0	ug/L	20.00		111	70-130			
Vinyl chloride	20.1	1.0	ug/L	20.00		101	70-130			
1,4-Dioxane	43.0	2.0	ug/L	40.00		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>22.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>110</i>	<i>70-130</i>			

LCS Dup (V810012-BSD1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 19:41

Tetrachloroethene	21.8	1.0	ug/L	20.00		109	70-130	7.57	20	
Trichloroethene	21.2	1.0	ug/L	20.00		106	70-130	8.18	20	
cis-1,2-Dichloroethene	21.8	1.0	ug/L	20.00		109	70-130	10.6	20	
trans-1,2-Dichloroethene	21.9	1.0	ug/L	20.00		109	70-130	5.78	20	
1,1-Dichloroethene	22.5	1.0	ug/L	20.00		113	70-130	1.16	20	
Vinyl chloride	20.8	1.0	ug/L	20.00		104	70-130	3.37	20	
1,4-Dioxane	44.8	2.0	ug/L	40.00		112	70-130	4.03	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810013 - EPA 3550B

Blank (V810013-BLK1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 10:25

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							

Surrogate: 4-Bromofluorobenzene 21.1 ug/L 20.00 105 60-140

LCS (V810013-BS1)

Prepared: 10/04/2018 Analyzed: 10/04/2018 10:11

Tetrachloroethene	963	40	ug/kg wet	800.0		120	70-130			
Trichloroethene	828	40	ug/kg wet	800.0		104	70-130			
cis-1,2-Dichloroethene	795	40	ug/kg wet	800.0		99.4	70-130			
trans-1,2-Dichloroethene	838	40	ug/kg wet	800.0		105	70-130			
1,1-Dichloroethene	880	40	ug/kg wet	800.0		110	70-130			
Vinyl chloride	800	40	ug/kg wet	800.0		100	70-130			
1,4-Dioxane	1760	80	ug/kg wet	1600		110	70-130			

Surrogate: 4-Bromofluorobenzene 21.0 ug/L 20.00 105 70-130

Matrix Spike (V810013-MS1)

Source: V184008-02

Prepared: 10/04/2018 Analyzed: 10/04/2018 19:12

Tetrachloroethene	967	51	ug/kg dry	1022	1.84	94.5	70-130			
Trichloroethene	1460	51	ug/kg dry	1022	4.59	143	70-130			M
cis-1,2-Dichloroethene	1290	51	ug/kg dry	1022	ND	127	70-130			
trans-1,2-Dichloroethene	1260	51	ug/kg dry	1022	ND	123	70-130			
1,1-Dichloroethene	1260	51	ug/kg dry	1022	ND	124	70-130			
Vinyl chloride	1260	51	ug/kg dry	1022	ND	123	70-130			
1,4-Dioxane	1870	100	ug/kg dry	2043	ND	91.6	70-130			

Surrogate: 4-Bromofluorobenzene 19.8 ug/L 20.00 99.1 70-130

Matrix Spike Dup (V810013-MSD1)

Source: V184008-02

Prepared: 10/04/2018 Analyzed: 10/04/2018 19:27

Tetrachloroethene	928	51	ug/kg dry	1022	1.84	90.6	70-130	4.20	20	
Trichloroethene	1110	51	ug/kg dry	1022	4.59	109	70-130	27.1	20	X
cis-1,2-Dichloroethene	1210	51	ug/kg dry	1022	ND	119	70-130	6.40	20	
trans-1,2-Dichloroethene	1210	51	ug/kg dry	1022	ND	118	70-130	4.22	20	
1,1-Dichloroethene	1210	51	ug/kg dry	1022	ND	119	70-130	4.13	20	
Vinyl chloride	1220	51	ug/kg dry	1022	ND	119	70-130	3.01	20	
1,4-Dioxane	2140	100	ug/kg dry	2043	ND	105	70-130	13.2	20	

Surrogate: 4-Bromofluorobenzene 19.1 ug/L 20.00 95.5 70-130



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810015 - No Preparation

Blank (V810015-BLK1)

Prepared: 10/05/2018 Analyzed: 10/05/2018 09:56

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>107</i>	<i>60-140</i>			

LCS (V810015-BS1)

Prepared: 10/05/2018 Analyzed: 10/05/2018 09:41

Tetrachloroethene	25.6	1.0	ug/L	20.00		128	70-130			
Trichloroethene	19.6	1.0	ug/L	20.00		98.1	70-130			
cis-1,2-Dichloroethene	18.0	1.0	ug/L	20.00		90.0	70-130			
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
1,1-Dichloroethene	22.2	1.0	ug/L	20.00		111	70-130			
Vinyl chloride	20.8	1.0	ug/L	20.00		104	70-130			
1,4-Dioxane	41.5	2.0	ug/L	40.00		104	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

LCS Dup (V810015-BSD1)

Prepared: 10/05/2018 Analyzed: 10/05/2018 16:33

Tetrachloroethene	21.1	1.0	ug/L	20.00		105	70-130	19.3	20	
Trichloroethene	21.5	1.0	ug/L	20.00		108	70-130	9.19	20	
cis-1,2-Dichloroethene	21.3	1.0	ug/L	20.00		106	70-130	16.6	20	
trans-1,2-Dichloroethene	21.3	1.0	ug/L	20.00		106	70-130	5.66	20	
1,1-Dichloroethene	21.9	1.0	ug/L	20.00		109	70-130	1.23	20	
Vinyl chloride	20.1	1.0	ug/L	20.00		101	70-130	3.13	20	
1,4-Dioxane	45.0	2.0	ug/L	40.00		112	70-130	7.96	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike (V810015-MS1)

Source: V184011-01

Prepared: 10/05/2018 Analyzed: 10/05/2018 16:04

Tetrachloroethene	395	20	ug/L	400.0	0.400	98.6	70-130			D
Trichloroethene	2510	20	ug/L	400.0	2030	120	70-130			D
cis-1,2-Dichloroethene	1710	20	ug/L	400.0	1120	147	70-130			M, D
trans-1,2-Dichloroethene	454	20	ug/L	400.0	6.40	112	70-130			D
1,1-Dichloroethene	458	20	ug/L	400.0	1.00	114	70-130			D
Vinyl chloride	535	20	ug/L	400.0	90.0	111	70-130			D
1,4-Dioxane	861	40	ug/L	800.0	65.4	99.4	70-130			D
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike Dup (V810015-MSD1)

Source: V184011-01

Prepared: 10/05/2018 Analyzed: 10/05/2018 16:19

Tetrachloroethene	413	20	ug/L	400.0	0.400	103	70-130	4.51	20	D
Trichloroethene	2530	20	ug/L	400.0	2030	125	70-130	0.763	20	D
cis-1,2-Dichloroethene	1680	20	ug/L	400.0	1120	140	70-130	1.69	20	M, D
trans-1,2-Dichloroethene	456	20	ug/L	400.0	6.40	113	70-130	0.527	20	D



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810015 - No Preparation

Matrix Spike Dup (V810015-MSD1)	Source: V184011-01		Prepared: 10/05/2018 Analyzed: 10/05/2018 16:19							
1,1-Dichloroethene	463	20	ug/L	400.0	1.00	115	70-130	1.04	20	D
Vinyl chloride	536	20	ug/L	400.0	90.0	112	70-130	0.224	20	D
1,4-Dioxane	916	40	ug/L	800.0	65.4	106	70-130	6.21	20	D
Surrogate: 4-Bromofluorobenzene	21.0		ug/L	20.00		105	70-130			

Batch V810016 - EPA 3550B

Blank (V810016-BLK1)	Prepared: 10/05/2018 Analyzed: 10/05/2018 09:27									
Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
Surrogate: 4-Bromofluorobenzene	21.4		ug/L	20.00		107	60-140			

LCS (V810016-BS1)	Prepared: 10/05/2018 Analyzed: 10/05/2018 09:12									
Tetrachloroethene	1140	40	ug/kg wet	800.0		143	70-130			
Trichloroethene	812	40	ug/kg wet	800.0		102	70-130			
cis-1,2-Dichloroethene	754	40	ug/kg wet	800.0		94.3	70-130			
trans-1,2-Dichloroethene	837	40	ug/kg wet	800.0		105	70-130			
1,1-Dichloroethene	927	40	ug/kg wet	800.0		116	70-130			
Vinyl chloride	919	40	ug/kg wet	800.0		115	70-130			
1,4-Dioxane	1610	80	ug/kg wet	1600		101	70-130			
Surrogate: 4-Bromofluorobenzene	21.9		ug/L	20.00		110	70-130			

Matrix Spike (V810016-MS1)	Source: V184010-01		Prepared: 10/05/2018 Analyzed: 10/05/2018 15:35							
Tetrachloroethene	1160	51	ug/kg dry	1014	ND	114	70-130			
Trichloroethene	998	51	ug/kg dry	1014	10.1	97.5	70-130			
cis-1,2-Dichloroethene	978	51	ug/kg dry	1014	ND	96.5	70-130			
trans-1,2-Dichloroethene	1030	51	ug/kg dry	1014	ND	102	70-130			
1,1-Dichloroethene	1110	51	ug/kg dry	1014	ND	109	70-130			
Vinyl chloride	1040	51	ug/kg dry	1014	ND	102	70-130			
1,4-Dioxane	2090	100	ug/kg dry	2028	ND	103	70-130			
Surrogate: 4-Bromofluorobenzene	19.7		ug/L	20.00		98.6	70-130			

Matrix Spike Dup (V810016-MSD1)	Source: V184010-01		Prepared: 10/05/2018 Analyzed: 10/05/2018 15:49							
Tetrachloroethene	944	51	ug/kg dry	1014	ND	93.1	70-130	20.5	20	X
Trichloroethene	1090	51	ug/kg dry	1014	10.1	107	70-130	9.21	20	
cis-1,2-Dichloroethene	1160	51	ug/kg dry	1014	ND	115	70-130	17.2	20	
trans-1,2-Dichloroethene	1140	51	ug/kg dry	1014	ND	112	70-130	9.83	20	
1,1-Dichloroethene	1150	51	ug/kg dry	1014	ND	114	70-130	4.22	20	
Vinyl chloride	1110	51	ug/kg dry	1014	ND	109	70-130	6.49	20	



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810016 - EPA 3550B

Matrix Spike Dup (V810016-MSD1)		Source: V184010-01		Prepared: 10/05/2018 Analyzed: 10/05/2018 15:49						
1,4-Dioxane	2260	100	ug/kg dry	2028	ND	111	70-130	8.01	20	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Batch V810018 - No Preparation

Blank (V810018-BLK1)		Prepared: 10/08/2018 Analyzed: 10/08/2018 14:14								
Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>60-140</i>			

LCS (V810018-BS1)		Prepared: 10/08/2018 Analyzed: 10/08/2018 14:00								
Tetrachloroethene	20.6	1.0	ug/L	20.00		103	70-130			
Trichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
cis-1,2-Dichloroethene	21.0	1.0	ug/L	20.00		105	70-130			
trans-1,2-Dichloroethene	20.9	1.0	ug/L	20.00		105	70-130			
1,1-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
Vinyl chloride	20.0	1.0	ug/L	20.00		99.8	70-130			
1,4-Dioxane	45.1	2.0	ug/L	40.00		113	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>106</i>	<i>70-130</i>			

Matrix Spike (V810018-MS1)		Source: V184102-02		Prepared: 10/08/2018 Analyzed: 10/09/2018 10:36						
Tetrachloroethene	20.8	1.0	ug/L	20.00	ND	104	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00	0.0100	99.8	70-130			
cis-1,2-Dichloroethene	19.5	1.0	ug/L	20.00	ND	97.6	70-130			
trans-1,2-Dichloroethene	19.6	1.0	ug/L	20.00	ND	97.9	70-130			
1,1-Dichloroethene	19.6	1.0	ug/L	20.00	ND	97.9	70-130			
Vinyl chloride	41.9	1.0	ug/L	20.00	23.1	94.3	70-130			
1,4-Dioxane	51.1	2.0	ug/L	40.00	4.07	118	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V810018-MSD1)		Source: V184102-02		Prepared: 10/08/2018 Analyzed: 10/09/2018 10:51						
Tetrachloroethene	20.9	1.0	ug/L	20.00	ND	104	70-130	0.480	30	
Trichloroethene	20.2	1.0	ug/L	20.00	0.0100	101	70-130	1.15	30	
cis-1,2-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.1	70-130	1.58	30	
trans-1,2-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.2	70-130	1.27	30	
1,1-Dichloroethene	19.9	1.0	ug/L	20.00	ND	99.7	70-130	1.77	30	
Vinyl chloride	43.9	1.0	ug/L	20.00	23.1	104	70-130	4.66	30	
1,4-Dioxane	52.0	2.0	ug/L	40.00	4.07	120	70-130	1.71	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810019 - EPA 3550B

Blank (V810019-BLK1)

Prepared: 10/08/2018 Analyzed: 10/08/2018 15:00

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		103	60-140			

LCS (V810019-BS1)

Prepared: 10/08/2018 Analyzed: 10/08/2018 14:46

Tetrachloroethene	985	40	ug/kg wet	800.0		123	70-130			
Trichloroethene	769	40	ug/kg wet	800.0		96.2	70-130			
cis-1,2-Dichloroethene	723	40	ug/kg wet	800.0		90.4	70-130			
trans-1,2-Dichloroethene	764	40	ug/kg wet	800.0		95.5	70-130			
1,1-Dichloroethene	831	40	ug/kg wet	800.0		104	70-130			
Vinyl chloride	798	40	ug/kg wet	800.0		99.8	70-130			
1,4-Dioxane	1880	80	ug/kg wet	1600		117	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.8		ug/L	20.00		104	70-130			

Matrix Spike (V810019-MS1)

Source: V184101-01

Prepared: 10/08/2018 Analyzed: 10/08/2018 17:38

Tetrachloroethene	896	46	ug/kg dry	912.1	5.47	97.7	70-130			
Trichloroethene	896	46	ug/kg dry	912.1	14.1	96.6	70-130			
cis-1,2-Dichloroethene	902	46	ug/kg dry	912.1	4.10	98.5	70-130			
trans-1,2-Dichloroethene	918	46	ug/kg dry	912.1	3.65	100	70-130			
1,1-Dichloroethene	934	46	ug/kg dry	912.1	2.74	102	70-130			
Vinyl chloride	914	46	ug/kg dry	912.1	6.38	99.5	70-130			
1,4-Dioxane	2010	91	ug/kg dry	1824	ND	110	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	18.7		ug/L	20.00		93.5	70-130			

Matrix Spike Dup (V810019-MSD1)

Source: V184101-01

Prepared: 10/08/2018 Analyzed: 10/08/2018 17:53

Tetrachloroethene	877	46	ug/kg dry	912.1	5.47	95.5	70-130	2.21	50	
Trichloroethene	873	46	ug/kg dry	912.1	14.1	94.2	70-130	2.53	50	
cis-1,2-Dichloroethene	861	46	ug/kg dry	912.1	4.10	93.9	70-130	4.71	50	
trans-1,2-Dichloroethene	888	46	ug/kg dry	912.1	3.65	97.0	70-130	3.33	50	
1,1-Dichloroethene	913	46	ug/kg dry	912.1	2.74	99.7	70-130	2.27	50	
Vinyl chloride	879	46	ug/kg dry	912.1	6.38	95.7	70-130	3.92	50	
1,4-Dioxane	1780	91	ug/kg dry	1824	ND	97.8	70-130	12.0	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	18.0		ug/L	20.00		90.2	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810021 - No Preparation

Blank (V810021-BLK1)

Prepared: 10/09/2018 Analyzed: 10/09/2018 10:06

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V810021-BS1)

Prepared: 10/09/2018 Analyzed: 10/09/2018 09:52

Tetrachloroethene	21.5	1.0	ug/L	20.00		107	70-130			
Trichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
cis-1,2-Dichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
1,1-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
Vinyl chloride	18.2	1.0	ug/L	20.00		91.1	70-130			
1,4-Dioxane	44.2	2.0	ug/L	40.00		111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			

Matrix Spike (V810021-MS1)

Source: V184103-01

Prepared: 10/09/2018 Analyzed: 10/09/2018 16:04

Tetrachloroethene	21.7	1.0	ug/L	20.00	ND	109	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00	0.160	99.0	70-130			
cis-1,2-Dichloroethene	19.4	1.0	ug/L	20.00	0.160	96.1	70-130			
trans-1,2-Dichloroethene	19.4	1.0	ug/L	20.00	ND	96.9	70-130			
1,1-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.2	70-130			
Vinyl chloride	18.6	1.0	ug/L	20.00	0.420	90.7	70-130			
1,4-Dioxane	41.7	2.0	ug/L	40.00	ND	104	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	70-130			

Matrix Spike Dup (V810021-MSD1)

Source: V184103-01

Prepared: 10/09/2018 Analyzed: 10/09/2018 16:18

Tetrachloroethene	19.9	1.0	ug/L	20.00	ND	99.4	70-130	8.85	30	
Trichloroethene	18.5	1.0	ug/L	20.00	0.160	91.7	70-130	7.59	30	
cis-1,2-Dichloroethene	18.4	1.0	ug/L	20.00	0.160	91.0	70-130	5.41	30	
trans-1,2-Dichloroethene	18.3	1.0	ug/L	20.00	ND	91.5	70-130	5.73	30	
1,1-Dichloroethene	18.7	1.0	ug/L	20.00	ND	93.7	70-130	5.65	30	
Vinyl chloride	16.9	1.0	ug/L	20.00	0.420	82.6	70-130	9.19	30	
1,4-Dioxane	38.5	2.0	ug/L	40.00	ND	96.3	70-130	7.90	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	18.7		ug/L	20.00		93.5	70-130			

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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810022 - EPA 3550B

Blank (V810022-BLK1)

Prepared: 10/09/2018 Analyzed: 10/09/2018 12:09

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V810022-BS1)

Prepared: 10/09/2018 Analyzed: 10/09/2018 11:54

Tetrachloroethene	923	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	770	40	ug/kg wet	800.0		96.2	70-130			
cis-1,2-Dichloroethene	744	40	ug/kg wet	800.0		93.0	70-130			
trans-1,2-Dichloroethene	776	40	ug/kg wet	800.0		97.1	70-130			
1,1-Dichloroethene	812	40	ug/kg wet	800.0		101	70-130			
Vinyl chloride	773	40	ug/kg wet	800.0		96.6	70-130			
1,4-Dioxane	1590	80	ug/kg wet	1600		99.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	70-130			

Matrix Spike (V810022-MS1)

Source: V184104-03

Prepared: 10/09/2018 Analyzed: 10/09/2018 16:33

Tetrachloroethene	1110	46	ug/kg dry	923.1	0.923	120	70-130			
Trichloroethene	897	46	ug/kg dry	923.1	0.462	97.2	70-130			
cis-1,2-Dichloroethene	825	46	ug/kg dry	923.1	6.46	88.7	70-130			
trans-1,2-Dichloroethene	866	46	ug/kg dry	923.1	ND	93.8	70-130			
1,1-Dichloroethene	928	46	ug/kg dry	923.1	ND	101	70-130			
Vinyl chloride	826	46	ug/kg dry	923.1	ND	89.5	70-130			
1,4-Dioxane	1800	92	ug/kg dry	1846	ND	97.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		102	70-130			

Matrix Spike Dup (V810022-MSD1)

Source: V184104-03

Prepared: 10/09/2018 Analyzed: 10/09/2018 16:48

Tetrachloroethene	1010	46	ug/kg dry	923.1	0.923	109	70-130	9.32	50	
Trichloroethene	902	46	ug/kg dry	923.1	0.462	97.7	70-130	0.564	50	
cis-1,2-Dichloroethene	857	46	ug/kg dry	923.1	6.46	92.1	70-130	3.79	50	
trans-1,2-Dichloroethene	871	46	ug/kg dry	923.1	ND	94.4	70-130	0.585	50	
1,1-Dichloroethene	895	46	ug/kg dry	923.1	ND	97.0	70-130	3.65	50	
Vinyl chloride	778	46	ug/kg dry	923.1	ND	84.3	70-130	5.99	50	
1,4-Dioxane	1950	92	ug/kg dry	1846	ND	105	70-130	7.68	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.9		ug/L	20.00		99.7	70-130			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810024 - No Preparation

Blank (V810024-BLK1)

Prepared: 10/10/2018 Analyzed: 10/10/2018 09:35

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		103	60-140			

LCS (V810024-BS1)

Prepared: 10/10/2018 Analyzed: 10/10/2018 09:20

Tetrachloroethene	22.5	1.0	ug/L	20.00		112	70-130			
Trichloroethene	21.2	1.0	ug/L	20.00		106	70-130			
cis-1,2-Dichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
trans-1,2-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
1,1-Dichloroethene	21.3	1.0	ug/L	20.00		106	70-130			
Vinyl chloride	19.2	1.0	ug/L	20.00		96.2	70-130			
1,4-Dioxane	49.6	2.0	ug/L	40.00		124	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.4		ug/L	20.00		107	70-130			

Matrix Spike (V810024-MS1)

Source: V184106-03

Prepared: 10/10/2018 Analyzed: 10/10/2018 20:15

Tetrachloroethene	20.0	1.0	ug/L	20.00	1.99	90.2	70-130			
Trichloroethene	20.9	1.0	ug/L	20.00	0.0900	104	70-130			
cis-1,2-Dichloroethene	28.1	1.0	ug/L	20.00	4.71	117	70-130			
trans-1,2-Dichloroethene	21.8	1.0	ug/L	20.00	0.0600	109	70-130			
1,1-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130			
Vinyl chloride	31.7	1.0	ug/L	20.00	9.69	110	70-130			
1,4-Dioxane	47.3	2.0	ug/L	40.00	2.08	113	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.8		ug/L	20.00		98.9	70-130			

Matrix Spike Dup (V810024-MSD1)

Source: V184106-03

Prepared: 10/10/2018 Analyzed: 10/10/2018 20:30

Tetrachloroethene	17.5	1.0	ug/L	20.00	1.99	77.5	70-130	13.6	30	
Trichloroethene	21.1	1.0	ug/L	20.00	0.0900	105	70-130	1.05	30	
cis-1,2-Dichloroethene	29.3	1.0	ug/L	20.00	4.71	123	70-130	3.97	30	
trans-1,2-Dichloroethene	22.5	1.0	ug/L	20.00	0.0600	112	70-130	3.21	30	
1,1-Dichloroethene	22.5	1.0	ug/L	20.00	ND	113	70-130	4.22	30	
Vinyl chloride	32.4	1.0	ug/L	20.00	9.69	113	70-130	2.00	30	
1,4-Dioxane	50.3	2.0	ug/L	40.00	2.08	121	70-130	6.21	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.9		ug/L	20.00		99.5	70-130			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810025 - EPA 3550B

Blank (V810025-BLK1)

Prepared: 10/10/2018 Analyzed: 10/10/2018 10:50

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.6		ug/L	20.00		103	60-140			

LCS (V810025-BS1)

Prepared: 10/10/2018 Analyzed: 10/10/2018 10:35

Tetrachloroethene	994	40	ug/kg wet	800.0		124	70-130			
Trichloroethene	746	40	ug/kg wet	800.0		93.3	70-130			
cis-1,2-Dichloroethene	684	40	ug/kg wet	800.0		85.6	70-130			
trans-1,2-Dichloroethene	733	40	ug/kg wet	800.0		91.7	70-130			
1,1-Dichloroethene	785	40	ug/kg wet	800.0		98.2	70-130			
Vinyl chloride	671	40	ug/kg wet	800.0		83.9	70-130			
1,4-Dioxane	1540	80	ug/kg wet	1600		96.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		101	70-130			

Matrix Spike (V810025-MS1)

Source: V184105-01

Prepared: 10/10/2018 Analyzed: 10/10/2018 19:46

Tetrachloroethene	868	45	ug/kg dry	905.1	2.26	95.6	70-130			
Trichloroethene	892	45	ug/kg dry	905.1	ND	98.5	70-130			
cis-1,2-Dichloroethene	933	45	ug/kg dry	905.1	ND	103	70-130			
trans-1,2-Dichloroethene	940	45	ug/kg dry	905.1	ND	104	70-130			
1,1-Dichloroethene	1040	45	ug/kg dry	905.1	ND	115	70-130			
Vinyl chloride	970	45	ug/kg dry	905.1	ND	107	70-130			
1,4-Dioxane	2350	91	ug/kg dry	1810	ND	130	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			

Matrix Spike Dup (V810025-MSD1)

Source: V184105-01

Prepared: 10/10/2018 Analyzed: 10/10/2018 20:01

Tetrachloroethene	926	45	ug/kg dry	905.1	2.26	102	70-130	6.46	50	
Trichloroethene	868	45	ug/kg dry	905.1	ND	96.0	70-130	2.62	50	
cis-1,2-Dichloroethene	885	45	ug/kg dry	905.1	ND	97.7	70-130	5.33	50	
trans-1,2-Dichloroethene	880	45	ug/kg dry	905.1	ND	97.3	70-130	6.61	50	
1,1-Dichloroethene	931	45	ug/kg dry	905.1	ND	103	70-130	10.9	50	
Vinyl chloride	857	45	ug/kg dry	905.1	ND	94.7	70-130	12.4	50	
1,4-Dioxane	2390	91	ug/kg dry	1810	ND	132	70-130	1.81	50	M
<i>Surrogate: 4-Bromofluorobenzene</i>	19.2		ug/L	20.00		95.9	70-130			



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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810027 - No Preparation

Blank (V810027-BLK1)

Prepared: 10/11/2018 Analyzed: 10/11/2018 10:43

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>60-140</i>			

LCS (V810027-BS1)

Prepared: 10/11/2018 Analyzed: 10/11/2018 10:28

Tetrachloroethene	22.4	1.0	ug/L	20.00		112	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		99.8	70-130			
cis-1,2-Dichloroethene	19.1	1.0	ug/L	20.00		95.3	70-130			
trans-1,2-Dichloroethene	19.8	1.0	ug/L	20.00		98.9	70-130			
1,1-Dichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
Vinyl chloride	18.6	1.0	ug/L	20.00		92.9	70-130			
1,4-Dioxane	44.3	2.0	ug/L	40.00		111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike (V810027-MS1)

Source: V184108-02

Prepared: 10/11/2018 Analyzed: 10/11/2018 15:55

Tetrachloroethene	16.6	1.0	ug/L	20.00	0.0100	83.1	70-130			
Trichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130			
cis-1,2-Dichloroethene	22.9	1.0	ug/L	20.00	0.0600	114	70-130			
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130			
1,1-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130			
Vinyl chloride	18.6	1.0	ug/L	20.00	0.260	91.7	70-130			
1,4-Dioxane	42.2	2.0	ug/L	40.00	11.5	76.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>94.8</i>	<i>70-130</i>			

Matrix Spike Dup (V810027-MSD1)

Source: V184108-02

Prepared: 10/11/2018 Analyzed: 10/11/2018 16:09

Tetrachloroethene	18.5	1.0	ug/L	20.00	0.0100	92.3	70-130	10.5	30	
Trichloroethene	22.3	1.0	ug/L	20.00	ND	111	70-130	2.92	30	
cis-1,2-Dichloroethene	24.2	1.0	ug/L	20.00	0.0600	121	70-130	5.57	30	
trans-1,2-Dichloroethene	22.0	1.0	ug/L	20.00	ND	110	70-130	2.02	30	
1,1-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130	0.0494	30	
Vinyl chloride	18.9	1.0	ug/L	20.00	0.260	93.0	70-130	1.39	30	
1,4-Dioxane	50.1	2.0	ug/L	40.00	11.5	96.6	70-130	17.1	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.4</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810028 - EPA 3550B

Blank (V810028-BLK1)

Prepared: 10/11/2018 Analyzed: 10/11/2018 11:30

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V810028-BS1)

Prepared: 10/11/2018 Analyzed: 10/11/2018 11:15

Tetrachloroethene	884	40	ug/kg wet	800.0		111	70-130			
Trichloroethene	732	40	ug/kg wet	800.0		91.5	70-130			
cis-1,2-Dichloroethene	690	40	ug/kg wet	800.0		86.3	70-130			
trans-1,2-Dichloroethene	717	40	ug/kg wet	800.0		89.7	70-130			
1,1-Dichloroethene	735	40	ug/kg wet	800.0		91.9	70-130			
Vinyl chloride	617	40	ug/kg wet	800.0		77.1	70-130			
1,4-Dioxane	1770	80	ug/kg wet	1600		111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.5		ug/L	20.00		97.4	70-130			

Matrix Spike (V810028-MS1)

Source: V184109-01

Prepared: 10/11/2018 Analyzed: 10/11/2018 16:24

Tetrachloroethene	920	47	ug/kg dry	943.3	2.83	97.2	70-130			
Trichloroethene	859	47	ug/kg dry	943.3	ND	91.0	70-130			
cis-1,2-Dichloroethene	835	47	ug/kg dry	943.3	ND	88.5	70-130			
trans-1,2-Dichloroethene	861	47	ug/kg dry	943.3	ND	91.3	70-130			
1,1-Dichloroethene	900	47	ug/kg dry	943.3	ND	95.4	70-130			
Vinyl chloride	817	47	ug/kg dry	943.3	ND	86.7	70-130			
1,4-Dioxane	1830	94	ug/kg dry	1887	ND	96.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	17.0		ug/L	20.00		85.1	70-130			

Matrix Spike Dup (V810028-MSD1)

Source: V184109-01

Prepared: 10/11/2018 Analyzed: 10/11/2018 16:39

Tetrachloroethene	859	47	ug/kg dry	943.3	2.83	90.7	70-130	6.84	50	
Trichloroethene	964	47	ug/kg dry	943.3	ND	102	70-130	11.5	50	
cis-1,2-Dichloroethene	1000	47	ug/kg dry	943.3	ND	107	70-130	18.5	50	
trans-1,2-Dichloroethene	989	47	ug/kg dry	943.3	ND	105	70-130	13.8	50	
1,1-Dichloroethene	965	47	ug/kg dry	943.3	ND	102	70-130	7.03	50	
Vinyl chloride	865	47	ug/kg dry	943.3	ND	91.8	70-130	5.72	50	
1,4-Dioxane	2040	94	ug/kg dry	1887	ND	108	70-130	11.0	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	18.3		ug/L	20.00		91.3	70-130			



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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810030 - No Preparation

Blank (V810030-BLK1)

Prepared: 10/12/2018 Analyzed: 10/12/2018 10:09

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.8</i>	<i>60-140</i>			

LCS (V810030-BS1)

Prepared: 10/12/2018 Analyzed: 10/12/2018 09:55

Tetrachloroethene	23.3	1.0	ug/L	20.00		117	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	19.0	1.0	ug/L	20.00		95.1	70-130			
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
1,1-Dichloroethene	20.9	1.0	ug/L	20.00		105	70-130			
Vinyl chloride	19.0	1.0	ug/L	20.00		95.2	70-130			
1,4-Dioxane	43.4	2.0	ug/L	40.00		109	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike (V810030-MS1)

Source: V184110-01

Prepared: 10/12/2018 Analyzed: 10/12/2018 16:07

Tetrachloroethene	21.1	1.0	ug/L	20.00	0.0200	106	70-130			
Trichloroethene	19.1	1.0	ug/L	20.00	ND	95.7	70-130			
cis-1,2-Dichloroethene	18.3	1.0	ug/L	20.00	0.0200	91.3	70-130			
trans-1,2-Dichloroethene	18.6	1.0	ug/L	20.00	ND	93.0	70-130			
1,1-Dichloroethene	18.8	1.0	ug/L	20.00	ND	93.9	70-130			
Vinyl chloride	16.9	1.0	ug/L	20.00	3.19	68.3	70-130			M
1,4-Dioxane	76.1	2.0	ug/L	40.00	27.6	121	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.4</i>	<i>70-130</i>			

Matrix Spike Dup (V810030-MSD1)

Source: V184110-01

Prepared: 10/12/2018 Analyzed: 10/12/2018 16:21

Tetrachloroethene	19.3	1.0	ug/L	20.00	0.0200	96.2	70-130	9.31	30	
Trichloroethene	20.1	1.0	ug/L	20.00	ND	101	70-130	4.94	30	
cis-1,2-Dichloroethene	20.6	1.0	ug/L	20.00	0.0200	103	70-130	11.7	30	
trans-1,2-Dichloroethene	20.0	1.0	ug/L	20.00	ND	100	70-130	7.26	30	
1,1-Dichloroethene	19.2	1.0	ug/L	20.00	ND	96.0	70-130	2.26	30	
Vinyl chloride	19.9	1.0	ug/L	20.00	3.19	83.6	70-130	16.6	30	
1,4-Dioxane	68.8	2.0	ug/L	40.00	27.6	103	70-130	9.98	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.6</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810031 - EPA 3550B

Blank (V810031-BLK1)

Prepared: 10/12/2018 Analyzed: 10/12/2018 10:53

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>60-140</i>			

LCS (V810031-BS1)

Prepared: 10/12/2018 Analyzed: 10/12/2018 10:39

Tetrachloroethene	963	40	ug/kg wet	800.0		120	70-130			
Trichloroethene	742	40	ug/kg wet	800.0		92.8	70-130			
cis-1,2-Dichloroethene	688	40	ug/kg wet	800.0		86.1	70-130			
trans-1,2-Dichloroethene	724	40	ug/kg wet	800.0		90.5	70-130			
1,1-Dichloroethene	759	40	ug/kg wet	800.0		94.9	70-130			
Vinyl chloride	612	40	ug/kg wet	800.0		76.5	70-130			
1,4-Dioxane	1900	80	ug/kg wet	1600		119	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V810031-MS1)

Source: V184111-07

Prepared: 10/12/2018 Analyzed: 10/12/2018 16:36

Tetrachloroethene	971	43	ug/kg dry	855.9	ND	113	70-130			
Trichloroethene	825	43	ug/kg dry	855.9	ND	96.4	70-130			
cis-1,2-Dichloroethene	791	43	ug/kg dry	855.9	ND	92.5	70-130			
trans-1,2-Dichloroethene	816	43	ug/kg dry	855.9	ND	95.3	70-130			
1,1-Dichloroethene	840	43	ug/kg dry	855.9	ND	98.1	70-130			
Vinyl chloride	796	43	ug/kg dry	855.9	37.7	88.7	70-130			
1,4-Dioxane	1830	86	ug/kg dry	1712	ND	107	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.1</i>	<i>70-130</i>			

Matrix Spike Dup (V810031-MSD1)

Source: V184111-07

Prepared: 10/12/2018 Analyzed: 10/12/2018 16:50

Tetrachloroethene	980	43	ug/kg dry	855.9	ND	115	70-130	1.01	50	
Trichloroethene	804	43	ug/kg dry	855.9	ND	93.9	70-130	2.58	50	
cis-1,2-Dichloroethene	760	43	ug/kg dry	855.9	ND	88.8	70-130	4.03	50	
trans-1,2-Dichloroethene	791	43	ug/kg dry	855.9	ND	92.5	70-130	3.04	50	
1,1-Dichloroethene	825	43	ug/kg dry	855.9	ND	96.4	70-130	1.85	50	
Vinyl chloride	787	43	ug/kg dry	855.9	37.7	87.6	70-130	1.13	50	
1,4-Dioxane	1700	86	ug/kg dry	1712	ND	99.4	70-130	7.29	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.3</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810033 - No Preparation

Blank (V810033-BLK1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 09:53

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.7</i>	<i>60-140</i>			

LCS (V810033-BS1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 09:39

Tetrachloroethene	22.2	1.0	ug/L	20.00		111	70-130			
Trichloroethene	19.8	1.0	ug/L	20.00		99.0	70-130			
cis-1,2-Dichloroethene	19.1	1.0	ug/L	20.00		95.5	70-130			
trans-1,2-Dichloroethene	19.6	1.0	ug/L	20.00		97.9	70-130			
1,1-Dichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
Vinyl chloride	17.7	1.0	ug/L	20.00		88.7	70-130			
1,4-Dioxane	48.3	2.0	ug/L	40.00		121	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V810033-MS1)

Source: V184201-01

Prepared: 10/14/2018 Analyzed: 10/15/2018 00:13

Tetrachloroethene	17.4	1.0	ug/L	20.00	0.0100	86.8	70-130			
Trichloroethene	20.1	1.0	ug/L	20.00	ND	100	70-130			
cis-1,2-Dichloroethene	23.6	1.0	ug/L	20.00	ND	118	70-130			
trans-1,2-Dichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130			
1,1-Dichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130			
Vinyl chloride	22.2	1.0	ug/L	20.00	1.27	105	70-130			
1,4-Dioxane	142	2.0	ug/L	40.00	91.8	125	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.6</i>	<i>70-130</i>			

Matrix Spike Dup (V810033-MSD1)

Source: V184201-01

Prepared: 10/14/2018 Analyzed: 10/15/2018 00:28

Tetrachloroethene	21.7	1.0	ug/L	20.00	0.0100	109	70-130	22.3	30	
Trichloroethene	20.1	1.0	ug/L	20.00	ND	101	70-130	0.398	30	
cis-1,2-Dichloroethene	19.7	1.0	ug/L	20.00	ND	98.6	70-130	18.1	30	
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130	6.05	30	
1,1-Dichloroethene	21.1	1.0	ug/L	20.00	ND	106	70-130	1.32	30	
Vinyl chloride	20.7	1.0	ug/L	20.00	1.27	97.0	70-130	7.23	30	
1,4-Dioxane	151	2.0	ug/L	40.00	91.8	148	70-130	6.25	30	M
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.9</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810034 - EPA 3550B

Blank (V810034-BLK1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 12:34

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.9</i>	<i>60-140</i>			

LCS (V810034-BS1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 12:19

Tetrachloroethene	965	40	ug/kg wet	800.0		121	70-130			
Trichloroethene	762	40	ug/kg wet	800.0		95.2	70-130			
cis-1,2-Dichloroethene	717	40	ug/kg wet	800.0		89.7	70-130			
trans-1,2-Dichloroethene	751	40	ug/kg wet	800.0		93.9	70-130			
1,1-Dichloroethene	762	40	ug/kg wet	800.0		95.3	70-130			
Vinyl chloride	638	40	ug/kg wet	800.0		79.8	70-130			
1,4-Dioxane	1720	80	ug/kg wet	1600		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V810034-MS1)

Source: V184202-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 01:12

Tetrachloroethene	941	46	ug/kg dry	924.6	ND	102	70-130			
Trichloroethene	932	46	ug/kg dry	924.6	ND	101	70-130			
cis-1,2-Dichloroethene	991	46	ug/kg dry	924.6	ND	107	70-130			
trans-1,2-Dichloroethene	968	46	ug/kg dry	924.6	ND	105	70-130			
1,1-Dichloroethene	984	46	ug/kg dry	924.6	ND	106	70-130			
Vinyl chloride	922	46	ug/kg dry	924.6	ND	99.8	70-130			
1,4-Dioxane	1940	92	ug/kg dry	1849	ND	105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike Dup (V810034-MSD1)

Source: V184202-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 01:26

Tetrachloroethene	1040	46	ug/kg dry	924.6	ND	113	70-130	10.3	50	
Trichloroethene	840	46	ug/kg dry	924.6	ND	90.8	70-130	10.5	50	
cis-1,2-Dichloroethene	852	46	ug/kg dry	924.6	ND	92.2	70-130	15.1	50	
trans-1,2-Dichloroethene	881	46	ug/kg dry	924.6	ND	95.3	70-130	9.35	50	
1,1-Dichloroethene	977	46	ug/kg dry	924.6	ND	106	70-130	0.707	50	
Vinyl chloride	944	46	ug/kg dry	924.6	ND	102	70-130	2.33	50	
1,4-Dioxane	2020	92	ug/kg dry	1849	ND	109	70-130	4.16	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.7</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810035 - No Preparation

Blank (V810035-BLK1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 18:38

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.9</i>	<i>60-140</i>			

LCS (V810035-BS1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 18:23

Tetrachloroethene	21.5	1.0	ug/L	20.00		108	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	19.4	1.0	ug/L	20.00		97.1	70-130			
trans-1,2-Dichloroethene	19.8	1.0	ug/L	20.00		98.9	70-130			
1,1-Dichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
Vinyl chloride	18.1	1.0	ug/L	20.00		90.7	70-130			
1,4-Dioxane	43.4	2.0	ug/L	40.00		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V810035-MS1)

Source: V184203-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 00:43

Tetrachloroethene	20.5	1.0	ug/L	20.00	ND	102	70-130			
Trichloroethene	19.5	1.0	ug/L	20.00	0.0300	97.2	70-130			
cis-1,2-Dichloroethene	19.9	1.0	ug/L	20.00	0.0900	99.0	70-130			
trans-1,2-Dichloroethene	19.9	1.0	ug/L	20.00	ND	99.5	70-130			
1,1-Dichloroethene	20.5	1.0	ug/L	20.00	ND	103	70-130			
Vinyl chloride	20.1	1.0	ug/L	20.00	0.500	97.8	70-130			
1,4-Dioxane	97.8	2.0	ug/L	40.00	46.9	127	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.8</i>	<i>70-130</i>			

Matrix Spike Dup (V810035-MSD1)

Source: V184203-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 00:57

Tetrachloroethene	17.1	1.0	ug/L	20.00	ND	85.4	70-130	18.1	30	
Trichloroethene	20.6	1.0	ug/L	20.00	0.0300	103	70-130	5.40	30	
cis-1,2-Dichloroethene	23.5	1.0	ug/L	20.00	0.0900	117	70-130	16.5	30	
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00	ND	108	70-130	8.01	30	
1,1-Dichloroethene	20.9	1.0	ug/L	20.00	ND	104	70-130	1.59	30	
Vinyl chloride	20.3	1.0	ug/L	20.00	0.500	98.9	70-130	1.09	30	
1,4-Dioxane	97.6	2.0	ug/L	40.00	46.9	127	70-130	0.276	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.9</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810036 - EPA 3550B

Blank (V810036-BLK1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 20:49

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.5</i>	<i>60-140</i>			

LCS (V810036-BS1)

Prepared: 10/14/2018 Analyzed: 10/14/2018 20:35

Tetrachloroethene	917	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	760	40	ug/kg wet	800.0		95.1	70-130			
cis-1,2-Dichloroethene	717	40	ug/kg wet	800.0		89.7	70-130			
trans-1,2-Dichloroethene	749	40	ug/kg wet	800.0		93.6	70-130			
1,1-Dichloroethene	764	40	ug/kg wet	800.0		95.5	70-130			
Vinyl chloride	613	40	ug/kg wet	800.0		76.6	70-130			
1,4-Dioxane	1960	80	ug/kg wet	1600		122	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>70-130</i>			

Matrix Spike (V810036-MS1)

Source: V184204-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 01:41

Tetrachloroethene	964	47	ug/kg dry	937.3	0.469	103	70-130			
Trichloroethene	866	47	ug/kg dry	937.3	22.5	90.0	70-130			
cis-1,2-Dichloroethene	915	47	ug/kg dry	937.3	ND	97.6	70-130			
trans-1,2-Dichloroethene	923	47	ug/kg dry	937.3	ND	98.5	70-130			
1,1-Dichloroethene	1020	47	ug/kg dry	937.3	ND	109	70-130			
Vinyl chloride	991	47	ug/kg dry	937.3	ND	106	70-130			
1,4-Dioxane	1710	94	ug/kg dry	1875	ND	91.0	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.0</i>	<i>70-130</i>			

Matrix Spike Dup (V810036-MSD1)

Source: V184204-03

Prepared: 10/14/2018 Analyzed: 10/15/2018 01:55

Tetrachloroethene	891	47	ug/kg dry	937.3	0.469	95.1	70-130	7.78	50	
Trichloroethene	908	47	ug/kg dry	937.3	22.5	94.5	70-130	4.81	50	
cis-1,2-Dichloroethene	957	47	ug/kg dry	937.3	ND	102	70-130	4.56	50	
trans-1,2-Dichloroethene	932	47	ug/kg dry	937.3	ND	99.5	70-130	1.01	50	
1,1-Dichloroethene	964	47	ug/kg dry	937.3	ND	103	70-130	5.53	50	
Vinyl chloride	925	47	ug/kg dry	937.3	ND	98.7	70-130	6.85	50	
1,4-Dioxane	2070	94	ug/kg dry	1875	ND	110	70-130	19.1	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.7</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810038 - No Preparation

Blank (V810038-BLK1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 09:46

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V810038-BS1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 11:10

Tetrachloroethene	23.1	1.0	ug/L	20.00		115	70-130			
Trichloroethene	19.6	1.0	ug/L	20.00		98.0	70-130			
cis-1,2-Dichloroethene	18.7	1.0	ug/L	20.00		93.6	70-130			
trans-1,2-Dichloroethene	19.9	1.0	ug/L	20.00		99.7	70-130			
1,1-Dichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
Vinyl chloride	18.2	1.0	ug/L	20.00		91.2	70-130			
1,4-Dioxane	48.5	2.0	ug/L	40.00		121	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.3		ug/L	20.00		107	70-130			

Matrix Spike (V810038-MS1)

Source: V184205-01

Prepared: 10/16/2018 Analyzed: 10/16/2018 13:02

Tetrachloroethene	18.0	1.0	ug/L	20.00	0.0100	90.1	70-130			
Trichloroethene	21.9	1.0	ug/L	20.00	0.500	107	70-130			
cis-1,2-Dichloroethene	24.6	1.0	ug/L	20.00	0.910	118	70-130			
trans-1,2-Dichloroethene	21.9	1.0	ug/L	20.00	ND	110	70-130			
1,1-Dichloroethene	19.7	1.0	ug/L	20.00	ND	98.3	70-130			
Vinyl chloride	19.9	1.0	ug/L	20.00	2.39	87.6	70-130			
1,4-Dioxane	43.3	2.0	ug/L	40.00	ND	108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.2		ug/L	20.00		106	70-130			

Matrix Spike Dup (V810038-MSD1)

Source: V184205-01

Prepared: 10/16/2018 Analyzed: 10/16/2018 13:17

Tetrachloroethene	19.6	1.0	ug/L	20.00	0.0100	97.7	70-130	8.14	30	
Trichloroethene	21.0	1.0	ug/L	20.00	0.500	103	70-130	4.33	30	
cis-1,2-Dichloroethene	21.5	1.0	ug/L	20.00	0.910	103	70-130	13.4	30	
trans-1,2-Dichloroethene	20.3	1.0	ug/L	20.00	ND	101	70-130	7.68	30	
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	ND	97.2	70-130	1.07	30	
Vinyl chloride	18.8	1.0	ug/L	20.00	2.39	82.2	70-130	5.58	30	
1,4-Dioxane	47.9	2.0	ug/L	40.00	ND	120	70-130	10.1	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.9		ug/L	20.00		104	70-130			

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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810039 - EPA 3550B

Blank (V810039-BLK1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 10:30

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							

Surrogate: 4-Bromofluorobenzene 20.1 ug/L 20.00 101 60-140

LCS (V810039-BS1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 10:16

Tetrachloroethene	919	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	695	40	ug/kg wet	800.0		86.9	70-130			
cis-1,2-Dichloroethene	656	40	ug/kg wet	800.0		82.1	70-130			
trans-1,2-Dichloroethene	702	40	ug/kg wet	800.0		87.8	70-130			
1,1-Dichloroethene	724	40	ug/kg wet	800.0		90.6	70-130			
Vinyl chloride	585	40	ug/kg wet	800.0		73.2	70-130			
1,4-Dioxane	1720	80	ug/kg wet	1600		107	70-130			

Surrogate: 4-Bromofluorobenzene 19.2 ug/L 20.00 96.2 70-130

Matrix Spike (V810039-MS1)

Source: V184206-03

Prepared: 10/16/2018 Analyzed: 10/16/2018 14:45

Tetrachloroethene	1330	54	ug/kg dry	1078	ND	123	70-130			
Trichloroethene	1020	54	ug/kg dry	1078	ND	95.0	70-130			
cis-1,2-Dichloroethene	939	54	ug/kg dry	1078	ND	87.1	70-130			
trans-1,2-Dichloroethene	973	54	ug/kg dry	1078	ND	90.2	70-130			
1,1-Dichloroethene	1010	54	ug/kg dry	1078	ND	94.0	70-130			
Vinyl chloride	873	54	ug/kg dry	1078	ND	81.0	70-130			
1,4-Dioxane	2060	110	ug/kg dry	2156	ND	95.7	70-130			

Surrogate: 4-Bromofluorobenzene 21.2 ug/L 20.00 106 70-130

Matrix Spike Dup (V810039-MSD1)

Source: V184206-03

Prepared: 10/16/2018 Analyzed: 10/16/2018 15:00

Tetrachloroethene	1130	54	ug/kg dry	1078	ND	105	70-130	16.5	50	
Trichloroethene	1080	54	ug/kg dry	1078	ND	100	70-130	5.03	50	
cis-1,2-Dichloroethene	1050	54	ug/kg dry	1078	ND	97.3	70-130	11.1	50	
trans-1,2-Dichloroethene	1060	54	ug/kg dry	1078	ND	98.7	70-130	8.94	50	
1,1-Dichloroethene	1050	54	ug/kg dry	1078	ND	97.7	70-130	3.86	50	
Vinyl chloride	925	54	ug/kg dry	1078	ND	85.8	70-130	5.81	50	
1,4-Dioxane	2460	110	ug/kg dry	2156	ND	114	70-130	17.5	50	

Surrogate: 4-Bromofluorobenzene 20.7 ug/L 20.00 104 70-130



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810040 - EPA 3550B

Blank (V810040-BLK1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 21:32

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.0</i>	<i>60-140</i>			

LCS (V810040-BS1)

Prepared: 10/16/2018 Analyzed: 10/16/2018 21:17

Tetrachloroethene	895	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	765	40	ug/kg wet	800.0		95.6	70-130			
cis-1,2-Dichloroethene	738	40	ug/kg wet	800.0		92.3	70-130			
trans-1,2-Dichloroethene	751	40	ug/kg wet	800.0		93.9	70-130			
1,1-Dichloroethene	751	40	ug/kg wet	800.0		93.9	70-130			
Vinyl chloride	600	40	ug/kg wet	800.0		75.0	70-130			
1,4-Dioxane	1380	80	ug/kg wet	1600		86.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.7</i>	<i>70-130</i>			

Matrix Spike (V810040-MS1)

Source: V184206-21

Prepared: 10/16/2018 Analyzed: 10/16/2018 23:14

Tetrachloroethene	1070	44	ug/kg dry	888.8	ND	120	70-130			
Trichloroethene	896	44	ug/kg dry	888.8	ND	101	70-130			
cis-1,2-Dichloroethene	905	44	ug/kg dry	888.8	ND	102	70-130			
trans-1,2-Dichloroethene	909	44	ug/kg dry	888.8	ND	102	70-130			
1,1-Dichloroethene	969	44	ug/kg dry	888.8	ND	109	70-130			
Vinyl chloride	851	44	ug/kg dry	888.8	ND	95.7	70-130			
1,4-Dioxane	2220	89	ug/kg dry	1778	ND	125	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>22.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>110</i>	<i>70-130</i>			

Matrix Spike Dup (V810040-MSD1)

Source: V184206-21

Prepared: 10/16/2018 Analyzed: 10/16/2018 23:28

Tetrachloroethene	955	44	ug/kg dry	888.8	ND	107	70-130	11.3	50	
Trichloroethene	850	44	ug/kg dry	888.8	ND	95.6	70-130	5.34	50	
cis-1,2-Dichloroethene	865	44	ug/kg dry	888.8	ND	97.3	70-130	4.47	50	
trans-1,2-Dichloroethene	865	44	ug/kg dry	888.8	ND	97.3	70-130	4.96	50	
1,1-Dichloroethene	893	44	ug/kg dry	888.8	ND	100	70-130	8.16	50	
Vinyl chloride	808	44	ug/kg dry	888.8	ND	90.9	70-130	5.20	50	
1,4-Dioxane	1800	89	ug/kg dry	1778	ND	101	70-130	20.8	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			



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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810042 - No Preparation

Blank (V810042-BLK1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 10:20

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>60-140</i>			

LCS (V810042-BS1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 10:05

Tetrachloroethene	20.7	1.0	ug/L	20.00		104	70-130			
Trichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
cis-1,2-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
trans-1,2-Dichloroethene	20.7	1.0	ug/L	20.00		103	70-130			
1,1-Dichloroethene	20.3	1.0	ug/L	20.00		101	70-130			
Vinyl chloride	17.9	1.0	ug/L	20.00		89.3	70-130			
1,4-Dioxane	47.0	2.0	ug/L	40.00		118	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>108</i>	<i>70-130</i>			

Matrix Spike (V810042-MS1)

Source: V184207-01

Prepared: 10/17/2018 Analyzed: 10/17/2018 13:50

Tetrachloroethene	18.6	1.0	ug/L	20.00	ND	93.0	70-130			
Trichloroethene	21.2	1.0	ug/L	20.00	0.440	104	70-130			
cis-1,2-Dichloroethene	22.0	1.0	ug/L	20.00	ND	110	70-130			
trans-1,2-Dichloroethene	21.2	1.0	ug/L	20.00	ND	106	70-130			
1,1-Dichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130			
Vinyl chloride	18.3	1.0	ug/L	20.00	ND	91.7	70-130			
1,4-Dioxane	44.5	2.0	ug/L	40.00	ND	111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike Dup (V810042-MSD1)

Source: V184207-01

Prepared: 10/17/2018 Analyzed: 10/17/2018 14:05

Tetrachloroethene	18.3	1.0	ug/L	20.00	ND	91.4	70-130	1.79	30	
Trichloroethene	20.9	1.0	ug/L	20.00	0.440	102	70-130	1.19	30	
cis-1,2-Dichloroethene	21.9	1.0	ug/L	20.00	ND	110	70-130	0.137	30	
trans-1,2-Dichloroethene	21.2	1.0	ug/L	20.00	ND	106	70-130	0.189	30	
1,1-Dichloroethene	20.6	1.0	ug/L	20.00	ND	103	70-130	0.928	30	
Vinyl chloride	18.6	1.0	ug/L	20.00	ND	93.1	70-130	1.57	30	
1,4-Dioxane	46.0	2.0	ug/L	40.00	ND	115	70-130	3.27	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810043 - EPA 3550B

Blank (V810043-BLK1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 11:03

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.9</i>	<i>60-140</i>			

LCS (V810043-BS1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 12:23

Tetrachloroethene	938	40	ug/kg wet	800.0		117	70-130			
Trichloroethene	759	40	ug/kg wet	800.0		94.9	70-130			
cis-1,2-Dichloroethene	703	40	ug/kg wet	800.0		87.9	70-130			
trans-1,2-Dichloroethene	744	40	ug/kg wet	800.0		93.0	70-130			
1,1-Dichloroethene	784	40	ug/kg wet	800.0		98.1	70-130			
Vinyl chloride	664	40	ug/kg wet	800.0		83.1	70-130			
1,4-Dioxane	1810	80	ug/kg wet	1600		113	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>21.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike (V810043-MS1)

Source: V184208-03

Prepared: 10/17/2018 Analyzed: 10/17/2018 22:10

Tetrachloroethene	1070	51	ug/kg dry	1017	ND	105	70-130			
Trichloroethene	971	51	ug/kg dry	1017	2.54	95.2	70-130			
cis-1,2-Dichloroethene	975	51	ug/kg dry	1017	ND	95.8	70-130			
trans-1,2-Dichloroethene	990	51	ug/kg dry	1017	ND	97.3	70-130			
1,1-Dichloroethene	1030	51	ug/kg dry	1017	ND	101	70-130			
Vinyl chloride	929	51	ug/kg dry	1017	ND	91.3	70-130			
1,4-Dioxane	2520	100	ug/kg dry	2034	ND	124	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike Dup (V810043-MSD1)

Source: V184208-03

Prepared: 10/17/2018 Analyzed: 10/17/2018 22:25

Tetrachloroethene	1030	51	ug/kg dry	1017	ND	101	70-130	4.03	50	
Trichloroethene	970	51	ug/kg dry	1017	2.54	95.1	70-130	0.0524	50	
cis-1,2-Dichloroethene	1010	51	ug/kg dry	1017	ND	99.7	70-130	3.99	50	
trans-1,2-Dichloroethene	995	51	ug/kg dry	1017	ND	97.8	70-130	0.461	50	
1,1-Dichloroethene	1020	51	ug/kg dry	1017	ND	101	70-130	0.692	50	
Vinyl chloride	925	51	ug/kg dry	1017	ND	90.9	70-130	0.494	50	
1,4-Dioxane	2280	100	ug/kg dry	2034	ND	112	70-130	10.1	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810044 - EPA 3550B

Blank (V810044-BLK1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 19:15

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							

Surrogate: 4-Bromofluorobenzene 20.1 ug/L 20.00 100 60-140

LCS (V810044-BS1)

Prepared: 10/17/2018 Analyzed: 10/17/2018 19:01

Tetrachloroethene	875	40	ug/kg wet	800.0		109	70-130			
Trichloroethene	776	40	ug/kg wet	800.0	2.42	97.0	70-130			
cis-1,2-Dichloroethene	745	40	ug/kg wet	800.0		93.1	70-130			
trans-1,2-Dichloroethene	766	40	ug/kg wet	800.0		95.8	70-130			
1,1-Dichloroethene	785	40	ug/kg wet	800.0		98.1	70-130			
Vinyl chloride	700	40	ug/kg wet	800.0		87.6	70-130			
1,4-Dioxane	1730	80	ug/kg wet	1600		108	70-130			

Surrogate: 4-Bromofluorobenzene 20.8 ug/L 20.00 104 70-130

Matrix Spike (V810044-MS1)

Source: V184208-26

Prepared: 10/17/2018 Analyzed: 10/17/2018 22:39

Tetrachloroethene	955	48	ug/kg dry	968.4	ND	98.6	70-130			
Trichloroethene	951	48	ug/kg dry	968.4	2.42	98.0	70-130			
cis-1,2-Dichloroethene	1000	48	ug/kg dry	968.4	ND	103	70-130			
trans-1,2-Dichloroethene	993	48	ug/kg dry	968.4	ND	103	70-130			
1,1-Dichloroethene	1030	48	ug/kg dry	968.4	ND	106	70-130			
Vinyl chloride	943	48	ug/kg dry	968.4	ND	97.4	70-130			
1,4-Dioxane	2230	97	ug/kg dry	1937	ND	115	70-130			

Surrogate: 4-Bromofluorobenzene 20.4 ug/L 20.00 102 70-130

Matrix Spike Dup (V810044-MSD1)

Source: V184208-26

Prepared: 10/17/2018 Analyzed: 10/17/2018 22:54

Tetrachloroethene	964	48	ug/kg dry	968.4	ND	99.6	70-130	0.959	50	
Trichloroethene	952	48	ug/kg dry	968.4	2.42	98.1	70-130	0.102	50	
cis-1,2-Dichloroethene	1020	48	ug/kg dry	968.4	ND	105	70-130	1.44	50	
trans-1,2-Dichloroethene	1010	48	ug/kg dry	968.4	ND	104	70-130	1.26	50	
1,1-Dichloroethene	1020	48	ug/kg dry	968.4	ND	106	70-130	0.236	50	
Vinyl chloride	965	48	ug/kg dry	968.4	ND	99.6	70-130	2.23	50	
1,4-Dioxane	2490	97	ug/kg dry	1937	ND	129	70-130	11.3	50	

Surrogate: 4-Bromofluorobenzene 20.4 ug/L 20.00 102 70-130



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810046 - No Preparation

Blank (V810046-BLK1)

Prepared: 10/18/2018 Analyzed: 10/18/2018 09:46

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V810046-BS1)

Prepared: 10/18/2018 Analyzed: 10/18/2018 09:31

Tetrachloroethene	22.4	1.0	ug/L	20.00		112	70-130			
Trichloroethene	19.3	1.0	ug/L	20.00		96.7	70-130			
cis-1,2-Dichloroethene	18.4	1.0	ug/L	20.00		91.8	70-130			
trans-1,2-Dichloroethene	19.1	1.0	ug/L	20.00		95.4	70-130			
1,1-Dichloroethene	19.1	1.0	ug/L	20.00		95.3	70-130			
Vinyl chloride	16.2	1.0	ug/L	20.00		80.9	70-130			
1,4-Dioxane	46.1	2.0	ug/L	40.00		115	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.0		ug/L	20.00		105	70-130			

Matrix Spike (V810046-MS1)

Source: V184209-01

Prepared: 10/18/2018 Analyzed: 10/18/2018 12:11

Tetrachloroethene	21.8	1.0	ug/L	20.00	ND	109	70-130			
Trichloroethene	20.2	1.0	ug/L	20.00	0.210	99.8	70-130			
cis-1,2-Dichloroethene	19.0	1.0	ug/L	20.00	0.0600	94.7	70-130			
trans-1,2-Dichloroethene	19.2	1.0	ug/L	20.00	ND	95.8	70-130			
1,1-Dichloroethene	19.1	1.0	ug/L	20.00	ND	95.5	70-130			
Vinyl chloride	16.4	1.0	ug/L	20.00	ND	82.0	70-130			
1,4-Dioxane	47.0	2.0	ug/L	40.00	ND	118	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	21.3		ug/L	20.00		107	70-130			

Matrix Spike Dup (V810046-MSD1)

Source: V184209-01

Prepared: 10/18/2018 Analyzed: 10/18/2018 12:26

Tetrachloroethene	19.2	1.0	ug/L	20.00	ND	95.9	70-130	12.9	30	
Trichloroethene	20.9	1.0	ug/L	20.00	0.210	104	70-130	3.75	30	
cis-1,2-Dichloroethene	21.1	1.0	ug/L	20.00	0.0600	105	70-130	10.7	30	
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130	5.14	30	
1,1-Dichloroethene	19.1	1.0	ug/L	20.00	ND	95.6	70-130	0.157	30	
Vinyl chloride	16.6	1.0	ug/L	20.00	ND	83.0	70-130	1.21	30	
1,4-Dioxane	45.7	2.0	ug/L	40.00	ND	114	70-130	2.91	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	21.1		ug/L	20.00		105	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810047 - EPA 3550B

Blank (V810047-BLK1)

Prepared: 10/18/2018 Analyzed: 10/18/2018 10:29

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							

Surrogate: 4-Bromofluorobenzene 20.0 ug/L 20.00 100 60-140

LCS (V810047-BS1)

Prepared: 10/18/2018 Analyzed: 10/18/2018 10:15

Tetrachloroethene	921	40	ug/kg wet	800.0		115	70-130			
Trichloroethene	765	40	ug/kg wet	800.0		95.7	70-130			
cis-1,2-Dichloroethene	734	40	ug/kg wet	800.0		91.8	70-130			
trans-1,2-Dichloroethene	777	40	ug/kg wet	800.0		97.1	70-130			
1,1-Dichloroethene	787	40	ug/kg wet	800.0		98.4	70-130			
Vinyl chloride	713	40	ug/kg wet	800.0		89.2	70-130			
1,4-Dioxane	1790	80	ug/kg wet	1600		112	70-130			

Surrogate: 4-Bromofluorobenzene 21.0 ug/L 20.00 105 70-130

Matrix Spike (V810047-MS1)

Source: V184210-04

Prepared: 10/18/2018 Analyzed: 10/18/2018 12:51

Tetrachloroethene	1100	48	ug/kg dry	955.7	ND	115	70-130			
Trichloroethene	916	48	ug/kg dry	955.7	ND	95.9	70-130			
cis-1,2-Dichloroethene	867	48	ug/kg dry	955.7	ND	90.7	70-130			
trans-1,2-Dichloroethene	907	48	ug/kg dry	955.7	ND	94.9	70-130			
1,1-Dichloroethene	932	48	ug/kg dry	955.7	ND	97.5	70-130			
Vinyl chloride	845	48	ug/kg dry	955.7	ND	88.4	70-130			
1,4-Dioxane	2010	96	ug/kg dry	1911	ND	105	70-130			

Surrogate: 4-Bromofluorobenzene 20.9 ug/L 20.00 105 70-130

Matrix Spike Dup (V810047-MSD1)

Source: V184210-04

Prepared: 10/18/2018 Analyzed: 10/18/2018 13:06

Tetrachloroethene	1100	48	ug/kg dry	955.7	ND	115	70-130	0.174	50	
Trichloroethene	935	48	ug/kg dry	955.7	ND	97.8	70-130	1.96	50	
cis-1,2-Dichloroethene	884	48	ug/kg dry	955.7	ND	92.5	70-130	1.97	50	
trans-1,2-Dichloroethene	918	48	ug/kg dry	955.7	ND	96.0	70-130	1.20	50	
1,1-Dichloroethene	935	48	ug/kg dry	955.7	ND	97.9	70-130	0.358	50	
Vinyl chloride	825	48	ug/kg dry	955.7	ND	86.4	70-130	2.35	50	
1,4-Dioxane	2380	96	ug/kg dry	1911	ND	124	70-130	16.5	50	

Surrogate: 4-Bromofluorobenzene 21.4 ug/L 20.00 107 70-130



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810048 - EPA 3550B

Blank (V810048-BLK1)

Prepared: 10/18/2018 Analyzed: 10/22/2018 22:04

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.0</i>	<i>60-140</i>			

LCS (V810048-BS1)

Prepared: 10/18/2018 Analyzed: 10/22/2018 21:50

Tetrachloroethene	900	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	778	40	ug/kg wet	800.0		97.3	70-130			
cis-1,2-Dichloroethene	740	40	ug/kg wet	800.0		92.6	70-130			
trans-1,2-Dichloroethene	771	40	ug/kg wet	800.0		96.4	70-130			
1,1-Dichloroethene	802	40	ug/kg wet	800.0		100	70-130			
Vinyl chloride	717	40	ug/kg wet	800.0		89.7	70-130			
1,4-Dioxane	1610	80	ug/kg wet	1600		101	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V810048-MS1)

Source: V184210-18

Prepared: 10/18/2018 Analyzed: 10/19/2018 00:17

Tetrachloroethene	1150	58	ug/kg dry	1151	1.15	99.5	70-130			
Trichloroethene	1130	58	ug/kg dry	1151	25.3	95.8	70-130			
cis-1,2-Dichloroethene	1210	58	ug/kg dry	1151	2.88	105	70-130			
trans-1,2-Dichloroethene	1180	58	ug/kg dry	1151	ND	103	70-130			
1,1-Dichloroethene	1200	58	ug/kg dry	1151	ND	104	70-130			
Vinyl chloride	1140	58	ug/kg dry	1151	21.3	96.9	70-130			
1,4-Dioxane	2810	120	ug/kg dry	2303	ND	122	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike Dup (V810048-MSD1)

Source: V184210-18

Prepared: 10/18/2018 Analyzed: 10/19/2018 00:32

Tetrachloroethene	1130	58	ug/kg dry	1151	1.15	98.4	70-130	1.11	50	
Trichloroethene	1140	58	ug/kg dry	1151	25.3	97.1	70-130	1.27	50	
cis-1,2-Dichloroethene	1220	58	ug/kg dry	1151	2.88	106	70-130	0.756	50	
trans-1,2-Dichloroethene	1200	58	ug/kg dry	1151	ND	104	70-130	1.26	50	
1,1-Dichloroethene	1230	58	ug/kg dry	1151	ND	107	70-130	2.80	50	
Vinyl chloride	1130	58	ug/kg dry	1151	21.3	96.1	70-130	0.763	50	
1,4-Dioxane	2390	120	ug/kg dry	2303	ND	104	70-130	16.2	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810050 - No Preparation

Blank (V810050-BLK1)

Prepared: 10/22/2018 Analyzed: 10/22/2018 17:11

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.3</i>	<i>60-140</i>			

LCS (V810050-BS1)

Prepared: 10/22/2018 Analyzed: 10/22/2018 16:56

Tetrachloroethene	19.4	1.0	ug/L	20.00		97.1	70-130			
Trichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
cis-1,2-Dichloroethene	21.2	1.0	ug/L	20.00		106	70-130			
trans-1,2-Dichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
1,1-Dichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
Vinyl chloride	18.1	1.0	ug/L	20.00		90.3	70-130			
1,4-Dioxane	46.4	2.0	ug/L	40.00		116	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>104</i>	<i>70-130</i>			

Matrix Spike (V810050-MS1)

Source: V184301-01

Prepared: 10/22/2018 Analyzed: 10/22/2018 21:20

Tetrachloroethene	19.7	1.0	ug/L	20.00	ND	98.7	70-130			
Trichloroethene	21.0	1.0	ug/L	20.00	1.10	99.6	70-130			
cis-1,2-Dichloroethene	20.5	1.0	ug/L	20.00	0.490	100	70-130			
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00	0.200	99.5	70-130			
1,1-Dichloroethene	19.5	1.0	ug/L	20.00	ND	97.3	70-130			
Vinyl chloride	17.4	1.0	ug/L	20.00	0.370	85.0	70-130			
1,4-Dioxane	45.9	2.0	ug/L	40.00	ND	115	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>105</i>	<i>70-130</i>			

Matrix Spike Dup (V810050-MSD1)

Source: V184301-01

Prepared: 10/22/2018 Analyzed: 10/22/2018 21:35

Tetrachloroethene	19.3	1.0	ug/L	20.00	ND	96.4	70-130	2.36	30	
Trichloroethene	20.7	1.0	ug/L	20.00	1.10	98.0	70-130	1.58	30	
cis-1,2-Dichloroethene	20.8	1.0	ug/L	20.00	0.490	102	70-130	1.45	30	
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00	0.200	99.4	70-130	0.149	30	
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	ND	97.2	70-130	0.103	30	
Vinyl chloride	17.5	1.0	ug/L	20.00	0.370	85.5	70-130	0.574	30	
1,4-Dioxane	46.4	2.0	ug/L	40.00	ND	116	70-130	1.13	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810051 - EPA 3550B

Blank (V810051-BLK1)

Prepared: 10/22/2018 Analyzed: 10/23/2018 00:44

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.3</i>	<i>60-140</i>			

Blank (V810051-BLK2)

Prepared: 10/22/2018 Analyzed: 10/23/2018 14:19

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>23.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>117</i>	<i>60-140</i>			

LCS (V810051-BS1)

Prepared: 10/22/2018 Analyzed: 10/23/2018 00:30

Tetrachloroethene	851	40	ug/kg wet	800.0		106	70-130			
Trichloroethene	745	40	ug/kg wet	800.0		93.1	70-130			
cis-1,2-Dichloroethene	765	40	ug/kg wet	800.0		95.7	70-130			
trans-1,2-Dichloroethene	775	40	ug/kg wet	800.0		96.9	70-130			
1,1-Dichloroethene	809	40	ug/kg wet	800.0		101	70-130			
Vinyl chloride	776	40	ug/kg wet	800.0		97.0	70-130			
1,4-Dioxane	1770	80	ug/kg wet	1600		111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>70-130</i>			

LCS (V810051-BS2)

Prepared: 10/22/2018 Analyzed: 10/23/2018 15:18

Tetrachloroethene	924	40	ug/kg wet	800.0		116	70-130			
Trichloroethene	766	40	ug/kg wet	800.0		95.8	70-130			
cis-1,2-Dichloroethene	714	40	ug/kg wet	800.0		89.2	70-130			
trans-1,2-Dichloroethene	730	40	ug/kg wet	800.0		91.2	70-130			
1,1-Dichloroethene	750	40	ug/kg wet	800.0		93.7	70-130			
Vinyl chloride	662	40	ug/kg wet	800.0		82.8	70-130			
1,4-Dioxane	1730	80	ug/kg wet	1600		108	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V810051-MS1)

Source: V184302-01

Prepared: 10/22/2018 Analyzed: 10/23/2018 23:29

Tetrachloroethene	927	48	ug/kg dry	959.4	ND	96.6	70-130			
Trichloroethene	912	48	ug/kg dry	959.4	ND	95.1	70-130			
cis-1,2-Dichloroethene	985	48	ug/kg dry	959.4	ND	103	70-130			
trans-1,2-Dichloroethene	943	48	ug/kg dry	959.4	ND	98.3	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810051 - EPA 3550B

Matrix Spike (V810051-MS1)		Source: V184302-01		Prepared: 10/22/2018 Analyzed: 10/23/2018 23:29						
1,1-Dichloroethene	956	48	ug/kg dry	959.4	ND	99.6	70-130			
Vinyl chloride	918	48	ug/kg dry	959.4	ND	95.7	70-130			
1,4-Dioxane	2250	96	ug/kg dry	1919	ND	117	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.6</i>	<i>70-130</i>			

Matrix Spike (V810051-MS2)		Source: V184302-23		Prepared: 10/22/2018 Analyzed: 10/23/2018 23:58						
Tetrachloroethene	1020	50	ug/kg dry	1004	ND	102	70-130			
Trichloroethene	939	50	ug/kg dry	1004	ND	93.6	70-130			
cis-1,2-Dichloroethene	965	50	ug/kg dry	1004	ND	96.2	70-130			
trans-1,2-Dichloroethene	953	50	ug/kg dry	1004	ND	94.9	70-130			
1,1-Dichloroethene	975	50	ug/kg dry	1004	ND	97.1	70-130			
Vinyl chloride	941	50	ug/kg dry	1004	ND	93.8	70-130			
1,4-Dioxane	2010	100	ug/kg dry	2007	ND	100	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.8</i>	<i>70-130</i>			

Matrix Spike Dup (V810051-MSD1)		Source: V184302-01		Prepared: 10/22/2018 Analyzed: 10/23/2018 23:44						
Tetrachloroethene	941	48	ug/kg dry	959.4	ND	98.1	70-130	1.49	50	
Trichloroethene	925	48	ug/kg dry	959.4	ND	96.4	70-130	1.41	50	
cis-1,2-Dichloroethene	973	48	ug/kg dry	959.4	ND	101	70-130	1.22	50	
trans-1,2-Dichloroethene	940	48	ug/kg dry	959.4	ND	98.0	70-130	0.306	50	
1,1-Dichloroethene	942	48	ug/kg dry	959.4	ND	98.2	70-130	1.42	50	
Vinyl chloride	881	48	ug/kg dry	959.4	ND	91.9	70-130	4.05	50	
1,4-Dioxane	1980	96	ug/kg dry	1919	ND	103	70-130	12.9	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V810051-MSD2)		Source: V184302-23		Prepared: 10/22/2018 Analyzed: 10/24/2018 00:13						
Tetrachloroethene	869	50	ug/kg dry	1004	ND	86.6	70-130	15.9	50	
Trichloroethene	939	50	ug/kg dry	1004	ND	93.5	70-130	0.0534	50	
cis-1,2-Dichloroethene	987	50	ug/kg dry	1004	ND	98.3	70-130	2.21	50	
trans-1,2-Dichloroethene	969	50	ug/kg dry	1004	ND	96.6	70-130	1.72	50	
1,1-Dichloroethene	1010	50	ug/kg dry	1004	ND	100	70-130	3.34	50	
Vinyl chloride	930	50	ug/kg dry	1004	ND	92.6	70-130	1.23	50	
1,4-Dioxane	1910	100	ug/kg dry	2007	ND	95.0	70-130	5.50	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.4</i>	<i>70-130</i>			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810053 - No Preparation

Blank (V810053-BLK1)

Prepared: 10/23/2018 Analyzed: 10/23/2018 17:06

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	22.2		ug/L	20.00		111	60-140			

LCS (V810053-BS1)

Prepared: 10/23/2018 Analyzed: 10/23/2018 16:20

Tetrachloroethene	20.1	1.0	ug/L	20.00		100	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
cis-1,2-Dichloroethene	20.7	1.0	ug/L	20.00		104	70-130			
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
1,1-Dichloroethene	19.9	1.0	ug/L	20.00		99.3	70-130			
Vinyl chloride	17.8	1.0	ug/L	20.00		89.2	70-130			
1,4-Dioxane	48.0	2.0	ug/L	40.00		120	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		102	70-130			

Matrix Spike (V810053-MS1)

Source: V184303-01

Prepared: 10/23/2018 Analyzed: 10/23/2018 23:00

Tetrachloroethene	19.4	1.0	ug/L	20.00	ND	96.9	70-130			
Trichloroethene	19.7	1.0	ug/L	20.00	ND	98.7	70-130			
cis-1,2-Dichloroethene	20.7	1.0	ug/L	20.00	0.0200	103	70-130			
trans-1,2-Dichloroethene	19.6	1.0	ug/L	20.00	0.0600	97.5	70-130			
1,1-Dichloroethene	19.2	1.0	ug/L	20.00	ND	95.8	70-130			
Vinyl chloride	19.1	1.0	ug/L	20.00	0.410	93.3	70-130			
1,4-Dioxane	46.4	2.0	ug/L	40.00	ND	116	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.1		ug/L	20.00		100	70-130			

Matrix Spike Dup (V810053-MSD1)

Source: V184303-01

Prepared: 10/23/2018 Analyzed: 10/23/2018 23:14

Tetrachloroethene	18.6	1.0	ug/L	20.00	ND	93.2	70-130	3.95	30	
Trichloroethene	18.7	1.0	ug/L	20.00	ND	93.5	70-130	5.41	30	
cis-1,2-Dichloroethene	21.3	1.0	ug/L	20.00	0.0200	106	70-130	2.72	30	
trans-1,2-Dichloroethene	20.0	1.0	ug/L	20.00	0.0600	99.6	70-130	2.18	30	
1,1-Dichloroethene	19.9	1.0	ug/L	20.00	ND	99.4	70-130	3.74	30	
Vinyl chloride	19.6	1.0	ug/L	20.00	0.410	95.8	70-130	2.64	30	
1,4-Dioxane	46.8	2.0	ug/L	40.00	ND	117	70-130	0.815	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	18.9		ug/L	20.00		94.4	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810054 - EPA 3550B

Blank (V810054-BLK1)

Prepared: 10/23/2018 Analyzed: 10/23/2018 18:23

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.8</i>	<i>60-140</i>			

LCS (V810054-BS1)

Prepared: 10/23/2018 Analyzed: 10/23/2018 18:08

Tetrachloroethene	900	40	ug/kg wet	800.0		112	70-130			
Trichloroethene	769	40	ug/kg wet	800.0		96.2	70-130			
cis-1,2-Dichloroethene	738	40	ug/kg wet	800.0		92.2	70-130			
trans-1,2-Dichloroethene	754	40	ug/kg wet	800.0		94.3	70-130			
1,1-Dichloroethene	756	40	ug/kg wet	800.0		94.6	70-130			
Vinyl chloride	686	40	ug/kg wet	800.0		85.7	70-130			
1,4-Dioxane	1570	80	ug/kg wet	1600		98.1	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike (V810054-MS1)

Source: V184304-06

Prepared: 10/23/2018 Analyzed: 10/24/2018 11:44

Tetrachloroethene	1280	48	ug/kg dry	968.3	ND	132	70-130			M
Trichloroethene	954	48	ug/kg dry	968.3	ND	98.5	70-130			
cis-1,2-Dichloroethene	938	48	ug/kg dry	968.3	ND	96.9	70-130			
trans-1,2-Dichloroethene	952	48	ug/kg dry	968.3	ND	98.3	70-130			
1,1-Dichloroethene	953	48	ug/kg dry	968.3	ND	98.5	70-130			
Vinyl chloride	896	48	ug/kg dry	968.3	ND	92.5	70-130			
1,4-Dioxane	1680	97	ug/kg dry	1937	ND	86.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>23.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>117</i>	<i>70-130</i>			

Matrix Spike Dup (V810054-MSD1)

Source: V184304-06

Prepared: 10/23/2018 Analyzed: 10/24/2018 11:58

Tetrachloroethene	1020	48	ug/kg dry	968.3	ND	106	70-130	22.6	50	
Trichloroethene	946	48	ug/kg dry	968.3	ND	97.7	70-130	0.866	50	
cis-1,2-Dichloroethene	924	48	ug/kg dry	968.3	ND	95.5	70-130	1.46	50	
trans-1,2-Dichloroethene	930	48	ug/kg dry	968.3	ND	96.1	70-130	2.37	50	
1,1-Dichloroethene	941	48	ug/kg dry	968.3	ND	97.2	70-130	1.33	50	
Vinyl chloride	891	48	ug/kg dry	968.3	ND	92.0	70-130	0.542	50	
1,4-Dioxane	1890	97	ug/kg dry	1937	ND	97.5	70-130	11.5	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>94.3</i>	<i>70-130</i>			



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Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810056 - No Preparation

Blank (V810056-BLK1)

Prepared: 10/24/2018 Analyzed: 10/24/2018 10:31

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.2</i>	<i>60-140</i>			

LCS (V810056-BS1)

Prepared: 10/24/2018 Analyzed: 10/24/2018 10:16

Tetrachloroethene	21.9	1.0	ug/L	20.00		109	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		99.9	70-130			
cis-1,2-Dichloroethene	19.3	1.0	ug/L	20.00		96.6	70-130			
trans-1,2-Dichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
1,1-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
Vinyl chloride	18.9	1.0	ug/L	20.00		94.5	70-130			
1,4-Dioxane	44.7	2.0	ug/L	40.00		112	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>103</i>	<i>70-130</i>			

Matrix Spike (V810056-MS1)

Source: V184305-02

Prepared: 10/24/2018 Analyzed: 10/24/2018 15:25

Tetrachloroethene	20.5	1.0	ug/L	20.00	ND	102	70-130			
Trichloroethene	20.5	1.0	ug/L	20.00	0.0200	103	70-130			
cis-1,2-Dichloroethene	21.8	1.0	ug/L	20.00	0.840	105	70-130			
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00	1.36	101	70-130			
1,1-Dichloroethene	21.3	1.0	ug/L	20.00	1.59	98.5	70-130			
Vinyl chloride	61.3	1.0	ug/L	20.00	39.4	110	70-130			
1,4-Dioxane	47.2	2.0	ug/L	40.00	3.55	109	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.4</i>	<i>70-130</i>			

Matrix Spike Dup (V810056-MSD1)

Source: V184305-02

Prepared: 10/24/2018 Analyzed: 10/24/2018 15:39

Tetrachloroethene	20.9	1.0	ug/L	20.00	ND	104	70-130	1.89	30	
Trichloroethene	19.9	1.0	ug/L	20.00	0.0200	99.4	70-130	3.07	30	
cis-1,2-Dichloroethene	20.3	1.0	ug/L	20.00	0.840	97.2	70-130	7.14	30	
trans-1,2-Dichloroethene	20.6	1.0	ug/L	20.00	1.36	96.4	70-130	4.73	30	
1,1-Dichloroethene	20.7	1.0	ug/L	20.00	1.59	95.5	70-130	2.86	30	
Vinyl chloride	60.5	1.0	ug/L	20.00	39.4	106	70-130	1.40	30	
1,4-Dioxane	45.0	2.0	ug/L	40.00	3.55	104	70-130	4.58	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.6</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810057 - EPA 3550B

Blank (V810057-BLK1)

Prepared: 10/24/2018 Analyzed: 10/24/2018 11:14

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		99.9	60-140			

LCS (V810057-BS1)

Prepared: 10/24/2018 Analyzed: 10/24/2018 11:00

Tetrachloroethene	953	40	ug/kg wet	800.0		119	70-130			
Trichloroethene	753	40	ug/kg wet	800.0	1.86	94.1	70-130			
cis-1,2-Dichloroethene	702	40	ug/kg wet	800.0		87.7	70-130			
trans-1,2-Dichloroethene	747	40	ug/kg wet	800.0		93.4	70-130			
1,1-Dichloroethene	783	40	ug/kg wet	800.0		97.9	70-130			
Vinyl chloride	722	40	ug/kg wet	800.0		90.3	70-130			
1,4-Dioxane	1870	80	ug/kg wet	1600		117	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			

Matrix Spike (V810057-MS1)

Source: V184306-02

Prepared: 10/24/2018 Analyzed: 10/24/2018 15:54

Tetrachloroethene	1080	46	ug/kg dry	928.0	ND	116	70-130			
Trichloroethene	860	46	ug/kg dry	928.0	1.86	92.5	70-130			
cis-1,2-Dichloroethene	794	46	ug/kg dry	928.0	ND	85.6	70-130			
trans-1,2-Dichloroethene	819	46	ug/kg dry	928.0	ND	88.3	70-130			
1,1-Dichloroethene	854	46	ug/kg dry	928.0	ND	92.0	70-130			
Vinyl chloride	796	46	ug/kg dry	928.0	ND	85.8	70-130			
1,4-Dioxane	1810	93	ug/kg dry	1856	ND	97.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.2		ug/L	20.00		95.8	70-130			

Matrix Spike Dup (V810057-MSD1)

Source: V184306-02

Prepared: 10/24/2018 Analyzed: 10/24/2018 16:09

Tetrachloroethene	1100	46	ug/kg dry	928.0	ND	119	70-130	2.55	50	
Trichloroethene	902	46	ug/kg dry	928.0	1.86	97.1	70-130	4.79	50	
cis-1,2-Dichloroethene	833	46	ug/kg dry	928.0	ND	89.8	70-130	4.73	50	
trans-1,2-Dichloroethene	864	46	ug/kg dry	928.0	ND	93.1	70-130	5.29	50	
1,1-Dichloroethene	895	46	ug/kg dry	928.0	ND	96.5	70-130	4.77	50	
Vinyl chloride	825	46	ug/kg dry	928.0	ND	89.0	70-130	3.66	50	
1,4-Dioxane	1860	93	ug/kg dry	1856	ND	100	70-130	2.55	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.9		ug/L	20.00		99.6	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810059 - No Preparation

Blank (V810059-BLK1)

Prepared: 10/25/2018 Analyzed: 10/25/2018 10:41

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.7		ug/L	20.00		104	60-140			

LCS (V810059-BS1)

Prepared: 10/25/2018 Analyzed: 10/25/2018 10:26

Tetrachloroethene	22.5	1.0	ug/L	20.00		112	70-130			
Trichloroethene	19.5	1.0	ug/L	20.00		97.3	70-130			
cis-1,2-Dichloroethene	18.5	1.0	ug/L	20.00		92.6	70-130			
trans-1,2-Dichloroethene	19.4	1.0	ug/L	20.00		96.9	70-130			
1,1-Dichloroethene	19.9	1.0	ug/L	20.00		99.6	70-130			
Vinyl chloride	19.2	1.0	ug/L	20.00		96.0	70-130			
1,4-Dioxane	41.3	2.0	ug/L	40.00		103	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			

Matrix Spike (V810059-MS1)

Source: V184307-01

Prepared: 10/25/2018 Analyzed: 10/25/2018 16:17

Tetrachloroethene	20.7	1.0	ug/L	20.00	ND	104	70-130			
Trichloroethene	20.1	1.0	ug/L	20.00	ND	100	70-130			
cis-1,2-Dichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130			
trans-1,2-Dichloroethene	20.2	1.0	ug/L	20.00	ND	101	70-130			
1,1-Dichloroethene	20.1	1.0	ug/L	20.00	ND	100	70-130			
Vinyl chloride	60.3	1.0	ug/L	20.00	34.6	128	70-130			
1,4-Dioxane	44.7	2.0	ug/L	40.00	2.11	106	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		101	70-130			

Matrix Spike Dup (V810059-MSD1)

Source: V184307-01

Prepared: 10/25/2018 Analyzed: 10/25/2018 16:31

Tetrachloroethene	20.8	1.0	ug/L	20.00	ND	104	70-130	0.289	30	
Trichloroethene	19.1	1.0	ug/L	20.00	ND	95.6	70-130	4.95	30	
cis-1,2-Dichloroethene	18.8	1.0	ug/L	20.00	ND	94.2	70-130	7.90	30	
trans-1,2-Dichloroethene	19.1	1.0	ug/L	20.00	ND	95.5	70-130	5.85	30	
1,1-Dichloroethene	19.4	1.0	ug/L	20.00	ND	96.9	70-130	3.50	30	
Vinyl chloride	58.2	1.0	ug/L	20.00	34.6	118	70-130	3.58	30	
1,4-Dioxane	48.4	2.0	ug/L	40.00	2.11	116	70-130	8.03	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.8		ug/L	20.00		98.9	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810060 - EPA 3550B

Blank (V810060-BLK1)

Prepared: 10/25/2018 Analyzed: 10/25/2018 11:54

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>60-140</i>			

LCS (V810060-BS1)

Prepared: 10/25/2018 Analyzed: 10/25/2018 11:39

Tetrachloroethene	879	40	ug/kg wet	800.0		110	70-130			
Trichloroethene	792	40	ug/kg wet	800.0		99.0	70-130			
cis-1,2-Dichloroethene	759	40	ug/kg wet	800.0		94.9	70-130			
trans-1,2-Dichloroethene	778	40	ug/kg wet	800.0		97.2	70-130			
1,1-Dichloroethene	792	40	ug/kg wet	800.0		99.1	70-130			
Vinyl chloride	745	40	ug/kg wet	800.0		93.1	70-130			
1,4-Dioxane	1910	80	ug/kg wet	1600		119	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V810060-MS1)

Source: V184308-01

Prepared: 10/25/2018 Analyzed: 10/25/2018 16:46

Tetrachloroethene	942	49	ug/kg dry	982.4	5.89	95.3	70-130			
Trichloroethene	941	49	ug/kg dry	982.4	6.39	95.1	70-130			
cis-1,2-Dichloroethene	977	49	ug/kg dry	982.4	36.8	95.7	70-130			
trans-1,2-Dichloroethene	966	49	ug/kg dry	982.4	ND	98.3	70-130			
1,1-Dichloroethene	985	49	ug/kg dry	982.4	ND	100	70-130			
Vinyl chloride	951	49	ug/kg dry	982.4	ND	96.8	70-130			
1,4-Dioxane	1970	98	ug/kg dry	1965	ND	100	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>92.2</i>	<i>70-130</i>			

Matrix Spike Dup (V810060-MSD1)

Source: V184308-01

Prepared: 10/25/2018 Analyzed: 10/25/2018 17:01

Tetrachloroethene	1030	49	ug/kg dry	982.4	5.89	105	70-130	9.25	50	
Trichloroethene	945	49	ug/kg dry	982.4	6.39	95.5	70-130	0.417	50	
cis-1,2-Dichloroethene	947	49	ug/kg dry	982.4	36.8	92.6	70-130	3.17	50	
trans-1,2-Dichloroethene	965	49	ug/kg dry	982.4	ND	98.2	70-130	0.153	50	
1,1-Dichloroethene	1020	49	ug/kg dry	982.4	ND	103	70-130	3.04	50	
Vinyl chloride	1000	49	ug/kg dry	982.4	ND	102	70-130	5.14	50	
1,4-Dioxane	2050	98	ug/kg dry	1965	ND	104	70-130	3.64	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>94.5</i>	<i>70-130</i>			

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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810062 - No Preparation

Blank (V810062-BLK1)

Prepared: 10/26/2018 Analyzed: 10/26/2018 09:49

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.7		ug/L	20.00		103	60-140			

LCS (V810062-BS1)

Prepared: 10/26/2018 Analyzed: 10/26/2018 09:34

Tetrachloroethene	20.8	1.0	ug/L	20.00		104	70-130			
Trichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	19.9	1.0	ug/L	20.00		99.3	70-130			
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
1,1-Dichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
Vinyl chloride	19.0	1.0	ug/L	20.00		95.2	70-130			
1,4-Dioxane	42.1	2.0	ug/L	40.00		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	70-130			

Matrix Spike (V810062-MS1)

Source: V184309-03

Prepared: 10/26/2018 Analyzed: 10/26/2018 13:55

Tetrachloroethene	20.7	1.0	ug/L	20.00	ND	104	70-130			
Trichloroethene	121	1.0	ug/L	20.00	148	NR	70-130			M
cis-1,2-Dichloroethene	135	1.0	ug/L	20.00	136	NR	70-130			M
trans-1,2-Dichloroethene	41.7	1.0	ug/L	20.00	25.8	79.1	70-130			
1,1-Dichloroethene	20.3	1.0	ug/L	20.00	0.170	101	70-130			
Vinyl chloride	35.8	1.0	ug/L	20.00	14.8	105	70-130			
1,4-Dioxane	47.2	2.0	ug/L	40.00	ND	118	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.4		ug/L	20.00		97.2	70-130			

Matrix Spike Dup (V810062-MSD1)

Source: V184309-03

Prepared: 10/26/2018 Analyzed: 10/26/2018 14:09

Tetrachloroethene	19.7	1.0	ug/L	20.00	ND	98.7	70-130	4.75	30	
Trichloroethene	123	1.0	ug/L	20.00	148	NR	70-130	1.85	30	M
cis-1,2-Dichloroethene	141	1.0	ug/L	20.00	136	22.2	70-130	3.94	30	M
trans-1,2-Dichloroethene	42.1	1.0	ug/L	20.00	25.8	81.1	70-130	0.932	30	
1,1-Dichloroethene	20.1	1.0	ug/L	20.00	0.170	99.6	70-130	0.942	30	
Vinyl chloride	33.9	1.0	ug/L	20.00	14.8	95.3	70-130	5.43	30	
1,4-Dioxane	43.2	2.0	ug/L	40.00	ND	108	70-130	8.69	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		99.8	70-130			



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Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810063 - EPA 3550B

Blank (V810063-BLK1)

Prepared: 10/26/2018 Analyzed: 10/26/2018 10:18

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		103	60-140			

LCS (V810063-BS1)

Prepared: 10/26/2018 Analyzed: 10/26/2018 10:03

Tetrachloroethene	958	40	ug/kg wet	800.0		120	70-130			
Trichloroethene	774	40	ug/kg wet	800.0		96.7	70-130			
cis-1,2-Dichloroethene	723	40	ug/kg wet	800.0		90.4	70-130			
trans-1,2-Dichloroethene	764	40	ug/kg wet	800.0		95.5	70-130			
1,1-Dichloroethene	803	40	ug/kg wet	800.0		100	70-130			
Vinyl chloride	749	40	ug/kg wet	800.0		93.7	70-130			
1,4-Dioxane	1750	80	ug/kg wet	1600		109	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.7		ug/L	20.00		104	70-130			

Matrix Spike (V810063-MS1)

Source: V184310-02

Prepared: 10/26/2018 Analyzed: 10/26/2018 16:50

Tetrachloroethene	1220	48	ug/kg dry	964.8	ND	127	70-130			
Trichloroethene	873	48	ug/kg dry	964.8	ND	90.5	70-130			
cis-1,2-Dichloroethene	785	48	ug/kg dry	964.8	ND	81.4	70-130			
trans-1,2-Dichloroethene	855	48	ug/kg dry	964.8	ND	88.6	70-130			
1,1-Dichloroethene	944	48	ug/kg dry	964.8	ND	97.9	70-130			
Vinyl chloride	868	48	ug/kg dry	964.8	ND	89.9	70-130			
1,4-Dioxane	2330	96	ug/kg dry	1930	ND	121	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		99.9	70-130			

Matrix Spike Dup (V810063-MSD1)

Source: V184310-02

Prepared: 10/26/2018 Analyzed: 10/26/2018 17:04

Tetrachloroethene	1020	48	ug/kg dry	964.8	ND	105	70-130	18.2	50	
Trichloroethene	947	48	ug/kg dry	964.8	ND	98.2	70-130	8.22	50	
cis-1,2-Dichloroethene	937	48	ug/kg dry	964.8	ND	97.2	70-130	17.7	50	
trans-1,2-Dichloroethene	959	48	ug/kg dry	964.8	ND	99.4	70-130	11.4	50	
1,1-Dichloroethene	963	48	ug/kg dry	964.8	ND	99.8	70-130	1.97	50	
Vinyl chloride	913	48	ug/kg dry	964.8	ND	94.6	70-130	5.09	50	
1,4-Dioxane	2310	96	ug/kg dry	1930	ND	120	70-130	0.977	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.8		ug/L	20.00		99.0	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810065 - No Preparation

Blank (V810065-BLK1)

Prepared: 10/29/2018 Analyzed: 10/29/2018 15:14

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V810065-BS1)

Prepared: 10/29/2018 Analyzed: 10/29/2018 14:45

Tetrachloroethene	19.7	1.0	ug/L	20.00		98.5	70-130			
Trichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
cis-1,2-Dichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
trans-1,2-Dichloroethene	20.8	1.0	ug/L	20.00		104	70-130			
1,1-Dichloroethene	20.6	1.0	ug/L	20.00		103	70-130			
Vinyl chloride	20.3	1.0	ug/L	20.00		101	70-130			
1,4-Dioxane	45.4	2.0	ug/L	40.00		114	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.7		ug/L	20.00		103	70-130			

Matrix Spike (V810065-MS1)

Source: V184401-02

Prepared: 10/29/2018 Analyzed: 10/29/2018 20:12

Tetrachloroethene	17.1	1.0	ug/L	20.00	ND	85.6	70-130			
Trichloroethene	33.1	1.0	ug/L	20.00	10.3	114	70-130			
cis-1,2-Dichloroethene	27.7	1.0	ug/L	20.00	2.81	124	70-130			
trans-1,2-Dichloroethene	29.5	1.0	ug/L	20.00	6.38	116	70-130			
1,1-Dichloroethene	20.5	1.0	ug/L	20.00	0.0300	102	70-130			
Vinyl chloride	20.1	1.0	ug/L	20.00	ND	100	70-130			
1,4-Dioxane	41.8	2.0	ug/L	40.00	ND	105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.5		ug/L	20.00		103	70-130			

Matrix Spike Dup (V810065-MSD1)

Source: V184401-02

Prepared: 10/29/2018 Analyzed: 10/29/2018 20:27

Tetrachloroethene	18.9	1.0	ug/L	20.00	ND	94.6	70-130	10.0	30	
Trichloroethene	31.5	1.0	ug/L	20.00	10.3	106	70-130	5.17	30	
cis-1,2-Dichloroethene	24.5	1.0	ug/L	20.00	2.81	109	70-130	12.2	30	
trans-1,2-Dichloroethene	27.8	1.0	ug/L	20.00	6.38	107	70-130	6.18	30	
1,1-Dichloroethene	20.0	1.0	ug/L	20.00	0.0300	100	70-130	2.22	30	
Vinyl chloride	19.4	1.0	ug/L	20.00	ND	97.1	70-130	3.34	30	
1,4-Dioxane	41.3	2.0	ug/L	40.00	ND	103	70-130	1.35	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		100	70-130			



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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810066 - EPA 3550B

Blank (V810066-BLK1)

Prepared: 10/29/2018 Analyzed: 10/29/2018 15:29

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.9</i>	<i>60-140</i>			

LCS (V810066-BS1)

Prepared: 10/29/2018 Analyzed: 10/29/2018 15:00

Tetrachloroethene	690	40	ug/kg wet	800.0		86.2	70-130			
Trichloroethene	662	40	ug/kg wet	800.0		82.8	70-130			
cis-1,2-Dichloroethene	651	40	ug/kg wet	800.0		81.4	70-130			
trans-1,2-Dichloroethene	662	40	ug/kg wet	800.0		82.7	70-130			
1,1-Dichloroethene	655	40	ug/kg wet	800.0		81.9	70-130			
Vinyl chloride	615	40	ug/kg wet	800.0		76.9	70-130			
1,4-Dioxane	1330	80	ug/kg wet	1600		83.1	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>17.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>85.8</i>	<i>70-130</i>			

Matrix Spike (V810066-MS1)

Source: V184402-01

Prepared: 10/29/2018 Analyzed: 10/29/2018 19:43

Tetrachloroethene	934	45	ug/kg dry	905.5	ND	103	70-130			
Trichloroethene	924	45	ug/kg dry	905.5	19.0	100	70-130			
cis-1,2-Dichloroethene	920	45	ug/kg dry	905.5	ND	102	70-130			
trans-1,2-Dichloroethene	931	45	ug/kg dry	905.5	1.03	103	70-130			
1,1-Dichloroethene	925	45	ug/kg dry	905.5	ND	102	70-130			
Vinyl chloride	899	45	ug/kg dry	905.5	ND	99.3	70-130			
1,4-Dioxane	1850	91	ug/kg dry	1811	ND	102	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike Dup (V810066-MSD1)

Source: V184402-01

Prepared: 10/29/2018 Analyzed: 10/29/2018 19:58

Tetrachloroethene	980	45	ug/kg dry	905.5	ND	108	70-130	4.73	50	
Trichloroethene	905	45	ug/kg dry	905.5	19.0	97.9	70-130	2.13	50	
cis-1,2-Dichloroethene	866	45	ug/kg dry	905.5	ND	95.6	70-130	5.98	50	
trans-1,2-Dichloroethene	896	45	ug/kg dry	905.5	1.03	98.9	70-130	3.77	50	
1,1-Dichloroethene	931	45	ug/kg dry	905.5	ND	103	70-130	0.634	50	
Vinyl chloride	909	45	ug/kg dry	905.5	ND	100	70-130	1.15	50	
1,4-Dioxane	2060	91	ug/kg dry	1811	ND	114	70-130	10.6	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810068 - No Preparation

Blank (V810068-BLK1)

Prepared: 10/30/2018 Analyzed: 10/30/2018 11:49

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>60-140</i>			

LCS (V810068-BS1)

Prepared: 10/30/2018 Analyzed: 10/30/2018 12:35

Tetrachloroethene	18.5	1.0	ug/L	20.00		92.3	70-130			
Trichloroethene	21.2	1.0	ug/L	20.00		106	70-130			
cis-1,2-Dichloroethene	22.1	1.0	ug/L	20.00		110	70-130			
trans-1,2-Dichloroethene	21.6	1.0	ug/L	20.00		108	70-130			
1,1-Dichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
Vinyl chloride	20.2	1.0	ug/L	20.00		101	70-130			
1,4-Dioxane	42.0	2.0	ug/L	40.00		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V810068-MS1)

Source: V184403-02

Prepared: 10/30/2018 Analyzed: 10/30/2018 15:46

Tetrachloroethene	21.0	1.0	ug/L	20.00	ND	105	70-130			
Trichloroethene	19.3	1.0	ug/L	20.00	ND	96.7	70-130			
cis-1,2-Dichloroethene	18.9	1.0	ug/L	20.00	0.0600	94.0	70-130			
trans-1,2-Dichloroethene	19.3	1.0	ug/L	20.00	ND	96.4	70-130			
1,1-Dichloroethene	19.6	1.0	ug/L	20.00	ND	97.9	70-130			
Vinyl chloride	19.0	1.0	ug/L	20.00	ND	95.0	70-130			
1,4-Dioxane	37.6	2.0	ug/L	40.00	ND	94.0	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>92.2</i>	<i>70-130</i>			

Matrix Spike Dup (V810068-MSD1)

Source: V184403-02

Prepared: 10/30/2018 Analyzed: 10/30/2018 16:00

Tetrachloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130	1.79	30	
Trichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130	10.3	30	
cis-1,2-Dichloroethene	21.6	1.0	ug/L	20.00	0.0600	108	70-130	13.6	30	
trans-1,2-Dichloroethene	21.8	1.0	ug/L	20.00	ND	109	70-130	12.2	30	
1,1-Dichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130	8.79	30	
Vinyl chloride	21.3	1.0	ug/L	20.00	ND	107	70-130	11.6	30	
1,4-Dioxane	43.5	2.0	ug/L	40.00	ND	109	70-130	14.6	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>95.6</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810069 - EPA 3550B

Blank (V810069-BLK1)

Prepared: 10/30/2018 Analyzed: 10/30/2018 12:04

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.5</i>	<i>60-140</i>			

LCS (V810069-BS1)

Prepared: 10/30/2018 Analyzed: 10/30/2018 11:20

Tetrachloroethene	805	40	ug/kg wet	800.0		101	70-130			
Trichloroethene	714	40	ug/kg wet	800.0		89.3	70-130			
cis-1,2-Dichloroethene	685	40	ug/kg wet	800.0		85.7	70-130			
trans-1,2-Dichloroethene	722	40	ug/kg wet	800.0		90.3	70-130			
1,1-Dichloroethene	732	40	ug/kg wet	800.0		91.6	70-130			
Vinyl chloride	671	40	ug/kg wet	800.0		83.9	70-130			
1,4-Dioxane	1550	80	ug/kg wet	1600		96.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>18.6</i>		<i>ug/L</i>	<i>20.00</i>		<i>93.0</i>	<i>70-130</i>			

Matrix Spike (V810069-MS1)

Source: V184404-06

Prepared: 10/30/2018 Analyzed: 10/30/2018 16:29

Tetrachloroethene	1090	53	ug/kg dry	1053	ND	103	70-130			
Trichloroethene	1050	53	ug/kg dry	1053	ND	99.7	70-130			
cis-1,2-Dichloroethene	1030	53	ug/kg dry	1053	ND	97.8	70-130			
trans-1,2-Dichloroethene	1060	53	ug/kg dry	1053	ND	100	70-130			
1,1-Dichloroethene	1060	53	ug/kg dry	1053	ND	101	70-130			
Vinyl chloride	1030	53	ug/kg dry	1053	ND	98.1	70-130			
1,4-Dioxane	2140	110	ug/kg dry	2106	ND	102	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.1</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V810069-MSD1)

Source: V184404-06

Prepared: 10/30/2018 Analyzed: 10/30/2018 16:44

Tetrachloroethene	1090	53	ug/kg dry	1053	ND	103	70-130	0.194	50	
Trichloroethene	1060	53	ug/kg dry	1053	ND	101	70-130	1.25	50	
cis-1,2-Dichloroethene	1060	53	ug/kg dry	1053	ND	101	70-130	2.92	50	
trans-1,2-Dichloroethene	1080	53	ug/kg dry	1053	ND	103	70-130	2.46	50	
1,1-Dichloroethene	1080	53	ug/kg dry	1053	ND	102	70-130	1.58	50	
Vinyl chloride	1070	53	ug/kg dry	1053	ND	101	70-130	3.26	50	
1,4-Dioxane	1990	110	ug/kg dry	2106	ND	94.5	70-130	7.39	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810071 - No Preparation

Blank (V810071-BLK1)

Prepared: 10/31/2018 Analyzed: 10/31/2018 11:43

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	60-140			

LCS (V810071-BS1)

Prepared: 10/31/2018 Analyzed: 10/31/2018 11:04

Tetrachloroethene	20.4	1.0	ug/L	20.00		102	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00		101	70-130			
cis-1,2-Dichloroethene	19.9	1.0	ug/L	20.00		99.7	70-130			
trans-1,2-Dichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
1,1-Dichloroethene	20.2	1.0	ug/L	20.00		101	70-130			
Vinyl chloride	19.2	1.0	ug/L	20.00		95.8	70-130			
1,4-Dioxane	39.5	2.0	ug/L	40.00		98.6	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.2		ug/L	20.00		101	70-130			

Matrix Spike (V810071-MS1)

Source: V184405-03

Prepared: 10/31/2018 Analyzed: 10/31/2018 15:45

Tetrachloroethene	20.1	1.0	ug/L	20.00	ND	101	70-130			
Trichloroethene	57.1	1.0	ug/L	20.00	42.7	71.9	70-130			
cis-1,2-Dichloroethene	54.0	1.0	ug/L	20.00	40.4	68.5	70-130			M
trans-1,2-Dichloroethene	29.8	1.0	ug/L	20.00	9.94	99.5	70-130			
1,1-Dichloroethene	20.7	1.0	ug/L	20.00	0.250	102	70-130			
Vinyl chloride	66.8	1.0	ug/L	20.00	47.2	98.0	70-130			
1,4-Dioxane	44.2	2.0	ug/L	40.00	ND	111	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		101	70-130			

Matrix Spike Dup (V810071-MSD1)

Source: V184405-03

Prepared: 10/31/2018 Analyzed: 10/31/2018 16:00

Tetrachloroethene	19.1	1.0	ug/L	20.00	ND	95.5	70-130	5.25	30	
Trichloroethene	52.8	1.0	ug/L	20.00	42.7	50.1	70-130	7.92	30	M
cis-1,2-Dichloroethene	53.0	1.0	ug/L	20.00	40.4	63.2	70-130	1.96	30	M
trans-1,2-Dichloroethene	29.6	1.0	ug/L	20.00	9.94	98.2	70-130	0.909	30	
1,1-Dichloroethene	20.9	1.0	ug/L	20.00	0.250	103	70-130	1.10	30	
Vinyl chloride	60.8	1.0	ug/L	20.00	47.2	67.8	70-130	9.48	30	M
1,4-Dioxane	41.4	2.0	ug/L	40.00	ND	104	70-130	6.56	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	20.4		ug/L	20.00		102	70-130			



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Project: Ford Livonia 2018 Site Investigation
Project Number: 2815

Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810072 - EPA 3550B

Blank (V810072-BLK1)

Prepared: 10/31/2018 Analyzed: 10/31/2018 12:50

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		102	60-140			

LCS (V810072-BS1)

Prepared: 10/31/2018 Analyzed: 10/31/2018 12:04

Tetrachloroethene	853	40	ug/kg wet	800.0		107	70-130			
Trichloroethene	792	40	ug/kg wet	800.0		99.1	70-130			
cis-1,2-Dichloroethene	781	40	ug/kg wet	800.0		97.7	70-130			
trans-1,2-Dichloroethene	799	40	ug/kg wet	800.0		99.9	70-130			
1,1-Dichloroethene	793	40	ug/kg wet	800.0		99.2	70-130			
Vinyl chloride	724	40	ug/kg wet	800.0		90.5	70-130			
1,4-Dioxane	1680	80	ug/kg wet	1600		105	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		101	70-130			

Matrix Spike (V810072-MS1)

Source: V184406-06

Prepared: 10/31/2018 Analyzed: 10/31/2018 16:14

Tetrachloroethene	1140	54	ug/kg dry	1071	ND	106	70-130			
Trichloroethene	1070	54	ug/kg dry	1071	12.3	98.7	70-130			
cis-1,2-Dichloroethene	1020	54	ug/kg dry	1071	ND	94.8	70-130			
trans-1,2-Dichloroethene	1050	54	ug/kg dry	1071	ND	98.5	70-130			
1,1-Dichloroethene	1070	54	ug/kg dry	1071	ND	99.9	70-130			
Vinyl chloride	1000	54	ug/kg dry	1071	ND	93.5	70-130			
1,4-Dioxane	2090	110	ug/kg dry	2142	ND	97.8	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	20.0		ug/L	20.00		100	70-130			

Matrix Spike Dup (V810072-MSD1)

Source: V184406-06

Prepared: 10/31/2018 Analyzed: 10/31/2018 16:31

Tetrachloroethene	1120	54	ug/kg dry	1071	ND	104	70-130	1.62	50	
Trichloroethene	1060	54	ug/kg dry	1071	12.3	98.2	70-130	0.502	50	
cis-1,2-Dichloroethene	1040	54	ug/kg dry	1071	ND	97.4	70-130	2.76	50	
trans-1,2-Dichloroethene	1080	54	ug/kg dry	1071	ND	100	70-130	1.96	50	
1,1-Dichloroethene	1080	54	ug/kg dry	1071	ND	101	70-130	0.798	50	
Vinyl chloride	1070	54	ug/kg dry	1071	ND	99.5	70-130	6.21	50	
1,4-Dioxane	2290	110	ug/kg dry	2142	ND	107	70-130	8.68	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.7		ug/L	20.00		98.5	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V811001 - No Preparation

Blank (V811001-BLK1)

Prepared: 11/01/2018 Analyzed: 11/01/2018 11:58

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	20.3		ug/L	20.00		101	60-140			

LCS (V811001-BS1)

Prepared: 11/01/2018 Analyzed: 11/01/2018 11:29

Tetrachloroethene	18.5	1.0	ug/L	20.00		92.3	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00		102	70-130			
cis-1,2-Dichloroethene	20.9	1.0	ug/L	20.00		104	70-130			
trans-1,2-Dichloroethene	20.4	1.0	ug/L	20.00		102	70-130			
1,1-Dichloroethene	19.6	1.0	ug/L	20.00		97.8	70-130			
Vinyl chloride	18.4	1.0	ug/L	20.00		92.1	70-130			
1,4-Dioxane	41.0	2.0	ug/L	40.00		103	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.1		ug/L	20.00		95.6	70-130			

Matrix Spike (V811001-MS1)

Source: V184407-01

Prepared: 11/01/2018 Analyzed: 11/01/2018 15:28

Tetrachloroethene	19.4	1.0	ug/L	20.00	ND	96.9	70-130			
Trichloroethene	20.3	1.0	ug/L	20.00	1.33	94.9	70-130			
cis-1,2-Dichloroethene	19.2	1.0	ug/L	20.00	0.810	92.1	70-130			
trans-1,2-Dichloroethene	21.0	1.0	ug/L	20.00	2.07	94.4	70-130			
1,1-Dichloroethene	19.2	1.0	ug/L	20.00	ND	96.0	70-130			
Vinyl chloride	18.1	1.0	ug/L	20.00	ND	90.3	70-130			
1,4-Dioxane	38.5	2.0	ug/L	40.00	ND	96.3	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	19.7		ug/L	20.00		98.5	70-130			

Matrix Spike Dup (V811001-MSD1)

Source: V184407-01

Prepared: 11/01/2018 Analyzed: 11/01/2018 15:43

Tetrachloroethene	18.4	1.0	ug/L	20.00	ND	92.2	70-130	5.03	30	
Trichloroethene	21.7	1.0	ug/L	20.00	1.33	102	70-130	6.53	30	
cis-1,2-Dichloroethene	21.9	1.0	ug/L	20.00	0.810	105	70-130	12.8	30	
trans-1,2-Dichloroethene	22.8	1.0	ug/L	20.00	2.07	103	70-130	8.28	30	
1,1-Dichloroethene	20.1	1.0	ug/L	20.00	ND	100	70-130	4.53	30	
Vinyl chloride	18.9	1.0	ug/L	20.00	ND	94.4	70-130	4.39	30	
1,4-Dioxane	41.7	2.0	ug/L	40.00	ND	104	70-130	7.93	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	19.7		ug/L	20.00		98.4	70-130			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V811002 - EPA 3550B

Blank (V811002-BLK1)

Prepared: 11/01/2018 Analyzed: 11/01/2018 19:36

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>96.0</i>	<i>60-140</i>			

LCS (V811002-BS1)

Prepared: 11/01/2018 Analyzed: 11/01/2018 19:51

Tetrachloroethene	842	40	ug/kg wet	800.0		105	70-130			
Trichloroethene	802	40	ug/kg wet	800.0		100	70-130			
cis-1,2-Dichloroethene	778	40	ug/kg wet	800.0		97.2	70-130			
trans-1,2-Dichloroethene	790	40	ug/kg wet	800.0		98.7	70-130			
1,1-Dichloroethene	790	40	ug/kg wet	800.0		98.7	70-130			
Vinyl chloride	710	40	ug/kg wet	800.0		88.8	70-130			
1,4-Dioxane	1690	80	ug/kg wet	1600		106	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.3</i>		<i>ug/L</i>	<i>20.00</i>		<i>102</i>	<i>70-130</i>			

Matrix Spike (V811002-MS1)

Source: V184408-06

Prepared: 11/01/2018 Analyzed: 11/01/2018 15:58

Tetrachloroethene	1010	52	ug/kg dry	1038	0.519	97.0	70-130			
Trichloroethene	1070	52	ug/kg dry	1038	ND	103	70-130			
cis-1,2-Dichloroethene	1060	52	ug/kg dry	1038	ND	103	70-130			
trans-1,2-Dichloroethene	1070	52	ug/kg dry	1038	ND	104	70-130			
1,1-Dichloroethene	1040	52	ug/kg dry	1038	ND	100	70-130			
Vinyl chloride	1000	52	ug/kg dry	1038	ND	96.6	70-130			
1,4-Dioxane	2120	100	ug/kg dry	2076	ND	102	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.2</i>		<i>ug/L</i>	<i>20.00</i>		<i>101</i>	<i>70-130</i>			

Matrix Spike Dup (V811002-MSD1)

Source: V184408-06

Prepared: 11/01/2018 Analyzed: 11/01/2018 20:05

Tetrachloroethene	1010	52	ug/kg dry	1038	0.519	97.6	70-130	0.616	50	
Trichloroethene	1060	52	ug/kg dry	1038	ND	102	70-130	1.36	50	
cis-1,2-Dichloroethene	1070	52	ug/kg dry	1038	ND	103	70-130	0.874	50	
trans-1,2-Dichloroethene	1080	52	ug/kg dry	1038	ND	104	70-130	0.386	50	
1,1-Dichloroethene	1070	52	ug/kg dry	1038	ND	103	70-130	2.80	50	
Vinyl chloride	1030	52	ug/kg dry	1038	ND	98.9	70-130	2.40	50	
1,4-Dioxane	2170	100	ug/kg dry	2076	ND	105	70-130	2.52	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.7</i>		<i>ug/L</i>	<i>20.00</i>		<i>98.3</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V811004 - No Preparation

Blank (V811004-BLK1)

Prepared: 11/02/2018 Analyzed: 11/02/2018 11:59

Tetrachloroethene	ND	1.0	ug/L							
Trichloroethene	ND	1.0	ug/L							
cis-1,2-Dichloroethene	ND	1.0	ug/L							
trans-1,2-Dichloroethene	ND	1.0	ug/L							
1,1-Dichloroethene	ND	1.0	ug/L							
Vinyl chloride	ND	1.0	ug/L							
1,4-Dioxane	ND	2.0	ug/L							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>60-140</i>			

LCS (V811004-BS1)

Prepared: 11/02/2018 Analyzed: 11/02/2018 11:30

Tetrachloroethene	19.9	1.0	ug/L	20.00		99.5	70-130			
Trichloroethene	20.0	1.0	ug/L	20.00		100	70-130			
cis-1,2-Dichloroethene	19.8	1.0	ug/L	20.00		98.8	70-130			
trans-1,2-Dichloroethene	20.1	1.0	ug/L	20.00		101	70-130			
1,1-Dichloroethene	20.1	1.0	ug/L	20.00		100	70-130			
Vinyl chloride	19.6	1.0	ug/L	20.00		98.2	70-130			
1,4-Dioxane	39.8	2.0	ug/L	40.00		99.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>20.0</i>		<i>ug/L</i>	<i>20.00</i>		<i>100</i>	<i>70-130</i>			

Matrix Spike (V811004-MS1)

Source: V184409-01

Prepared: 11/02/2018 Analyzed: 11/02/2018 17:28

Tetrachloroethene	18.8	1.0	ug/L	20.00	ND	93.9	70-130			
Trichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130			
cis-1,2-Dichloroethene	20.7	1.0	ug/L	20.00	ND	104	70-130			
trans-1,2-Dichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130			
1,1-Dichloroethene	19.8	1.0	ug/L	20.00	ND	99.2	70-130			
Vinyl chloride	19.6	1.0	ug/L	20.00	ND	97.9	70-130			
1,4-Dioxane	39.9	2.0	ug/L	40.00	ND	99.7	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.4</i>	<i>70-130</i>			

Matrix Spike Dup (V811004-MSD1)

Source: V184409-01

Prepared: 11/02/2018 Analyzed: 11/02/2018 17:43

Tetrachloroethene	18.5	1.0	ug/L	20.00	ND	92.3	70-130	1.72	30	
Trichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130	0.0981	30	
cis-1,2-Dichloroethene	21.4	1.0	ug/L	20.00	ND	107	70-130	3.32	30	
trans-1,2-Dichloroethene	21.0	1.0	ug/L	20.00	ND	105	70-130	2.94	30	
1,1-Dichloroethene	20.4	1.0	ug/L	20.00	ND	102	70-130	2.69	30	
Vinyl chloride	20.2	1.0	ug/L	20.00	ND	101	70-130	3.12	30	
1,4-Dioxane	43.5	2.0	ug/L	40.00	ND	109	70-130	8.76	30	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.4</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.0</i>	<i>70-130</i>			

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Volatile Organic Compounds by Method 8260 - Direct Inject - Quality Control

Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V811005 - EPA 3550B

Blank (V811005-BLK1)

Prepared: 11/02/2018 Analyzed: 11/02/2018 19:10

Tetrachloroethene	ND	40	ug/kg wet							
Trichloroethene	ND	40	ug/kg wet							
cis-1,2-Dichloroethene	ND	40	ug/kg wet							
trans-1,2-Dichloroethene	ND	40	ug/kg wet							
1,1-Dichloroethene	ND	40	ug/kg wet							
Vinyl chloride	ND	40	ug/kg wet							
1,4-Dioxane	ND	80	ug/kg wet							
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.8</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.0</i>	<i>60-140</i>			

LCS (V811005-BS1)

Prepared: 11/02/2018 Analyzed: 11/02/2018 18:26

Tetrachloroethene	796	40	ug/kg wet	800.0		99.6	70-130			
Trichloroethene	804	40	ug/kg wet	800.0		101	70-130			
cis-1,2-Dichloroethene	811	40	ug/kg wet	800.0		101	70-130			
trans-1,2-Dichloroethene	811	40	ug/kg wet	800.0		101	70-130			
1,1-Dichloroethene	799	40	ug/kg wet	800.0		99.9	70-130			
Vinyl chloride	750	40	ug/kg wet	800.0		93.8	70-130			
1,4-Dioxane	1590	80	ug/kg wet	1600		99.5	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.5</i>	<i>70-130</i>			

Matrix Spike (V811005-MS1)

Source: V184410-07

Prepared: 11/02/2018 Analyzed: 11/02/2018 17:57

Tetrachloroethene	964	49	ug/kg dry	978.0	ND	98.6	70-130			
Trichloroethene	985	49	ug/kg dry	978.0	ND	101	70-130			
cis-1,2-Dichloroethene	1020	49	ug/kg dry	978.0	ND	104	70-130			
trans-1,2-Dichloroethene	1010	49	ug/kg dry	978.0	ND	103	70-130			
1,1-Dichloroethene	985	49	ug/kg dry	978.0	ND	101	70-130			
Vinyl chloride	983	49	ug/kg dry	978.0	ND	101	70-130			
1,4-Dioxane	2080	98	ug/kg dry	1956	ND	106	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.9</i>		<i>ug/L</i>	<i>20.00</i>		<i>99.3</i>	<i>70-130</i>			

Matrix Spike Dup (V811005-MSD1)

Source: V184410-07

Prepared: 11/02/2018 Analyzed: 11/02/2018 18:12

Tetrachloroethene	1000	49	ug/kg dry	978.0	ND	102	70-130	3.64	50	
Trichloroethene	952	49	ug/kg dry	978.0	ND	97.4	70-130	3.43	50	
cis-1,2-Dichloroethene	939	49	ug/kg dry	978.0	ND	96.1	70-130	7.80	50	
trans-1,2-Dichloroethene	963	49	ug/kg dry	978.0	ND	98.5	70-130	4.42	50	
1,1-Dichloroethene	989	49	ug/kg dry	978.0	ND	101	70-130	0.446	50	
Vinyl chloride	960	49	ug/kg dry	978.0	ND	98.2	70-130	2.37	50	
1,4-Dioxane	2230	98	ug/kg dry	1956	ND	114	70-130	6.86	50	
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>19.5</i>		<i>ug/L</i>	<i>20.00</i>		<i>97.7</i>	<i>70-130</i>			



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Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V809002 - % Solids

Duplicate (V809002-DUP1)	Source: V183702-03		Prepared: 09/13/2018 Analyzed: 09/14/2018 15:47							
% Solids	93.3	0.00	% by Weight		93.2			0.169	20	

Batch V809003 - % Solids

Duplicate (V809003-DUP1)	Source: V183704-14		Prepared: 09/13/2018 Analyzed: 09/14/2018 15:53							
% Solids	89.5	0.00	% by Weight		89.2			0.384	20	

Batch V809007 - % Solids

Duplicate (V809007-DUP1)	Source: V183705-01		Prepared: 09/14/2018 Analyzed: 09/15/2018 14:25							
% Solids	95.8	0.00	% by Weight		96.6			0.864	20	

Duplicate (V809007-DUP2)	Source: V183705-21		Prepared: 09/14/2018 Analyzed: 09/15/2018 14:25							
% Solids	81.5	0.00	% by Weight		81.6			0.212	20	

Batch V809011 - % Solids

Duplicate (V809011-DUP1)	Source: V183801-15		Prepared: 09/17/2018 Analyzed: 09/18/2018 10:36							
% Solids	84.7	0.00	% by Weight		85.1			0.441	20	

Batch V809014 - % Solids

Duplicate (V809014-DUP1)	Source: V183804-20		Prepared: 09/18/2018 Analyzed: 09/19/2018 14:59							
% Solids	81.9	0.00	% by Weight		81.1			0.923	20	



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 Novi MI, 48377

Project: Ford Livonia 2018 Site Investigation
 Project Number: 2815

Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch V809017 - % Solids										
Duplicate (V809017-DUP1)		Source: V183806-08			Prepared: 09/19/2018 Analyzed: 09/20/2018 08:54					
% Solids	82.2	0.00	% by Weight		82.9			0.930	20	
Batch V809020 - % Solids										
Duplicate (V809020-DUP1)		Source: V183808-07			Prepared: 09/20/2018 Analyzed: 09/21/2018 08:21					
% Solids	79.2	0.00	% by Weight		81.5			2.93	20	
Batch V809023 - % Solids										
Duplicate (V809023-DUP1)		Source: V183810-05			Prepared: 09/21/2018 Analyzed: 09/24/2018 07:48					
% Solids	79.8	0.00	% by Weight		78.8			1.23	20	
Batch V809026 - % Solids										
Duplicate (V809026-DUP1)		Source: V183901-08			Prepared: 09/24/2018 Analyzed: 09/25/2018 07:55					
% Solids	84.4	0.00	% by Weight		83.3			1.32	20	
Batch V809029 - % Solids										
Duplicate (V809029-DUP1)		Source: V183903-08			Prepared: 09/25/2018 Analyzed: 09/26/2018 08:12					
% Solids	91.6	0.00	% by Weight		93.4			1.99	20	
Batch V809032 - % Solids										
Duplicate (V809032-DUP1)		Source: V183905-17			Prepared: 09/26/2018 Analyzed: 09/27/2018 10:10					
% Solids	84.7	0.00	% by Weight		84.2			0.609	20	



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 Project Number: 2815

Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch V809035 - % Solids										
Duplicate (V809035-DUP1)		Source: V183907-19			Prepared: 09/27/2018 Analyzed: 09/28/2018 10:17					
% Solids	81.7	0.00	% by Weight		79.7			2.59	20	
Batch V809038 - % Solids										
Duplicate (V809038-DUP1)		Source: V183910-07			Prepared: 09/28/2018 Analyzed: 10/01/2018 07:51					
% Solids	77.9	0.00	% by Weight		78.2			0.424	20	
Batch V810003 - % Solids										
Duplicate (V810003-DUP1)		Source: V184001-13			Prepared: 10/01/2018 Analyzed: 10/02/2018 08:08					
% Solids	79.9	0.00	% by Weight		81.2			1.61	20	
Batch V810005 - % Solids										
Duplicate (V810005-DUP1)		Source: V184001-29			Prepared: 10/01/2018 Analyzed: 10/02/2018 08:11					
% Solids	80.0	0.00	% by Weight		79.8			0.291	20	
Batch V810008 - % Solids										
Duplicate (V810008-DUP1)		Source: V184005-12			Prepared: 10/02/2018 Analyzed: 10/03/2018 08:05					
% Solids	80.7	0.00	% by Weight		82.6			2.41	20	
Batch V810011 - % Solids										
Duplicate (V810011-DUP1)		Source: V184006-06			Prepared: 10/03/2018 Analyzed: 10/04/2018 07:56					
% Solids	83.7	0.00	% by Weight		86.8			3.55	20	



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 Project Number: 2815

Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch V810014 - % Solids										
Duplicate (V810014-DUP1)		Source: V184008-10			Prepared: 10/04/2018 Analyzed: 10/05/2018 08:05					
% Solids	84.0	0.00	% by Weight		84.5			0.521	20	
Batch V810017 - % Solids										
Duplicate (V810017-DUP1)		Source: V184010-09			Prepared: 10/05/2018 Analyzed: 10/08/2018 08:34					
% Solids	78.9	0.00	% by Weight		78.5			0.551	20	
Batch V810020 - % Solids										
Duplicate (V810020-DUP1)		Source: V184101-07			Prepared: 10/08/2018 Analyzed: 10/09/2018 08:51					
% Solids	82.9	0.00	% by Weight		82.9			0.0884	20	
Batch V810023 - % Solids										
Duplicate (V810023-DUP1)		Source: V184104-13			Prepared: 10/09/2018 Analyzed: 10/10/2018 09:06					
% Solids	80.7	0.00	% by Weight		80.6			0.0649	20	
Batch V810026 - % Solids										
Duplicate (V810026-DUP1)		Source: V184107-12			Prepared: 10/10/2018 Analyzed: 10/11/2018 08:37					
% Solids	80.7	0.00	% by Weight		80.7			0.0802	20	
Batch V810029 - % Solids										
Duplicate (V810029-DUP1)		Source: V184109-13			Prepared: 10/11/2018 Analyzed: 10/12/2018 08:57					
% Solids	84.0	0.00	% by Weight		83.8			0.220	20	



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 Project Number: 2815

Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810032 - % Solids

Duplicate (V810032-DUP1)		Source: V184111-14		Prepared: 10/12/2018 Analyzed: 10/14/2018 11:21						
% Solids	81.5	0.00	% by Weight		81.5			0.104	20	

Batch V810037 - % Solids

Duplicate (V810037-DUP1)		Source: V184202-18		Prepared: 10/14/2018 Analyzed: 10/15/2018 10:32						
% Solids	79.9	0.00	% by Weight		83.4			4.18	20	

Duplicate (V810037-DUP2)		Source: V184204-08		Prepared: 10/14/2018 Analyzed: 10/15/2018 10:32						
% Solids	82.7	0.00	% by Weight		95.4			14.2	20	

Batch V810041 - % Solids

Duplicate (V810041-DUP1)		Source: V184206-08		Prepared: 10/16/2018 Analyzed: 10/17/2018 09:40						
% Solids	86.3	0.00	% by Weight		87.9			1.86	20	

Duplicate (V810041-DUP2)		Source: V184206-17		Prepared: 10/16/2018 Analyzed: 10/17/2018 09:40						
% Solids	78.3	0.00	% by Weight		85.8			9.14	20	

Batch V810045 - % Solids

Duplicate (V810045-DUP1)		Source: V184208-07		Prepared: 10/17/2018 Analyzed: 10/18/2018 09:07						
% Solids	93.2	0.00	% by Weight		92.7			0.530	20	

Duplicate (V810045-DUP2)		Source: V184208-22		Prepared: 10/17/2018 Analyzed: 10/18/2018 09:07						
% Solids	76.3	0.00	% by Weight		76.6			0.377	20	



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 Project Number: 2815

Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch V810049 - % Solids

Duplicate (V810049-DUP1)		Source: V184210-17		Prepared: 10/18/2018 Analyzed: 10/23/2018 10:52		
% Solids	82.4	0.00	% by Weight	83.2	0.938	20
Duplicate (V810049-DUP2)		Source: V184210-30		Prepared: 10/18/2018 Analyzed: 10/23/2018 10:52		
% Solids	80.1	0.00	% by Weight	81.3	1.43	20

Batch V810052 - % Solids

Duplicate (V810052-DUP1)		Source: V184302-06		Prepared: 10/22/2018 Analyzed: 10/23/2018 14:01		
% Solids	87.4	0.00	% by Weight	86.4	1.12	20
Duplicate (V810052-DUP2)		Source: V184302-23		Prepared: 10/22/2018 Analyzed: 10/23/2018 14:01		
% Solids	81.8	0.00	% by Weight	80.8	1.17	20

Batch V810055 - % Solids

Duplicate (V810055-DUP1)		Source: V184304-15		Prepared: 10/23/2018 Analyzed: 10/24/2018 10:30		
% Solids	80.5	0.00	% by Weight	80.8	0.325	20

Batch V810058 - % Solids

Duplicate (V810058-DUP1)		Source: V184306-13		Prepared: 10/24/2018 Analyzed: 10/25/2018 09:56		
% Solids	83.0	0.00	% by Weight	82.6	0.478	20

Batch V810061 - % Solids

Duplicate (V810061-DUP1)		Source: V184308-19		Prepared: 10/25/2018 Analyzed: 10/26/2018 09:15		
% Solids	82.2	0.00	% by Weight	81.6	0.714	20



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Project: Ford Livonia 2018 Site Investigation
Project Number: 2815

Classical Chemistry Parameters - Quality Control
Pace Analytical - Lab #23

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch V810064 - % Solids										
Duplicate (V810064-DUP1)		Source: V184310-06			Prepared: 10/26/2018 Analyzed: 10/29/2018 08:52					
% Solids	83.0	0.00	% by Weight		81.9			1.41	20	
Batch V810067 - % Solids										
Duplicate (V810067-DUP1)		Source: V184402-06			Prepared: 10/29/2018 Analyzed: 10/30/2018 08:34					
% Solids	82.4	0.00	% by Weight		82.0			0.524	20	
Batch V810070 - % Solids										
Duplicate (V810070-DUP1)		Source: V184404-01			Prepared: 10/30/2018 Analyzed: 10/31/2018 08:56					
% Solids	80.6	0.00	% by Weight		79.4			1.54	20	
Batch V810073 - % Solids										
Duplicate (V810073-DUP1)		Source: V184406-05			Prepared: 10/31/2018 Analyzed: 11/01/2018 08:31					
% Solids	88.5	0.00	% by Weight		89.9			1.55	20	
Batch V811003 - % Solids										
Duplicate (V811003-DUP1)		Source: V184408-13			Prepared: 11/01/2018 Analyzed: 11/02/2018 08:52					
% Solids	83.5	0.00	% by Weight		83.8			0.281	20	
Batch V811006 - % Solids										
Duplicate (V811006-DUP1)		Source: V184410-14			Prepared: 11/02/2018 Analyzed: 11/04/2018 10:59					
% Solids	81.7	0.00	% by Weight		82.2			0.635	20	



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Project Number: 2815

Notes and Definitions

- X Precision for the matrix spike duplicate, laboratory control sample duplicate or lab duplicate was outside of control limits.
- M1 Spike recoveries were not evaluated because of elevated levels of the spiked analyte in the parent sample.
- M The matrix spike and/or matrix spike duplicate recovery was outside of the laboratory control limits.
- HC Results may be biased high because of high continuing calibration verification (CCV).
- E The concentration indicated is above the instrument calibration range. This value is an estimated concentration.
- D Data reported from a dilution
- CN See the case narrative.
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. If the word 'dry' does not appear after the units, results are reported on an as-is basis.
- RPD Relative Percent Difference

Appendix B
Chain of Custody Information



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CHAIN OF CUSTODY

No. 9886

Page: 1 of 3

Lab Work Order #: V183702		Report To: IAN PROST	
Preservation Codes		Company:	
Analyses Requested: F		Address 1:	
B <small>(see matrix)</small>		Address 2:	
		E-mail Address: IAN.PROST@ARCADIS	
		Invoice To:	
		Company:	
		Address 1:	
		Address 2:	
		Comments	Lab ID
			Lab Receipt Time

Project Number: **MI001454.0002.0001A** PO Number:

Project Name: **Ford LTP**

Project Location (City, State): **Livonia, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **KALAN BEIGGS**

Sample Description	Collection		Matrix	Total # of Containers	VOCs (2260)
	Date	Time			
LIFHP-79_1-2'_091118	9-11-18	1225	S	3	X
LIFHP-79_3-4'_091118		1236			X
LIFHP-79_5-6'_091118		1235			X
LIFHP-79_7-8'_091118		1240			X
LIFHP-79_9-10'_091118		1245			X
LIFHP-79_18.5-19.5'_091118		1505			X
LIFHP-79_19.5-20.5'_091118		1520			X
LIFHP-80_1-2'_091218 (KS) 9-12-18	9-12-18 (KS) 9-12-18				X
LIFHP-80_3-3'_091218 (KS) 9-12-18					X
LIFHP-80_5-6'_091218 (KS) 9-12-18					X

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]* Date: 9-12-18 Time: 1620
 Relinquished By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Received By: *[Signature]* Date: 9/12/18 Time: 16:20
 Received By: _____ Date: _____ Time: _____

Shipped Via: **W/1K** Receipt Temp: **NA** Thermometer #/ Exp. Date: **NA** Temp Blank: Y N

Rev. 12/15
✓ use 9/24/18



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CHAIN OF CUSTODY

No. 09885

Page: 2 of 3

Project Number: <u>MI001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V183702</u>				Report To:	
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:	
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>Vols (8200) (7)</u>				Address 2:	
If Rush, Report Due Date:								E-mail Address:	
Sampled By (Print): <u>KALAN BRIGGS</u>								Invoice To:	
								Company:	
				Address 1:		Address 2:			
Sample Description		Collection		Matrix	Total # of Containers	Vols (8200) (7)	Comments	Lab ID	Lab Receipt Time
		Date	Time						
<u>LIFHP-80-6-7-091218 (45) 9-12-18</u>		<u>9-12-18</u>		<u>S</u>	<u>3</u>		<u>7-8"</u>	<u>-11</u>	<u>16:20</u>
<u>LIFHP-80B-1-2-091218</u>		<u>9-12-18</u>	<u>1210</u>				<u>61.7</u>	<u>-12</u>	
<u>LIFHP-80B-3-4-091218</u>			<u>1215</u>				<u>150.5</u>	<u>-13</u>	
<u>LIFHP-80B-5-6-091218</u>			<u>1220</u>				<u>75.9</u>	<u>-14</u>	
<u>LIFHP-80B-6-7-091218</u>			<u>1225</u>				<u>18.7</u>	<u>-15</u>	
<u>LIFHP-80B-19-20-091218</u>			<u>1230</u>				<u>715,000</u>	<u>-16</u>	
<u>LIFHP-80B-13-24-091218</u>			<u>1235</u>				<u>21.4</u>	<u>-17</u>	
<u>LIFHP-82-1-2-091218</u>			<u>1420</u>				<u>6.1</u>	<u>-18</u>	
<u>LIFHP-82-2-3-091218</u>			<u>1425</u>				<u>6.7</u>	<u>-19</u>	
<u>LIFHP-82-4-5-091218</u>			<u>1430</u>				<u>6.7</u>	<u>-20</u>	
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Date: <u>9-12-18</u> Time: <u>16:20</u>		Received By: <u>[Signature]</u> Date: <u>9/12/18</u> Time: <u>16:20</u>			
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>	
						Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

See 9/25/18



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CHAIN OF CUSTODY

No. 9934

Page: 3 of 3

Project Number: <u>MI 001454.0102.0001A</u> PO Number:		Lab Work Order #: <u>V183702</u>		Report To: <u>IAN DROST</u>																					
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:																					
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td><u>(7)</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										<u>(7)</u>									Address 2:	
Matrix	Total # of Containers																								
	<u>(7)</u>																								
If Rush, Report Due Date:				E-mail Address: <u>IAN.DROST@ARCADIS</u>		Invoice To:																			
Sampled By (Print): <u>KALAN BRIGGS</u>		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time																	
<u>LIFHP-82-67' 091218</u>		<u>9-12-18</u>	<u>1435</u>	<u>S</u>	<u>3</u>	<u>X</u>	<u>4.7</u>	<u>-21</u>	<u>16:20</u>																
<u>LIFHP-82-13-14' 091218</u>		<u>↓</u>	<u>1440</u>	<u>↓</u>	<u>↓</u>	<u>X</u>	<u>2.7</u>	<u>-22</u>	<u>↓</u>																
<u>LIFHP-82-20-21' 091218</u>		<u>↓</u>	<u>1445</u>	<u>↓</u>	<u>↓</u>	<u>X</u>	<u>2.7</u>	<u>-23</u>	<u>↓</u>																
<div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>Preservation Codes</p> <p>A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</p> <p>Matrix Codes</p> <p>A=Air S=Soil W=Water O=Other</p> </div>		<p>Other Comments:</p>		Relinquished By: <u>[Signature]</u> 9		Date: <u>9-12-18</u>	Time: <u>1620</u>	Received By: <u>[Signature]</u>		Date:	Time:														
				Relinquished By:		Date:	Time:	Received By:		Date:	Time:														
				Custody Seal:		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank:													
				<input type="checkbox"/> NA	<input type="checkbox"/> Intact	<input type="checkbox"/> Not Intact	<u>WALKER</u>	<u>ND</u>	<u>NA</u>	<u>NA</u>	<input type="checkbox"/> Y	<input type="checkbox"/> N													

✓ let 9/25/18



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CHAIN OF CUSTODY

No. 09935

Page: 1 of 1

Project Number: <u>ME 001454 . 0062.0601A</u> PO Number:				Lab Work Order #: <u>V183708-</u>				Report To: <u>IAN DROST</u>			
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:			
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs (8260) (7)</u> <u>MS/MSD</u>				Address 2:			
If Rush, Report Due Date:								E-mail Address: <u>IAN.DROST@ARCADIS</u>			
Sampled By (Print): <u>KALAN BRIGGS</u>								Invoice To:			
								Company:			
Sample Description				Collection Date Time				Address 1:			
								Address 2:			
								Comments		Lab ID	Lab Receipt Time
<u>LIFHP-83_18.5-22.5_091318</u>				<u>9-13-18 920 GW 2</u>				<u>715,000</u>		<u>-01</u>	<u>10:16</u>
<u>LIFHP-83_9-13_091318</u>				<u>9-13-18 935 GW 3A</u>				<u>7.2</u>		<u>-02</u>	<u>h</u>
<u>LIFHP-84_18-22_091318</u>				<u>9-13-18 1245 GW 2</u>				<u>0.2</u>		<u>-03</u>	<u>15:10</u>
<u>LIFHP-84_11-15_091318</u>				<u>9-13-18 1300 GW 2</u>				<u>6.8</u>		<u>-04</u>	
<u>LIFHP-85_18-22_091318</u>				<u>9-13-18 1405 GW 2</u>				<u>715,000</u>		<u>-05</u>	
<u>LIFHP-85_13-17_091318</u>				<u>9-13-18 1425 GW 2</u>				<u>715,000</u>		<u>-06</u>	
<u>LIFHP-85_8-12_091318</u>				<u>9-13-18 1440 GW 2</u>				<u>200</u>		<u>-07</u>	
<u>DUP-02</u>				<u>9-13-18 GW 2</u>						<u>-08</u>	<u>e</u>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Date: <u>9-13-18</u>		Received By: <u>[Signature]</u> Date: <u>9/13/18</u>		Relinquished By: Date:		Received By: Date:	
Matrix Codes A=Air S=Soil W=Water O=Other		<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

not 9/24/18



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CHAIN OF CUSTODY

No. 09937

Page: 2 of 2

Project Number: MEG01454.0002.0001A PO Number:				Lab Work Order #: V183 204				Report To: IAN DEOST																							
Project Name: FORD LTP				Preservation Codes				Company:																							
Project Location (City, State): LUCONIA, MI				Analyses Requested				Address 1:																							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">Matrix</td> <td style="width:10%;">Total # of Containers</td> <td style="width:10%;">Vials (Total)</td> <td style="width:10%;"> </td> <td style="width:10%;"> </td> <td style="width:10%;"> </td> <td style="width:10%;"> </td> <td style="width:10%;"> </td> <td style="width:10%;"> </td> <td style="width:10%;"> </td> </tr> <tr> <td></td> <td></td> <td>7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Matrix	Total # of Containers	Vials (Total)										7								Address 2:			
Matrix	Total # of Containers	Vials (Total)																													
		7																													
If Rush, Report Due Date:								E-mail Address: IAN.DEOST@ARCADIS.COM				Invoice To:																			
Sampled By (Print): KALAN BRIGGS				Company:				Address 1:																							
Sample Description				Collection		Comments				Lab ID		Lab Receipt Time																			
				Date	Time																										
LIFHP-84_9-10'_091318				9-13-18	1235	S	3	X				0.0	-11	15:10																	
LIFHP-84_19-20'_091318					1240		3	X				0.0	-12																		
LIFHP-85_1-2'_091318					1350		2	X				3.2	-13																		
LIFHP-85_3-4'_091318					1355		2	X				37.2	-14																		
LIFHP-85_6-7'_091318					1400		2	X				7.7	-15																		
LIFHP-85_9-10'_091318					1405		2	X				13.1	-16																		
LIFHP-85_19-20'_091318					1410		2	X				715000	-17																		
DUP-01				9-13-18	-			X					-18	15:10																	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <i>[Signature]</i> Relinquished By:				Date: 9-13-18 Time: 1500		Received By: <i>[Signature]</i> Received By:		Date: 9/13/18 Time: 15:00																			
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Walkin</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																					

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CHAIN OF CUSTODY

No. 9938

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Project Number: MI001454.0002.0001A		PO Number:		Lab Work Order #: V183705			Report To: IDN DEPT				
Project Name: FORD LTR		Preservation Codes			Company:			Address 1:			
Project Location (City, State): LUDWIA, MI		Analyses Requested			Address 2:			E-mail Address: IDN.DEPT@ARCADIS.COM			
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix	Total # of Containers	NCS (R200) (7)					Invoice To:		
If Rush, Report Due Date:									Company:		
Sampled By (Print): KALAN BRIGGS									Address 1:		
									Address 2:		
Sample Description	Collection Date	Collection Time							Comments	Lab ID	Lab Receipt Time
LIFHP-89B_6-7'_091418	9-14-18	1005	S	2	X				2.6	-11	13:30
LIFHP-89B_8-9'_091418	↓	1010	↓	↓	X				0.8	-12	↓
LIFHP-89B_13-14'_091418	↓	1015	↓	↓	X				0.1	-13	↓
LIFHP-89B_19-20'_091418	↓	1020	↓	↓	X				32.0	-14	↓
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>[Signature]</i>		Date: 9-14-18	Time: 1330	Received By: <i>[Signature]</i>		Date: 9/14/18	Time: 13:30
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>W&K</i>		Receipt Temp: <i>NA</i>		Thermometer # Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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Rev. 12/15



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CHAIN OF CUSTODY

No. 9984

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Project Number: <u>MI001454 - PROJ. 001A</u> PO Number:				Lab Work Order #: <u>V183705</u>				Report To: <u>IAN DEOST</u>					
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:					
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:					
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>NOCS (8260X7)</u>				Address 2:					
If Rush, Report Due Date:								E-mail Address: <u>IAN.DEOST@ARCADIS.COM</u>					
Sampled By (Print): <u>KALAN BRIGGS</u>								Invoice To:					
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID	Lab Receipt Time
				Date	Time								
<u>LIFHP-91_1-2'_091418</u>				<u>9-14-18</u>	<u>1405</u>	<u>S</u>	<u>2</u>	<u>0.5</u>	<u>-15</u>	<u>16:00</u>			
<u>LIFHP-91_3-4'_091418</u>					<u>1410</u>			<u>3.9</u>	<u>-16</u>				
<u>LIFHP-91_5-6'_091418</u>					<u>1415</u>			<u>0.4</u>	<u>-17</u>				
<u>LIFHP-91_7-8'_091418</u>					<u>1420</u>			<u>0.8</u>	<u>-18</u>				
<u>LIFHP-91_9-10'_091418</u>					<u>1425</u>			<u>1.4</u>	<u>-19</u>				
<u>LIFHP-91_11-12'_091418</u>					<u>1435</u>			<u>0.3</u>	<u>-20</u>				
<u>LIFHP-91_14-20'_091418</u>					<u>1430</u>			<u>1.4</u>	<u>-21</u>				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <u>[Signature]</u> Date: <u>9-14-18</u> Time: <u>16:00</u>		Received By: <u>[Signature]</u> Date: <u>9/14/18</u> Time: <u>16:00</u>		Relinquished By: _____ Date: _____ Time: _____	
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>WALKER</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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CHAIN OF CUSTODY

No. 9940

Page: / of: /

Project Number: MI001454.0002.0001A PO Number:				Lab Work Order #: V183726				Report To: IAN DROST							
Project Name: FORD LTP				Preservation Codes				Company:							
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:							
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers NCS (8760) (7)				Address 2:							
If Rush, Report Due Date:								E-mail Address: IAN.DROST@ARCADIS.COM							
Sampled By (Print): KALAN BRIGGS								Invoice To:							
Sample Description								Company:							
								Address 1:							
				Address 2:											
				Comments				Lab ID		Lab Receipt Time					
LIFUP-86-18-22-091418		9-14-18	830	GW	2	X		0.0	-01	16:09					
LIFUP-86-13-17-091418			835			X		0.0	-02						
LIFUP-86-8-17-091418			850			X		2.4	-03						
LIFUP-898-23-27-091418						X			-04						
LIFUP-898-18-22-091418			1250			X		61.0	-0504						
LIFUP-898-12-16-091418			1305			X		2.0	-05						
LIFUP-91-24-28-091418			1425			X		1.0	-07-06						
LIFUP-91-19-23-091418			1450			X		1.4	-08-01						
LIFUP-91-14-18-091418			1520			X		3.9	-09-08						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (indicate)		Other Comments:		Relinquished By: <i>[Signature]</i> Relinquished By:		Date: 9-14-18 Date:		Time: 16:00 Time:		Received By: <i>[Signature]</i> Received By:		Date: 9/14/18 Date:		Time: 16:00 Time:	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>walkin</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					

VCS 9/25/18



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CHAIN OF CUSTODY

No. 09943

Page: 2 of: 8

Project Number: <u>M1001454.0002.0004</u> PO Number:					Lab Work Order #: <u>V183801</u>					Report To: <u>HAAR email lists</u>																												
Project Name: <u>Livonia, MI</u>					Preservation Codes					Company: <u>Alcedis</u>																												
Project Location (City, State): <u>Ford LTP</u>					Analyses Requested					Address 1:																												
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					<table border="1" style="width:100%; text-align: center;"> <tr> <td>A</td><td>A</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td>VOCs</td><td>1,4 Dioxane</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>					A	A												VOCs	1,4 Dioxane												Address 2:		
A	A																																					
VOCs	1,4 Dioxane																																					
If Rush, Report Due Date:										E-mail Address:																												
Sampled By (Print): <u>Ashley Reibel</u>										Invoice To:																												
										Company:																												
										Address 1:																												
										Address 2:																												
										Comments																												
										Lab ID																												
										Lab Receipt Time																												
Sample Description		Collection		Matrix	Total # of Containers	VOCs	1,4 Dioxane																															
		Date	Time																																			
<u>LIFHP-87-1-2-091718</u>		<u>9/17/18</u>	<u>1000</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>							<u>ms/msd</u>	<u>-01</u>	<u>16:50</u>																						
<u>LIFHP-87-2-3-091718</u>			<u>1005</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>							<u>PID: 217.9</u>	<u>-02</u>																							
<u>LIFHP-87-3-4-091718</u>			<u>1010</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>							<u>ms/msd PID 358.2</u>	<u>-03</u>																							
<u>LIFHP-87-5-6-091718</u>			<u>1015</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-04</u>																							
<u>LIFHP-87-6-7-091718</u>			<u>1020</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-05</u>																							
<u>LIFHP-87-25-26-091718</u>			<u>1100</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-06</u>																							
<u>LIFHP-87-26.5-27.5-091718</u>			<u>1105</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-07</u>																							
<u>LIFHP-87-28.5-29.5-091718</u>			<u>1110</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-08</u>																							
<u>LIFHP-93-1-2-091718</u>			<u>1530</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-09</u>																							
<u>LIFHP-93-3-4-091718</u>			<u>1535</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-10</u>																							
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: Submit all results through Cadena: jim.tomara@cadena.com #E203728 Level IV Reporting		Relinquished By: <u>Ashley Reibel</u>			Date: <u>9/17/18</u>		Time: <u>1650</u>		Received By: <u>[Signature]</u>			Date: <u>9/18/18</u>		Time: <u>16:50</u>																						
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By:			Date:		Time:		Received By:			Date:		Time:																								
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																												

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CHAIN OF CUSTODY

No. 9944

Page: 2 of 3

Project Number: M100 1454.0002 0004 PO Number:				Lab Work Order #: V183801				Report To: <i>email list</i>			
Project Name: FORD LTP				Preservation Codes				Company: ARCADIS			
Project Location (City, State): Livonia, MI				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOCs 1,4-Dioxane				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <i>Ashley Rikel</i>								Invoice To:			
								Company:			
Sample Description				Collection Date Time				Address 1:			
								Address 2:			
								Comments		Lab ID	Lab Receipt Time
LIFHP-93-5-6-091718				9/17/18 1540 S 2 X X						-11	16:50
LIFHP-93-7-8-091718				1545 S 2 X X						-12	
LIFHP-93-9-10-091718				1550 S 2 X X						-13	
LIFHP-93-20-21-091718				1600 S 2 X X						-14	
LIFHP-93-24-25-091718				1605 S 2 X X						-15	
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Submit all results through Cadena: jim.tamalia@cadena.com #E203728 Label IV Reporting		Relinquished By: <i>Ashley Rikel</i> Relinquished By:		Date: 9/17/18 Time: 1650		Received By: <i>[Signature]</i> Received By:		Date: 9/17/18 Time: 16:50	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Walkin		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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CHAIN OF CUSTODY

No. 9942

Page: 1 of 1

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>W183802</u>				Report To: <u>email list</u>																																																																											
Project Name: <u>FORD LTP</u>				Preservation Codes				Company: <u>ARCADIS</u>																																																																											
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:																																																																											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; text-align: center;"> <tr> <td>A</td><td>A</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>				A	A																																																																							Address 2:			
A	A																																																																																		
If Rush, Report Due Date:				E-mail Address:				Invoice To:																																																																											
Sampled By (Print): <u>Ashley Reibel</u>				Company:				Address 1:																																																																											
Sample Description				Collection		Matrix		Total # of Containers		Address 2:		Comments		Lab ID	Lab Receipt Time																																																																				
				Date	Time																																																																														
<u>LIFHP-87-18-23-091718</u>				<u>9/17/18</u>	<u>0955</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-01</u>	<u>16:50</u>																																																																					
<u>LIFHP-87-14-18-091718</u>					<u>1025</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-02</u>																																																																						
<u>LIFHP-87-9-13-091718</u>					<u>1045</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-03</u>																																																																						
<u>LIFHP-93-16-20-091718</u>					<u>1500</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>				<u>-04</u>																																																																						
<u>LIFHP-93-11-15-091718</u>					<u>1515</u>	<u>GW</u>	<u>3</u>	<u>X</u>	<u>X</u>			<u>ms/msd</u>	<u>-05</u>	<u>2</u>																																																																					
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (indicate)				Other Comments: Submit all results through Cadena: jim.tomalia@cadena.com #E203128 Level IV Reporting				Relinquished By: <u>Ashley Reibel</u>				Date: <u>9/17/18</u>	Time: <u>16:50</u>	Received By: <u>[Signature]</u>		Date: <u>9/17/18</u>	Time: <u>16:50</u>																																																																		
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walkin</u>				Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																			

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 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 9954

Page: 1 of 3

Lab Work Order #: **✓183803**
 Report To: **IAN DEIST**
 Company:

Project Number: **ME00454.0002.0001A** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **KALAN BRIGGS**

Preservation Codes

Analyses Requested

Address 1:

Address 2:

E-mail Address: **IAN.DEIST@ARCADIS.COM**

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers	WOCs (8260) (7)							Comments	Lab ID	Lab Receipt Time
	Date	Time												
LIFHP-88_9-13_091818	9-18-18	1220	GW	2	X								-01	13:15
LIFHP-88_14-18_091818	↓	1150	↓	↓	X								-02	↓
LIFHP-88_19-23_091818	↓	1130	↓	↓	X								-03	↓

DUP-05	9-18-18	-	GW	2									-07	13:15

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*

Date: 9-18-18

Time: 1230

Received By: *[Signature]*

Date: 9/18/18

Time: 1300

Relinquished By: *[Signature]*

Date: 9/18/18

Time: 1315

Received By: *[Signature]*

Date: 9/18/18

Time: 1315

Custody Seal: NA Intact Not Intact

Shipped Via: **Walkin**

Receipt Temp: **ND**

Thermometer #/ Exp. Date: **ND**

Temp Blank: Y N

✓ IAN 9/25/18



Pace Analytical - ECCS Division
 2525 Advance Road
 Madison, WI 53718
 608-221-8700 (phone)
 608-221-4889 (fax)

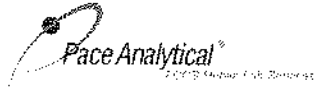
CHAIN OF CUSTODY

No. 09953

Page: 18 of 3

Project Number: <u>MI 061434 0002 0001A</u> PO Number:		Lab Work Order #: <u>1183804</u>		Report To: <u>IAN DROST</u>									
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:									
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th>VOCs (8260)</th> <th>MS/M S/D</th> </tr> <tr> <td></td> <td>(7)</td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers	VOCs (8260)	MS/M S/D		(7)			Address 2:	
Matrix	Total # of Containers			VOCs (8260)	MS/M S/D								
	(7)												
If Rush, Report Due Date:				E-mail Address: <u>IAN.DROST@ARCASIS</u>		Invoice To:							
Sampled By (Print): <u>KACAN BEIGGS</u>		Company:		Address 1:									
Sample Description		Collection		Address 2:									
		Date	Time	Comments	Lab ID	Lab Receipt Time							
<u>LIFHP-88_1-2'_091818</u>		<u>9-18-18</u>	<u>1015</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-01</u>	<u>13:15</u>				
<u>LIFHP-88_2-3'_091818</u>			<u>1020</u>		<u>1</u>	<u>X</u>		<u>-02</u>	<u>1</u>				
<u>LIFHP-88_3-4'_091818</u>			<u>1025</u>			<u>X</u>		<u>-03</u>					
<u>LIFHP-88_5-6'_091818</u>			<u>1030</u>			<u>X</u>		<u>-04</u>					
<u>LIFHP-88_6-7'_091818</u>			<u>1035</u>			<u>X</u>		<u>-05</u>					
<u>LIFHP-88_14-15'_091818</u>			<u>1045</u>			<u>X</u>		<u>-06</u>					
<u>LIFHP-88_19.5-20.5'_091818</u>			<u>1040</u>			<u>X</u>	<u>X</u>	<u>-07</u>					
<u>DUP-04</u>		<u>9-18-18</u>				<u>X</u>		<u>-14</u>	<u>13:15</u>				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <u>[Signature]</u> Relinquished By: <u>[Signature]</u> Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Date: <u>9-18-18</u> Date: <u>9/18/18</u>	Time: <u>1300</u> Time: <u>1315</u>	Received By: <u>[Signature]</u> Received By: <u>[Signature]</u>	Date: <u>9/18/18</u> Date: <u>9/18/18</u>	Time: <u>1300</u> Time: <u>13:15</u>	Receipt Temp: <u>NA</u> Thermometer #/ Exp. Date: <u>NA</u> Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N				

✓ 10/25/18



Pace Analytical - ECCS Division
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 608-221-8700 (phone)
 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10030

Page: 2 of: 3

Project Number: <u>M1001454.0002.00014</u> PO Number:				Preservation Codes				Report To: <u>Email List</u>																																																																																																																																																																																																																																								
Project Name: <u>FORD LTP</u>				Analyses Requested				Company: <u>ARCADIS</u>																																																																																																																																																																																																																																								
Project Location (City, State): <u>Livonia, MI</u>				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="text-align:center;">A</td> <td style="text-align:center;">A</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>												A	A							Address 1:																																																																																																																																																																																																																								
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Sampled By (Print): <u>Ashley Reibel</u>				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>																				Invoice To:																																																																																																																																																																																																																								
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">VOCs</th> <th rowspan="2">1,4 Dioxane</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>LIFHP-94-1-2-091818</td> <td>9/18/18</td> <td>1005</td> <td>S</td> <td>2</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-08</td> <td>13:15</td> </tr> <tr> <td>LIFHP-94-3-4-091818</td> <td> </td> <td>1010</td> <td>S</td> <td>2</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-09</td> <td> </td> </tr> <tr> <td>LIFHP-94-5-6-091818</td> <td> </td> <td>1015</td> <td>S</td> <td>2</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-10</td> <td> </td> </tr> <tr> <td>LIFHP-94-7-8-091818</td> <td> </td> <td>1020</td> <td>S</td> <td>2</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-11</td> <td> </td> </tr> <tr> <td>LIFHP-94-23-24-091818</td> <td> </td> <td>1145</td> <td>S</td> <td>2</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-12</td> <td> </td> </tr> <tr> <td>LIFHP-94-19-20-091818</td> <td> </td> <td>1245</td> <td>S</td> <td>2</td> <td>X</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-13</td> <td>2</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				Sample Description	Collection		Matrix	Total # of Containers	VOCs	1,4 Dioxane												Comments	Lab ID	Lab Receipt Time	Date	Time	LIFHP-94-1-2-091818	9/18/18	1005	S	2	X	X													-08	13:15	LIFHP-94-3-4-091818		1010	S	2	X	X													-09		LIFHP-94-5-6-091818		1015	S	2	X	X													-10		LIFHP-94-7-8-091818		1020	S	2	X	X													-11		LIFHP-94-23-24-091818		1145	S	2	X	X													-12		LIFHP-94-19-20-091818		1245	S	2	X	X													-13	2																																																																																					Address 1:			
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LIFHP-94-5-6-091818		1015	S	2	X	X													-10																																																																																																																																																																																																																													
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✓ cut 9/25/18



Pace Analytical - ECCS Division
 2525 Advance Road
 Madison, WI 53718
 608-221-8700 (phone)
 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 9956

Page: 3 of 3

Lab Work Order #: V183804		Report To: IAN DROST	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address: IAN.DROST@ARCADIS.COM	
Invoice To:			
Company:			
Address 1:			
Address 2:			
Comments		Lab ID	Lab Receipt Time
		-15	16:45
		-16	
		-17	
		-18	
		-19	
		-20	

Project Number: **MI001454.0002.0001A** PO Number:

Project Name: **F020 LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print):

Sample Description	Collection		Matrix	Total # of Containers
	Date	Time		
LIFHP-95_1-2'_091818	9-18-18	1520	S	2
LIFHP-95_2-3'_091818		1525	S	2
LIFHP-95_3-4'_091818		1530	S	2
LIFHP-95_5-6'_091818		1535	S	2
LIFHP-95_6-7'_091818		1540	S	2
LIFHP-95_21-22_091818		1545	S	2

VOCs (8260) (7)

Preservation Codes
 A=None B=HCl C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*
 Date: 9/18/18 Time: 16:45

Relinquished By:
 Date: Time:

Custody Seal:
 NA Intact Not Intact

Received By: *[Signature]*
 Date: 9/18/18 Time: 16:45

Received By:
 Date: Time:

Shipped Via: **Mailin**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**

Temp Blank:
 Y N

✓ 002 9/25/18



Pace Analytical - ECCS Division
 2525 Advance Road
 Madison, WI 53718
 608-221-8700 (phone)
 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10029

Page: 1 of 2

Project Number: M1001454.0002.0001A PO Number:				Lab Work Order #: Water - V183805 Soil - V183806				Report To: email list																																																																																																																																																																																					
Project Name: FORDLTP				Preservation Codes				Company: ARCADIS																																																																																																																																																																																					
Project Location (City, State): LIVONIA MI				Analyses Requested				Address 1:																																																																																																																																																																																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOCs 1,4-Dioxane				Address 2:																																																																																																																																																																																					
If Rush, Report Due Date:								E-mail Address:																																																																																																																																																																																					
Sampled By (Print): ASHLEY REIBEL				<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">VOCs</th> <th rowspan="2">1,4-Dioxane</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr><td>LIFHP-96-1-2-091918</td><td>9/19/18</td><td>0930</td><td>S</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-01</td><td>11:10</td></tr> <tr><td>LIFHP-96-3-4-091918</td><td></td><td>0935</td><td>S</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-02</td><td></td></tr> <tr><td>LIFHP-96-5-6-091918</td><td></td><td>0940</td><td>S</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-03</td><td></td></tr> <tr><td>LIFHP-96-6-7-091918</td><td></td><td>0945</td><td>S</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-04</td><td></td></tr> <tr><td>LIFHP-96-9-10-091918</td><td></td><td>0950</td><td>S</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-05</td><td></td></tr> <tr><td>DUP-06-091918</td><td></td><td>0955</td><td>S</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-06</td><td></td></tr> <tr><td>LIFHP-96-21-22-091918</td><td></td><td>0955</td><td>S</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-07</td><td></td></tr> <tr><td>LIFHP-96-23-24-091918</td><td></td><td>1000</td><td>S</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-08</td><td></td></tr> <tr><td>LIFHP-96-17-21-091918</td><td></td><td>1015</td><td>GW</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-01</td><td></td></tr> <tr><td>LIFHP-96-12-16-091918</td><td></td><td>1040</td><td>GW</td><td>2</td><td> </td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-02</td><td>J</td></tr> </tbody> </table>				Sample Description	Collection		Matrix	Total # of Containers	VOCs	1,4-Dioxane							Comments	Lab ID	Lab Receipt Time	Date	Time	LIFHP-96-1-2-091918	9/19/18	0930	S	2										-01	11:10	LIFHP-96-3-4-091918		0935	S	2										-02		LIFHP-96-5-6-091918		0940	S	2										-03		LIFHP-96-6-7-091918		0945	S	2										-04		LIFHP-96-9-10-091918		0950	S	2										-05		DUP-06-091918		0955	S	2										-06		LIFHP-96-21-22-091918		0955	S	2										-07		LIFHP-96-23-24-091918		1000	S	2										-08		LIFHP-96-17-21-091918		1015	GW	2										-01		LIFHP-96-12-16-091918		1040	GW	2										-02	J	Invoice To:			
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1 of 2 9/25/18



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CHAIN OF CUSTODY

No. 09941

Page: 2 of 2

Project Number: M1001454 0002.000A PO Number:				Preservation Codes				Report To: Email List					
Project Name: FORD LTP				Analyses Requested				Company: AREADIS					
Project Location (City, State): Livonia MI				A				Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:					
If Rush, Report Due Date:				VCS				E-mail Address:					
Sampled By (Print): Ashley Reibel								Invoice To:					
Sample Description				Collection		Matrix		Total # of Containers					
				Date	Time								
LIFHP-92-1-2-091918				9/19/18	1640	S	2	X	ms/msD				
LIFHP-92-3-4-091918					1645	S	2	X	-10				
LIFHP-92-4-5-091918					1650	S	2	X	-11				
LIFHP-92-6-7-091918					1655	S	2	X	-12				
LIFHP-92-20-21-091918					1730	S	2	X	-13				
LIFHP-92-22-23-091918					1735	S	2	X	-14				
LIFHP-92-14-18-091918					1725	GW	2	X	-03				
LIFHP-92-8.5-12.5-091918					1745	GW	3	X	ms/msD				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Submit through Cadena jim.tomalia@cadena.com				Relinquished By: Ashley Reibel Date: 9/19/18 Time: 19:10 Received By: [Signature] Date: 9/19/18 Time: 18:10					
Relinquished By: _____ Date: _____ Time: _____ Received By: _____ Date: _____ Time: _____				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Walker Receipt Temp: NA Thermometer #/ Exp. Date: NB Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					

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CHAIN OF CUSTODY

No. 09983

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Project Number: <u>M1100454.0002-00046</u> Number:		Lab Work Order #: <u>V183807-</u>		Report To: <u>email list</u>													
Project Name: <u>FORDLIP</u>		Preservation Codes		Company: <u>ARCADIS</u>													
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:													
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</th> </tr> <tr> <td style="text-align: center;">GW</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">GW</td> <td style="text-align: center;">2</td> </tr> <tr> <td style="text-align: center;">GW</td> <td style="text-align: center;">3</td> </tr> <tr> <td style="text-align: center;">GW</td> <td style="text-align: center;">2</td> </tr> </table>		Matrix	Total # of Containers	GW	2	GW	2	GW	3	GW	2	Address 2:			
Matrix	Total # of Containers																
GW	2																
GW	2																
GW	3																
GW	2																
If Rush, Report Due Date:		E-mail Address:		Invoice To:													
Sampled By (Print): <u>Ashley R. [Signature]</u>		Company:		Address 1:													
Sample Description		Collection Date Time		Address 2:													
				Comments													
SB-100-18-22-092018		9/20/18 1435		Lab ID: <u>-01</u> Lab Receipt Time: <u>15:55</u>													
SB-100-13-17-092018		1450		Lab ID: <u>-02</u> Lab Receipt Time: <u>↓</u>													
SB-100-8-12-092018		1520		ms/msd Lab ID: <u>-03</u> Lab Receipt Time: <u>↓</u>													
DUP-07-092018		- -		Lab ID: <u>-04</u> Lab Receipt Time: <u>↓</u>													
<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Preservation Codes</th> </tr> <tr> <td>A=None B=HCL C=H₂SO₄</td> <td></td> </tr> <tr> <td>D=HNO₃ E=EnCore F=Methanol</td> <td></td> </tr> <tr> <td>G=NaOH O=Other (Indicate)</td> <td></td> </tr> <tr> <th colspan="2">Matrix Codes</th> </tr> <tr> <td>A=Air S=Soil W=Water O=Other</td> <td></td> </tr> </table>		Preservation Codes		A=None B=HCL C=H ₂ SO ₄		D=HNO ₃ E=EnCore F=Methanol		G=NaOH O=Other (Indicate)		Matrix Codes		A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <u>Ashley R. [Signature]</u> Date: <u>9/20/18</u> Time: <u>1555</u> Relinquished By: _____ Date: _____ Time: _____		Received By: <u>[Signature]</u> Date: <u>9/20/18</u> Time: <u>15:55</u> Received By: _____ Date: _____ Time: _____	
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Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>													
		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N													

list 9/25/18



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CHAIN OF CUSTODY

No. 09945

Page: 1 of 1

Project Number: M1001454.0002 00014 PO Number:				Lab Work Order #: V183808				Report To: email list																																																																																																															
Project Name: FORD LTD				Preservation Codes				Company: ARCADIS																																																																																																															
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:																																																																																																															
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table style="border: none;"> <tr><td style="border: none;">Matrix</td></tr> <tr><td style="border: none;">Total # of Containers</td></tr> <tr><td style="border: none; font-size: 2em;">VOCs</td></tr> </table>				Matrix	Total # of Containers	VOCs	Address 2:																																																																																																												
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SB-100-3-4-092018		1450	S	2	1							-02																																																																																																											
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CHAIN OF CUSTODY

No. 09979

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Project Number: M100154-0002-0001A- PO Number:				Lab Work Order #: V183902				Report To: Emailist									
Project Name: FORDLTP				Preservation Codes				Company: ARODLS									
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VACS				Address 2:									
If Rush, Report Due Date:								E-mail Address:									
Sampled By (Print): Ashley Reibel								Invoice To:									
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID		Lab Receipt Time			
				Date	Time							Time					
SB-101-19-23-092578				9/25/18	0946	GW	2	X			HIGHPIDS in Soil Samples	-01	10:55				
SB-101-14-18-092578					1000	GW	2	X				-02					
SB-101-9-13-092578					1020	GW	2	X				-03					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By: <i>Ashley Reibel</i>				Date: 9/25/18		Time: 11:00		Received By: <i>[Signature]</i>		Date: 9/25/18		Time: 11:00	
				Other Comments:				Relinquished By:				Date:		Time:		Received By:	
Custody Seal:				Shipped Via:				Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank:					
<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Walk'n				NA		NA		<input type="checkbox"/> Y <input type="checkbox"/> N					

10/9 9/25/18



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CHAIN OF CUSTODY

No. 9980

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Lab Work Order #: V183902
 Report To:
 Company:

Project Number: M1001454.0002.0001A PO Number:

Preservation Codes

Address 1:

Project Name: FORD LTP

Analyses Requested

Address 2:

Project Location (City, State): LIVONIA, MI

E-mail Address:

Turn Around (check one): Normal Rush

Invoice To:

If Rush, Report Due Date:

Company:

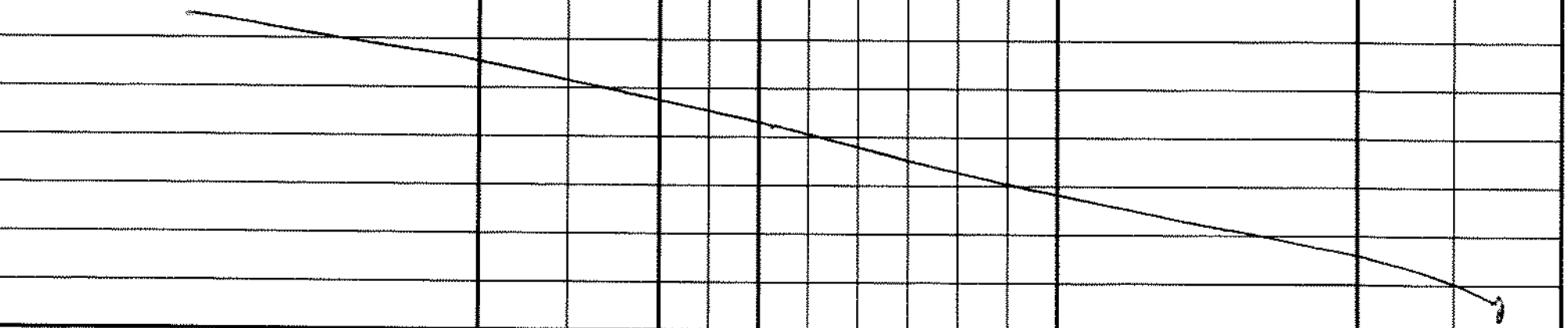
Sampled By (Print): CAITLIN O'NEILL

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers	8260B	8260B-SIM
	Date	Time				
SB-102-9-13-092518	09/25/18	1440	GW	2	X	X
SB-102-14-18-092518	09/25/18	1425	GW	2	X	X
SB-102-18-22-092518	09/25/18	1356	GW	2	X	X

Comments	Lab ID	Lab Receipt Time
	-04	15:14
	-05	
	-06	



Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:
~~XXXXXXXXXXXXXXXXXXXX~~
~~XXXXXXXXXXXXXXXXXXXX~~
~~XXXXXXXXXXXXXXXXXXXX~~
~~XXXXXXXXXXXXXXXXXXXX~~

Relinquished By: Caitlin O'Neill
 Date: 09/25/18 Time: 15:14

Received By: MBA
 Date: 09/25/18 Time: 15:14

Relinquished By:
 Date:
 Time:
 Custody Seal:
 NA Intact Not Intact

Received By:
 Date:
 Time:
 Shipped Via: Walk'n

Receipt Temp: NA
 Thermometer #/ Exp. Date: NA

Temp Blank:
 Y N

✓ ut 9/25/18



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CHAIN OF CUSTODY

No. 09981

Page: 1 of 1

Project Number: M1001454.0002.0001A PO Number:				Lab Work Order #: V183903				Report To:			
Project Name: FORD LTP				Preservation Codes				Company:			
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): CATLIN O'NEILL								Invoice To:			
Sample Description				Collection		Matrix		Company:			
				Date	Time			Address 1:			
						Address 2:					
								Comments			
								Lab ID			
								Lab Receipt Time			
SB-102-1-2 -092518				09/25/18	1210	S	2	X	X	-01	15:14
SB-102-2-3 -092518				09/25/18	1215	S	2	X	X	-02	
SB-102-4-5 -092518				09/25/18	1218	S	2	X	X	-03	
SB-102-6-7 -092518				09/25/18	1224	S	2	X	X	-04	
SB-102-14-15 -092518				09/25/18	1228	S	2	X	X	-05	
SB-102-20-21 -092518				09/25/18	1231	S	2	X	X	-06	
SB-102-25-26 -092518				09/25/18	1233	S	2	X	X	-07	
DUP-08 -092518				09/25/18	—	S	2			-08	15:14
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: <i>Handwritten notes</i>		Relinquished By: Catlin O'Neill Relinquished By:		Date: 09/25/18 Time: 15:14		Received By: <i>[Signature]</i> Received By:		Date: 09/25/18 Time: 15:14	
Matrix Codes A=Air S=Soil W=Water O=Other		<i>Handwritten notes</i>		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walkin		Receipt Temp: NA		Thermometer #/ Exp. Date: NA	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			

Handwritten: ✓ cat 9/25/18



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CHAIN OF CUSTODY

No. 09947

Page: 1 of 2

Project Number: M1 000454 0002 0001A		PO Number:		Lab Work Order #: V183904		Report To: EMAIL LIST									
Project Name: FORD LTP		Preservation Codes		Company: ARRADIS		Address 1:									
Project Location (City, State): LIVONIA, MI		Analyses Requested		Address 2:		E-mail Address:									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix	Total # of Containers												
If Rush, Report Due Date:															
Sampled By (Print): ASHLEY REIBEL						Invoice To:									
						Company:									
						Address 1:									
						Address 2:									
Sample Description	Collection		Matrix	Total # of Containers				Comments	Lab ID	Lab Receipt Time					
	Date	Time													
SB-103-17-21-092618	9/26/18	1125	GW	2	X				-01	12:20					
SB-103-10-14-092618	I	1140	GW	2	X				-02	I					
/															
Preservation Codes		Other Comments:		Relinquished By: <i>Ashley Reibel</i>		Date: 9/26/18		Time: 12:30		Received By: <i>Jeff Foster</i>		Date: 9/26/18		Time: 12:20	
A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
Matrix Codes		Custody Seal:		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank:					
A=Air S=Soil W=Water O=Other		<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		NA/K/L		NA		NA		<input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

No. 09949

Page: 2 of 2

Lab Work Order #: V183904		Report To: <i>email list</i>	
Preservation Codes		Company: <i>ARCADIS</i>	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
		Invoice To:	
		Company:	
		Address 1:	
		Address 2:	
		Comments	Lab ID
			Lab Receipt Time

Project Number: *M1001454-0002-0001A* PO Number:

Project Name: *FORD CTP*

Project Location (City, State): *LIVONIA, MI*

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): *Ashley Reibel*

Sample Description	Collection		Matrix	Total # of Containers	VCCS
	Date	Time			
<i>DUP-09-092618</i>	<i>9/26/18</i>	<i>-</i>	<i>GW</i>	<i>2</i>	<i>X</i>
<i>SB-104-17-21-092618</i>	<i>L</i>	<i>1610</i>	<i>GW</i>	<i>2</i>	<i>X</i>
<i>SB-104-10-14-092618</i>	<i>L</i>	<i>1625</i>	<i>GW</i>	<i>2</i>	<i>X</i>

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Ashley Reibel* Date: *9/26/18* Time: *16:43*

Relinquished By: _____ Date: _____ Time: _____

Received By: *JJ KSTW* Date: *9/26/18* Time: *16:43*

Received By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Shipped Via: *Next Business Day*

Receipt Temp: *NA*

Thermometer #/ Exp. Date: *NA*

Temp Blank: Y N



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CHAIN OF CUSTODY

No. 9946

Page: 1 of 2

Project Number: M10001454.0002.CC01A		Project Name: FORD LTP		Project Location (City, State): LIVONIA, MI		Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		If Rush, Report Due Date:		Sampled By (Print): ASHLEY REIBEL	
Lab Work Order #: V183905		Report To: email list		Company: ALCADIS		Address 1:		Address 2:		E-mail Address:	
Preservation Codes		Analyses Requested		Invoice To:		Company:		Address 1:		Address 2:	
Sample Description		Collection		Matrix		Total # of Containers		Comments		Lab ID	
		Date Time								Lab Receipt Time	
SB-103-1-2-092618		9/26/18 0915		S		2		X		-01 12:20	
SB-103-3-4-092618		0920		S		2		X		-02	
SB-103-5-6-092618 AN		0925		S		2		X		-03	
SB-103-7-8-092618		0930		S		2		X		-04	
SB-103-9-10-092618		0935		S		2		X		-05	
SB-103-18-19-092618		1035		S		2		X		-06	
SB-103-21-22-092618		1020		S		2		X		-07	
SB-103-25-26-092618		1025		S		2		X		-08	
SB-103-27-28-092618		1030		S		2		X		-09	
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>Ashley Reibel</i> Date: 9/24/18		Relinquished By: Date:		Received By: <i>[Signature]</i> Date: 9/26/18		Received By: Date:	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walkin		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 9948

Page: 2 of 2

Lab Work Order #: V183905		Report To: EMALIST	
Preservation Codes		Company: ARADIS	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
		Invoice To:	
		Company:	
		Address 1:	
		Address 2:	
		Comments	Lab ID
			Lab Receipt Time

Project Number: **M1001454.0002.0001A** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REBEL**

Sample Description	Collection		Matrix	Total # of Containers
	Date	Time		

Sample Description	Date	Time	Matrix	Total # of Containers
SB-104-1-2-092618	9/26/18	1540	S	2
SB-104-3-4-092618		1545	S	2
SB-104-5-6-092618		1550	S	2
SB-104-7-8-092618		1555	S	2
SB-104-9-10-092618		1600	S	2
SB-104-11-17-092618		1605	S	2
SB-104-19-20-092618		1610	S	2
SB-104-23-24-092618		1615	S	2

VOCs

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Ashley Rebel*
 Date: 9/26/18 Time: 16:43

Relinquished By: _____
 Date: _____ Time: _____

Received By: *[Signature]*
 Date: 9/26/18 Time: 16:43

Received By: _____
 Date: _____ Time: _____

Custody Seal: NA Intact Not Intact

Shipped Via: **Mail/3r**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**

Temp Blank: Y N



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CHAIN OF CUSTODY

No. 9960

Page: 2 of: 2

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V183906</u>				Report To:																																																																																																					
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																																																																																																					
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																																																																																																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</th> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td> <td></td> <td><u>82608</u></td> <td><u>82608-SIM</u></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>				Matrix	Total # of Containers											<u>82608</u>	<u>82608-SIM</u>							Address 2:																																																																																	
Matrix	Total # of Containers																																																																																																												
		<u>82608</u>	<u>82608-SIM</u>																																																																																																										
If Rush, Report Due Date:				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Sample Description</th> <th colspan="2">Collection</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</th> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <th></th> <th>Date</th> <th>Time</th> <th></th> <th></th> <th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th> </tr> <tr> <td><u>LIFHP-105_20-24_092718</u></td> <td><u>9/27/18</u></td> <td><u>1825</u></td> <td><u>GW</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td><u>LIFHP-105_15-19_092718</u></td> <td><u>9/27/18</u></td> <td><u>1855</u></td> <td><u>GW</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td><u>LIFHP-105_10-14_092718</u></td> <td><u>9/27/18</u></td> <td><u>1915</u></td> <td><u>GW</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>				Sample Description	Collection		Matrix	Total # of Containers																	Date	Time																		<u>LIFHP-105_20-24_092718</u>	<u>9/27/18</u>	<u>1825</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>														<u>LIFHP-105_15-19_092718</u>	<u>9/27/18</u>	<u>1855</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>														<u>LIFHP-105_10-14_092718</u>	<u>9/27/18</u>	<u>1915</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>														Invoice To:	
Sample Description	Collection		Matrix					Total # of Containers																																																																																																					
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<u>LIFHP-105_15-19_092718</u>	<u>9/27/18</u>	<u>1855</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>																																																																																																							
<u>LIFHP-105_10-14_092718</u>	<u>9/27/18</u>	<u>1915</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>																																																																																																							
Sampled By (Print): <u>CAITLIN O'NEILL</u>				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th colspan="2">Comments</th> <th>Lab ID</th> <th>Lab Receipt Time</th> </tr> <tr> <td colspan="2"></td> <td><u>-04</u></td> <td><u>19:40</u></td> </tr> <tr> <td colspan="2"></td> <td><u>-05</u></td> <td><u>↓</u></td> </tr> <tr> <td colspan="2"></td> <td><u>-06</u></td> <td><u>↓</u></td> </tr> </table>				Comments		Lab ID	Lab Receipt Time			<u>-04</u>	<u>19:40</u>			<u>-05</u>	<u>↓</u>			<u>-06</u>	<u>↓</u>	Company:																																																																																					
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								Relinquished By: <u>Caitlin O'Neill</u>		Date: <u>9/27/18</u>	Time: <u>1930</u>	Date: <u>9/27/18</u>	Time: <u>19:40</u>																																																																																																
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Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Next Day</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>																																																																																																					
						Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																																																							

✓ as of 11/18



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CHAIN OF CUSTODY

No. 9950

Page: 3 of 3

Lab Work Order #: V183907		Report To: EMAILLIST	
Preservation Codes		Company: DECADIS	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Invoice To:		Company:	
Address 1:		Address 2:	
Comments		Lab ID	Lab Receipt Time

Project Number: M1001454 0002 0001A PO Number:																																						
Project Name: FORDUTP																																						
Project Location (City, State): LIVONIA, MI																																						
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush																																						
If Rush, Report Due Date:																																						
Sampled By (Print): ASHLEY REIBEL																																						
Sample Description	<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">VOCs</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>LIFHP-97-1-7-092718</td> <td>9/27/18 1855</td> <td>S</td> <td>2</td> <td>X</td> </tr> <tr> <td>LIFHP-97-2-3-092718</td> <td>1900</td> <td>S</td> <td>2</td> <td>X</td> </tr> <tr> <td>LIFHP-97-5-6-092718</td> <td>1905</td> <td>S</td> <td>2</td> <td>X</td> </tr> <tr> <td>LIFHP-97-8-9-092718</td> <td>1910</td> <td>S</td> <td>2</td> <td>X</td> </tr> <tr> <td>LIFHP-97-10-11-092718</td> <td>1915</td> <td>S</td> <td>2</td> <td>X</td> </tr> <tr> <td>LIFHP-97-20-21-092718</td> <td>1920</td> <td>S</td> <td>2</td> <td>X</td> </tr> </tbody> </table>	Collection		Matrix	Total # of Containers	VOCs	Date	Time	LIFHP-97-1-7-092718	9/27/18 1855	S	2	X	LIFHP-97-2-3-092718	1900	S	2	X	LIFHP-97-5-6-092718	1905	S	2	X	LIFHP-97-8-9-092718	1910	S	2	X	LIFHP-97-10-11-092718	1915	S	2	X	LIFHP-97-20-21-092718	1920	S	2	X
Collection		Matrix	Total # of Containers				VOCs																															
Date	Time																																					
LIFHP-97-1-7-092718	9/27/18 1855	S	2	X																																		
LIFHP-97-2-3-092718	1900	S	2	X																																		
LIFHP-97-5-6-092718	1905	S	2	X																																		
LIFHP-97-8-9-092718	1910	S	2	X																																		
LIFHP-97-10-11-092718	1915	S	2	X																																		
LIFHP-97-20-21-092718	1920	S	2	X																																		

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments:		Relinquished By: ashleyr	Date: 9/27/18	Time: 17:30	Received By: [Signature]	Date: 9/27/18	Time: 17:30
				Relinquished By:	Date:	Time:	Received By:	Date:	Time:
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walkin	Receipt Temp: NA	Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		

Vocs 10/1/18



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CHAIN OF CUSTODY

No. 09965

Page: 1 of:

Project Number: <u>M1001454.0002.0001A</u> PO Number: _____					Lab Work Order #: <u>V183908</u>		Report To: _____		
Project Name: <u>LIVONIA, MI FORD LTP</u>					Preservation Codes		Company: _____		
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested		Address 1: _____		
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix	Total # of Containers	Address 2: _____		
If Rush, Report Due Date: _____							8260B	8260B-SIM	E-mail Address: _____
Sampled By (Print): <u>CATHY O'NEILL</u>					Invoice To: _____				
Sample Description					Company: _____			Address 1: _____	
					Address 2: _____			Address 2: _____	
		Collection					Comments	Lab ID	Lab Receipt Time
Date	Time								
<u>LIFHP-106-15-19-092718</u>	<u>9/27/18</u>	<u>23:25</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-01</u>	<u>09:40</u>
<u>LIFHP-106-10-14-092718</u>	<u>9/27/18</u>	<u>23:55</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-02</u>	<u>F</u>
<i>[A large diagonal line is drawn across the table body]</i>									
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Cathy O'Neill</u>		Date: <u>9/28/18</u>		Time: _____	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By: _____		Date: _____		Time: _____	
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Mail/Kit</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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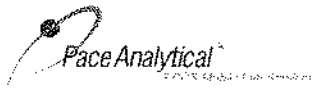
CHAIN OF CUSTODY

No. 9966

Page: 1 of 1

Project Number: M100454.0832.0531A PO Number:				Lab Work Order #: V183909				Report To:				
Project Name: FORD LTP				Preservation Codes				Company:				
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:				
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers 8260B 8260B-SIM				Address 2:				
If Rush, Report Due Date:								E-mail Address:				
Sampled By (Print): CATLIN O'NEILL								Invoice To:				
								Company:				
Sample Description				Collection Date Time				Address 1:				
								Address 2:				
								Comments		Lab ID	Lab Receipt Time	
LIFHP-106-12-092718				9/27/18 2045 S 2 X X						-01	9:40	
LIFHP-106-23-092718				9/27/18 2050 S 2 X X						-02		
LIFHP-106-56-092718				9/27/18 2055 S 2 X X						-03		
LIFHP-106-67-092718				9/27/18 2100 S 2 X X						-04		
LIFHP-106-78-092718				9/27/18 2105 S 2 X X						-05		
LIFHP-106-25-26-092718				9/27/18 2210 S 2 X X				MS/MSD		-06	2	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: Catlin O'Neill		Date: 9/27/18		Time: 9:40
								Relinquished By:		Date:		Time:
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Next		Receipt Temp: NA		Thermometer #/ Exp. Date: NO
										Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		

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CHAIN OF CUSTODY

No. 09969

Page: 1 of 1

Project Number: <u>M1101454 0002 0001A</u> PO Number:		Lab Work Order #: <u>V183912</u>		Report To: <u>emailist</u>																					
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARCADIS</u>																					
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td style="text-align: center;">VOCs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										VOCs									Address 2:	
Matrix	Total # of Containers																								
	VOCs																								
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): <u>ASHLEY REIBEL</u>		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time																	
<u>LIFHP-100-1-2-092818</u>		<u>9/28/18</u>	<u>1125</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-01</u>	<u>14:00</u>																
<u>LIFHP-100-4-5-092818</u>			<u>1130</u>	<u>S</u>	<u>2</u>			<u>-02</u>																	
<u>LIFHP-100-7-8-092818</u>			<u>1135</u>	<u>S</u>	<u>2</u>			<u>-03</u>																	
<u>LIFHP-100-10-11-092818</u>			<u>1140</u>	<u>S</u>	<u>2</u>			<u>-04</u>																	
<u>LIFHP-100-12-13-092818</u>			<u>1210</u> 1145	<u>S</u>	<u>2</u>			<u>-05</u>																	
<u>LIFHP-100-23-24-092818</u>			<u>1240</u>	<u>S</u>	<u>2</u>			<u>-06</u>																	
<u>LIFHP-100-25-26-092818</u>			<u>1245</u>	<u>S</u>	<u>2</u>			<u>-07</u>	<u>2</u>																
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u>		Date: <u>9/28/18</u> Time: <u>14:00</u>		Received By: <u>Jeff</u>		Date: <u>9/28/18</u> Time: <u>14:00</u>															
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date: Time:		Received By:		Date: Time:															
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>															
										Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N															

✓ at 10/1/18



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CHAIN OF CUSTODY

No. 09971

Page: 1 of: 1

Project Number: M1001454.0002.0001A PO Number:				Lab Work Order #: V184001				Report To: EMAIL LIST			
Project Name: FORDLTP				Preservation Codes				Company: ARCADIS			
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOCs				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): ASHLEY REIBA								Invoice To:			
								Company:			
Sample Description				Collection Date Time Matrix Total # of Containers				Address 1:			
								Address 2:			
								Comments		Lab ID	Lab Receipt Time
LIFHP-99-1-2-100118				10/1/18 0936 S 2 X						-01	10:25
LIFHP-99-3-4-100118				0935 S 2 X						-02	
LIFHP-99-6-7-100118				0940 S 2 X						-03	
LIFHP-99-10-11-100118				0945 S 2 X						-04	
LIFHP-99-11-12-100118				0950 S 2 X						-05	
LIFHP-99-19-20-100118				1000 S 2 X						-06	
LIFHP-99-28-29-100118				1015 S 2 X						-07	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <i>Ashley Reiba</i> Relinquished By:				Date: 10/1/18 Time: 10:25 Received By: <i>[Signature]</i>		Date: 10/1/18 Time: 10:25	
								Date: Time: Received By:		Date: Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Walkin</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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CHAIN OF CUSTODY

No. 9962

Page: 2 of:

Project Number: <u>MISD1454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184001</u>				Report To:																																																																																																																																																																																																																																																																																		
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																																																																																																																																																																																																																																																																																		
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																																																																																																																																																																																																																																																																																		
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</th> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td> <td style="text-align: center;">82666</td><td style="text-align: center;">82608-SIM</td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>				Matrix	Total # of Containers											82666	82608-SIM							Address 2:																																																																																																																																																																																																																																																														
Matrix	Total # of Containers																																																																																																																																																																																																																																																																																									
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If Rush, Report Due Date:				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Sample Description</th> <th colspan="2">Collection</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</th> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><th>Date</th><th>Time</th><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td><u>LIFHP-103-12-100118</u></td><td><u>10/01/18</u></td><td><u>1110</u></td><td><u>S</u></td><td><u>2</u></td><td><u>X</u></td><td><u>X</u></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td><u>LIFHP-103-3-4-100118</u></td><td><u>10/01/18</u></td><td><u>1115</u></td><td><u>S</u></td><td><u>2</u></td><td><u>X</u></td><td><u>X</u></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td><u>LIFHP-103-6-7-100118</u></td><td><u>10/01/18</u></td><td><u>1120</u></td><td><u>S</u></td><td><u>2</u></td><td><u>X</u></td><td><u>X</u></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td><u>LIFHP-103-7-8-100118</u></td><td><u>10/01/18</u></td><td><u>1125</u></td><td><u>S</u></td><td><u>2</u></td><td><u>X</u></td><td><u>X</u></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td><u>LIFHP-103-9-10-100118</u></td><td><u>10/01/18</u></td><td><u>1130</u></td><td><u>S</u></td><td><u>2</u></td><td><u>X</u></td><td><u>X</u></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td><u>LIFHP-103-25-26-100118</u></td><td><u>10/01/18</u></td><td><u>1250</u></td><td><u>S</u></td><td><u>2</u></td><td><u>X</u></td><td><u>X</u></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td colspan="20" style="text-align: center;">←</td> </tr> <tr> <td colspan="20" style="text-align: center;">↓</td> </tr> <tr> <td colspan="4"><u>DUP-13-100118</u></td> <td colspan="4"></td> <td colspan="4"></td> <td colspan="4"></td> <td colspan="4"></td> </tr> <tr> <td colspan="4" rowspan="2"> Preservation Codes A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other </td> <td colspan="4" rowspan="2"> Other Comments: Relinquished By: <u>Cathin O'Neill</u> Relinquished By: </td> <td colspan="2">Date: <u>10/01/18</u></td> <td colspan="2">Time:</td> <td colspan="2">Received By: <u>[Signature]</u></td> <td colspan="2">Date: <u>10/01/18</u></td> <td colspan="2">Time:</td> </tr> <tr> <td colspan="2">Date:</td> <td colspan="2">Time:</td> <td colspan="2">Received By:</td> <td colspan="2">Date:</td> <td colspan="2">Time:</td> </tr> <tr> <td colspan="4">Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact</td> <td colspan="4">Shipped Via: <u>Mail/Kit</u></td> <td colspan="4">Receipt Temp: <u>NA</u></td> <td colspan="4">Thermometer #/ Exp. Date: <u>NA</u></td> <td colspan="4">Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N</td> </tr> </table>				Sample Description	Collection		Matrix	Total # of Containers																	Date	Time																			<u>LIFHP-103-12-100118</u>	<u>10/01/18</u>	<u>1110</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>															<u>LIFHP-103-3-4-100118</u>	<u>10/01/18</u>	<u>1115</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>															<u>LIFHP-103-6-7-100118</u>	<u>10/01/18</u>	<u>1120</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>															<u>LIFHP-103-7-8-100118</u>	<u>10/01/18</u>	<u>1125</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>															<u>LIFHP-103-9-10-100118</u>	<u>10/01/18</u>	<u>1130</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>															<u>LIFHP-103-25-26-100118</u>	<u>10/01/18</u>	<u>1250</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>															←																				↓																				<u>DUP-13-100118</u>																				Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <u>Cathin O'Neill</u> Relinquished By:				Date: <u>10/01/18</u>		Time:		Received By: <u>[Signature]</u>		Date: <u>10/01/18</u>		Time:		Date:		Time:		Received By:		Date:		Time:		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Mail/Kit</u>				Receipt Temp: <u>NA</u>				Thermometer #/ Exp. Date: <u>NA</u>				Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			
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<u>LIFHP-103-7-8-100118</u>	<u>10/01/18</u>	<u>1125</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>																																																																																																																																																																																																																																																																																				
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<u>LIFHP-103-25-26-100118</u>	<u>10/01/18</u>	<u>1250</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>																																																																																																																																																																																																																																																																																				
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Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <u>Cathin O'Neill</u> Relinquished By:				Date: <u>10/01/18</u>		Time:		Received By: <u>[Signature]</u>		Date: <u>10/01/18</u>		Time:																																																																																																																																																																																																																																																																										
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Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Mail/Kit</u>				Receipt Temp: <u>NA</u>				Thermometer #/ Exp. Date: <u>NA</u>				Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																																																																																																																																																																																																																										

Rev. 12/15

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CHAIN OF CUSTODY

No. 09973

Page: 3 of 1

Lab Work Order #: **V184001**
 Report To: **EMAIL LIST**
 Company: **ARCADIS**

Project Number: **M100154.0002.0001A** PO Number:

Project Name: **FORDUP**

Project Location (City, State): **LIVONIA MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REIBEL**

Sample Description	Collection		Matrix	Total # of Containers
	Date	Time		

LIFHP-98-1-2-100118	10/1/18	1450	S	2	X
LIFHP-98-5-6-100118		1455	S	2	X
LIFHP-98-7-8-100118		1500	S	2	X
LIFHP-98-9-10-100118		1505	S	2	X
LIFHP-98-11-12-100118		1510	S	2	X
LIFHP-98-19-20-100118		1515	S	2	X
LIFHP-98-23.5-24.5-100118		1520	S	2	X
LIFHP-98-26-27-100118		1525	S	2	X

Preservation Codes

Analyses Requested

Address 1:

Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Comments	Lab ID	Lab Receipt Time
----------	--------	------------------

MS/MSD	-15	16:37
	-16	
	-17	
	-18	
	-19	
	-20	
	-21	
	-22	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Ashley Reibel*
 Date: **10/1/18**

Time: **16:37**

Received By: *[Signature]*
 Date: **10/1/18**

Time: **16:37**

Relinquished By:

Date:

Received By:

Date:

Custody Seal:
 NA Intact Not Intact

Shipped Via: **Walkin**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**
 Temp Blank: Y N

✓ at 6/2/18



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CHAIN OF CUSTODY

No. 09963

Page: 4 of 4

Project Number: <u>M1081454-002-0501A</u> PO Number:					Lab Work Order #: <u>V184001</u>					Report To:																																																																																																																																				
Project Name: <u>FORD LTP</u>					Preservation Codes					Company:																																																																																																																																				
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested					Address 1:																																																																																																																																				
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Sampled By (Print): <u>CAITLIN O'NEILL</u>					<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">82608</th> <th rowspan="2">82608-SIM</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td><u>LIFHP-102-1-2-100118</u></td> <td><u>10/01/18</u></td> <td><u>1655</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-23</u></td> <td><u>17:38</u></td> </tr> <tr> <td><u>LIFHP-102-3-4-100118</u></td> <td><u>10/01/18</u></td> <td><u>1700</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-24</u></td> <td></td> </tr> <tr> <td><u>LIFHP-102-4-5-100118</u></td> <td><u>10/01/18</u></td> <td><u>1705</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-25</u></td> <td></td> </tr> <tr> <td><u>LIFHP-102-6-7-100118</u></td> <td><u>10/01/18</u></td> <td><u>1708</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-26</u></td> <td></td> </tr> <tr> <td><u>LIFHP-102-7-8-100118</u></td> <td><u>10/01/18</u></td> <td><u>1710</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-27</u></td> <td></td> </tr> <tr> <td><u>LIFHP-102-15-16-100118</u></td> <td><u>10/01/18</u></td> <td><u>1715</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-28</u></td> <td></td> </tr> <tr> <td><u>LIFHP-102-22-23-100118</u></td> <td><u>10/01/18</u></td> <td><u>1720</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-29</u></td> <td></td> </tr> </tbody> </table>					Sample Description	Collection		Matrix	Total # of Containers	82608	82608-SIM							Comments	Lab ID	Lab Receipt Time	Date	Time	<u>LIFHP-102-1-2-100118</u>	<u>10/01/18</u>	<u>1655</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-23</u>	<u>17:38</u>	<u>LIFHP-102-3-4-100118</u>	<u>10/01/18</u>	<u>1700</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-24</u>		<u>LIFHP-102-4-5-100118</u>	<u>10/01/18</u>	<u>1705</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-25</u>		<u>LIFHP-102-6-7-100118</u>	<u>10/01/18</u>	<u>1708</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-26</u>		<u>LIFHP-102-7-8-100118</u>	<u>10/01/18</u>	<u>1710</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-27</u>		<u>LIFHP-102-15-16-100118</u>	<u>10/01/18</u>	<u>1715</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-28</u>		<u>LIFHP-102-22-23-100118</u>	<u>10/01/18</u>	<u>1720</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>								<u>-29</u>		Invoice To:		
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Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments:	Relinquished By: <u>Caitlin O'Neill</u>	Date: <u>10/01/18</u>	Time: <u>17:38</u>	Received By: <u>[Signature]</u>	Date: <u>10/1/18</u>	Time: <u>17:38</u>
			Relinquished By:	Date:	Time:	Received By:	Date:	Time:
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: <u>Walkin</u>	Receipt Temp: <u>NA</u>	Thermometer #/ Exp. Date: <u>NA</u>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		

Rev. 12/15

at 10/2/15



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CHAIN OF CUSTODY

No. 9970

Page: 1 of 1

Project Number: <u>M1001454.0002.0001A</u> PO Number:		Lab Work Order #: <u>184002</u>		Report To: <u>EMAIL LIST</u>																							
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARCADIS</u>																							
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">Matrix</td> <td style="width:5%;">Total # of Containers</td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td></td> <td style="text-align:center; vertical-align:middle;"><u>VCS</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers											<u>VCS</u>										Address 2:	
Matrix	Total # of Containers																										
	<u>VCS</u>																										
If Rush, Report Due Date:				E-mail Address:		Invoice To:																					
Sampled By (Print): <u>ASHLEY REIBEL</u>		Company:		Address 1:																							
Sample Description		Collection		Address 2:																							
		Date	Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time																			
<u>LIFHP-99-25-29-100118</u>		<u>10/1/18</u>	<u>1045</u>	<u>GW</u>	<u>2</u>	<u>X</u>		<u>-01</u>	<u>11:39</u>																		
<u>LIFHP-99-20-24-100118</u>		<u>L</u>	<u>1110</u>	<u>GW</u>	<u>2</u>	<u>X</u>		<u>-02</u>	<u>L</u>																		
<u>LIFHP-99-15-19-100118</u>		<u>L</u>	<u>1125</u>	<u>GW</u>	<u>2</u>	<u>X</u>		<u>-03</u>	<u>L</u>																		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/1/18</u> Time: <u>11:39</u>		Received By: <u>[Signature]</u>		Date: <u>10/1/18</u> Time: <u>11:39</u>																	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																	

✓ 10/1/18



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CHAIN OF CUSTODY

No. 9974

Page: 3 of 3

Lab Work Order #: V184002		Report To: EMAIL LIST	
Preservation Codes		Company: AMDIS	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Invoice To:			
Company:			
Address 1:			
Address 2:			

Sample Description	Collection		Matrix	Total # of Containers	VOCs	Comments	Lab ID	Lab Receipt Time
	Date	Time						
LIFHP-98-25-29-100118	10/1/18	1545	GW	2	X		-07	16:37
LIFHP-98-20-24-100118	↓	1610	GW	2	X		-08	↓
LIFHP-98-15-19-100118	↓	1630	GW	2	X		-09	↓

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:	Relinquished By: <i>Ashley Reibel</i>	Date: 10/1/18	Time: 16:37	Received By: <i>Jeff B...</i>	Date: 10/1/18	Time: 16:37
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Matrix Codes A=Air S=Soil W=Water O=Other	Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: <i>Next Kin</i>	Receipt Temp: <i>NA</i>	Thermometer #/ Exp. Date: <i>NA</i>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		

✓ U2 10/2/15



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CHAIN OF CUSTODY

No. 9964

Page: 1 of 1

Project Number: <u>W1601454.0502.0001A</u> PO Number:				Lab Work Order #: <u>V184003</u>				Report To:																																																																														
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																																																																														
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																																																																														
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<u>LIFHP-102-15-19-100118</u>	<u>10/19/18</u>	<u>1800</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>																																																																																
<u>LIFHP-102-20-24-100118</u>	<u>10/24/18</u>	<u>1735</u>	<u>GW</u>	<u>2</u>	<u>X</u>	<u>X</u>																																																																																
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CHAIN OF CUSTODY

No. 9988

Page: 1 of 2

Project Number: <u>M1001454 0002 0001A</u> PO Number:		Lab Work Order #: <u>V184004</u>		Report To: <u>EMAIL LIST</u>					
Project Name: <u>FORD ITP</u>		Preservation Codes		Company: <u>ARCADIS</u>					
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:					
If Rush, Report Due Date:				E-mail Address:					
Sampled By (Print): <u>Ashley Reibel</u>				Invoice To:					
				Company:					
				Address 1:					
				Address 2:					
Sample Description		Collection Date	Collection Time	Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time	
LIFHP-101-11-15-100218	10/2/18	1045	GW	2	X		-01	11:15	
DUP-13-100218	10/2/18	-	GW	2	X		-02	1	

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:		Relinquished By: <u>Ashley Reibel</u> Relinquished By:	Date: <u>10/2/18</u> Date:	Time: <u>11:15</u> Time:	Received By: <u>[Signature]</u> Received By:	Date: <u>10/2/18</u> Date:	Time: <u>11:15</u> Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>WalkIn</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

✓ (02) 10/31/18



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CHAIN OF CUSTODY

No. 9990

Page: 2 of 2

Lab Work Order #: V184004				Report To: <i>email list</i>			
Preservation Codes				Company: <i>Aradis</i>			
Analyses Requested				Address 1:			
				Address 2:			
				E-mail Address:			
Invoice To:							
Company:							
Address 1:							
Address 2:							
						Lab ID	Lab Receipt Time
Comments							

Sample Description	Collection		Matrix	Total # of Containers															
	Date	Time																	
SB-106-25-29-100218	10/2/18	1550	GW	2	X													-03	16:35
SB-106-20-24-100218		1610	GW	2	X													-04	↓
SB-106-15-19-100218		1630	GW	2	X													-05	↓

Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments:		Relinquished By: <i>[Signature]</i>	Date: 10/2/18	Time: 16:35	Received By: <i>[Signature]</i>	Date: 10/2/18	Time: 16:35
				Relinquished By:	Date:	Time:	Received By:	Date:	Time:
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: <i>Walkin</i>	Receipt Temp: <i>NA</i>	Thermometer #/ Exp. Date: <i>NA</i>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			

✓ 10/3/18



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CHAIN OF CUSTODY

No. 09987

Page: 1 of 1

Project Number: M1001454.0002 0001 APO Number:		Lab Work Order #: V184005		Report To: EMAIL LIST																					
Project Name: FORD LTP		Preservation Codes		Company: ARCADIS																					
Project Location (City, State): WYLVONIA, MI		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:10%;">Matrix</th> <th style="width:10%;">Total # of Containers</th> <th style="width:10%;"></th> <th style="width:10%;"></th> <th style="width:10%;"></th> <th style="width:10%;"></th> <th style="width:10%;"></th> <th style="width:10%;"></th> <th style="width:10%;"></th> <th style="width:10%;"></th> </tr> <tr> <td></td> <td style="text-align:center; vertical-align:middle;">VOCs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										VOCs									Address 2:	
Matrix	Total # of Containers																								
	VOCs																								
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): Ashley Reibel				Company:		Address 1:																			
		Address 2:																							
Sample Description	Collection		Matrix	Total # of Containers							Comments	Lab ID	Lab Receipt Time												
	Date	Time																							
LIFHP-101-1-2-100218	10/2/18	1020	S	2	X						ARCADIS 10/2/18	-01	11:15												
LIFHP-101-2-3-100218		1025	S	2	X							-02													
LIFHP-101-3-4-100218		1030	S	2	X							-03													
LIFHP-101-4-5-100218		1035	S	2	X							-04													
LIFHP-101-5-6-100218		1040	S	2	X							-05													
<div style="border: 1px solid black; width: 100%; height: 100%; transform: rotate(-15deg); opacity: 0.5;"></div>																									
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>Ashley Reibel</i> Date: 10/2/18 Time: 11:15		Received By: <i>[Signature]</i> Date: 10/2/18 Time: 11:15																			
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date: Time:		Received By:		Date: Time:															
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>nextkin</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N															

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CHAIN OF CUSTODY

No. 09989

Page:

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Project Number: M1001454.0002.0001A PO Number:		Lab Work Order #: V184005		Report To: EMAIL LIST				
Project Name: FORDLTP		Preservation Codes		Company: ARCADIS				
Project Location (City, State): LIVONIA, MI		Analyses Requested		Address 1:				
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:				
If Rush, Report Due Date:				E-mail Address:				
Sampled By (Print): ASHLEY REBEL				Invoice To:				
Sample Description		Collection		Company:				
		Date	Time	Matrix	Total # of Containers	Address 1:		
						Address 2:		
SB-106-1-2-100218		10/2/18	1420	S	2	MS/MSD	Lab ID: -06	Lab Receipt Time: 16:35
SB-106-3-4-100218			1425	S	2		-07	
SB-106-6-7-100218			1430	S	2		-08	
SB-106-10-11-100218			1435	S	2		-09	
SB-106-11-12-100218			1440	S	2		-10	
SB-106-19-20-100218			1535	S	2		-11	
SB-106-26-27-100218			1530	S	2		-12	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <i>[Signature]</i> Relinquished By:		Date: 10/2/18 Time: 16:35	Received By: <i>[Signature]</i> Received By:	Date: 10/2/18 Time: 16:35	Date: Time:	
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>Mail</i>	Receipt Temp: <i>NA</i>	Thermometer #/ Exp. Date: <i>NA</i>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

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CHAIN OF CUSTODY

No. 09887

Page: 1 of 1

Lab Work Order #: **V184006**

Report To: **Kns Hinskey @ Arcadis / Ian Drost**

Company: **ARCADIS**

Address 1: **28550 Cabot Dr Suite 500 Novi MI**

Address 2:

E-mail Address: **ian.drost@arcadis.com
Kns.Hinskey@arcadis.com**

Invoice To:

Company:

Address 1:

Address 2:

Project Number: **M1001454.0002** PO Number:

Preservation Codes

Project Name: **Ford LTP**

Analyses Requested

Project Location (City, State): **Livonia, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print):

Sample Description	Collection		Matrix	Total # of Containers	VOCs	Method 8260B	1,4-dioxane method	8260B-SIM							Comments	Lab ID	Lab Receipt Time
	Date	Time															
SB-107-1-2-100318	10/3/18	1125	S	2	X	X										-01	13:20
SB-107-5-6-100318		1130	S	2	X	X										-02	
SB-107-7-8-100318		1135	S	2	X	X										-03	
SB-107-9-10-100318		1140	S	2	X	X										-04	
SB-107-11-12-100318		1145	S	2	X	X										-05	
SB-107-19-20-100318		1200	S	2	X	X										-06	

Preservation Codes

A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes

A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Ashley*

Date: 10/3/18

Time: 13:20

Received By: *[Signature]*

Date: 10/3/18

Time: 13:20

Relinquished By:

Date:

Time:

Received By:

Date:

Time:

Custody Seal:

NA Intact Not Intact

Shipped Via: *Walkin*

Receipt Temp: *NA*

Thermometer #/ Exp. Date: *NA*

Temp Blank:

Y N

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1 Oct 10/11/18



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CHAIN OF CUSTODY

No. 09991

Page: 1 of 1

Lab Work Order #: V184007		Report To: EMANUELO	
Preservation Codes		Company: ARCADIS	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Invoice To:			
Company:			
Address 1:			
Address 2:			
		Comments	Lab ID
			Lab Receipt Time

Project Number: M1001454.0002.0001 APO Number:	
Project Name: FORDLTP	
Project Location (City, State): MIAMI	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush	
If Rush, Report Due Date:	
Sampled By (Print): ASHLEY REBEL	
Sample Description	Collection Date Time Matrix Total # of Containers
SB-107-25-29-100318	10/3/18 1520 GW 2 X
SB-107-20-24-100318	1550 GW 2 X
SB-107-15-19-100318	1610 GW 2 X

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: **Ashley Rebel**
 Date: **10/3/18** Time: **16:22**

Relinquished By:

Custody Seal:
 NA Intact Not Intact

Received By: **Jeff Fort**
 Date: **10/3/18** Time: **16:22**

Received By:

Shipped Via: **Walkin** Receipt Temp: **NA** Thermometer #/ Exp. Date: **NA** Temp Blank: Y N

✓ 10/11/18



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CHAIN OF CUSTODY

No. 9992

Page: 1 of: 1

Project Number: <u>M100454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184008</u>				Report To:							
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:							
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VACS</u>				Address 2:							
If Rush, Report Due Date:								E-mail Address:							
Sampled By (Print): <u>ASHLEY REBEL</u>								Invoice To:							
								Company:							
Sample Description				Collection		Address 1:		Address 2:							
				Date	Time	Matrix	Total # of Containers	Comments		Lab ID	Lab Receipt Time				
<u>SB-108-1-2-100418</u>				<u>10/1/18</u>	<u>11:40</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-01</u>	<u>13:05</u>					
<u>SB-108-5-6-100418</u>					<u>11:45</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-02</u>						
<u>SB-108-7-8-100418</u>					<u>11:50</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-03</u>						
<u>SB-108-9-10-100418</u>					<u>11:55</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-04</u>						
<u>SB-108-11-12-100418</u>					<u>12:00</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-05</u>						
<u>SB-108-19-20-100418</u>					<u>12:05</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-06</u>						
<u>SB-108-23.5-24.5-100418</u>					<u>12:30</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-07</u>						
<u>SB-108-25-26-100418</u>					<u>12:40</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-08</u>	<u>MS/MSD</u>					
<u>SB-108-28-29-100418</u>					<u>12:45</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-09</u>						
<u>DUP-14-100418</u>				<u>10/4/18</u>	<u>-</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-10</u>						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Rebel</u> Relinquished By:		Date: <u>10/4/18</u> Date:		Time: <u>13:05</u> Time:		Received By: <u>[Signature]</u> Received By:		Date: <u>10/4/18</u> Date:		Time: <u>13:05</u> Time:	
Matrix Codes A=Air S=Soil W=Water O=Other		<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>W/k/n</u>		Receipt Temp: <u>N/A</u>		Thermometer #/ Exp. Date: <u>N/A</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					

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CHAIN OF CUSTODY

No. 09993

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Project Number: <u>MIDD1454 0002 000A</u> PO Number:				Lab Work Order #: <u>V184009</u>				Report To: <u>email/Lst</u>											
Project Name: <u>FORDLTP</u>				Preservation Codes				Company: <u>ARCADIS</u>											
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs</u>				Address 2:											
If Rush, Report Due Date:								E-mail Address:											
Sampled By (Print): <u>Ashley Ritt</u>								Invoice To:											
								Company:											
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID	Lab Receipt Time						
				Date	Time							Lab ID	Lab Receipt Time						
<u>SB-108-25-29-100418</u>				<u>10/4/18</u>	<u>1350</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-01</u>	<u>14:30</u>							
<u>SB-108-20-24-100418</u>				<u>1</u>	<u>1410</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-02</u>	<u>1</u>							
<u>SB-108-15-19-100418</u>				<u>1</u>	<u>1420</u>	<u>GW</u>	<u>3</u>	<u>X</u>	<u>ms/msd</u>		<u>-03</u>	<u>1</u>							
<div style="border: 1px solid black; width: 100%; height: 100%; transform: rotate(-45deg); opacity: 0.5;"></div>																			
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments:				Relinquished By: <u>Ashley Ritt</u>		Date: <u>10/4/18</u>		Time:		Received By: <u>[Signature]</u>		Date: <u>10/4/18</u>		Time: <u>14:30</u>	
								Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>mail</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N							

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VOCs 10/5/18



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CHAIN OF CUSTODY

No. 10001

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Project Number: <u>M1001454 0002 0001A</u> PO Number:		Lab Work Order #: <u>V184010</u>		Report To: <u>EMAIL LIST</u>																					
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARCADIS</u>																					
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50px;">Matrix</td> <td style="width:50px;">Total # of Containers</td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> </tr> <tr> <td></td> <td style="text-align:center;"><u>VACS</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										<u>VACS</u>									Address 2:	
Matrix	Total # of Containers																								
	<u>VACS</u>																								
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): <u>ASHLEY REIBEL</u>		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Comments	Lab ID	Lab Receipt Time																			
<u>SB-109-1-2-100518</u>		<u>10/5/18</u>	<u>0835</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-01</u>	<u>9:19</u>														
<u>SB-109-5-6-100518</u>			<u>0840</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-02</u>															
<u>SB-109-7-8-100518</u>			<u>0845</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-03</u>															
<u>SB-109-9-10-100518</u>			<u>0850</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-04</u>															
<u>SB-109-11-12-100518</u>			<u>0855</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-05</u>															
<u>SB-109-19-20-100518</u>			<u>0900</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-06</u>															
<u>SB-109-23-24-5-100518</u>			<u>0905</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-07</u>															
<u>SB-109-26-27-100518</u>			<u>0910</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-08</u>															
<u>SB-109-29-30-100518</u>			<u>0915</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-09</u>	<u>✓</u>														
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/5/18</u>		Time: <u>9:19</u>		Received By: <u>[Signature]</u>		Date: <u>10/5/18</u>		Time: <u>9:19</u>											
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:											
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N													

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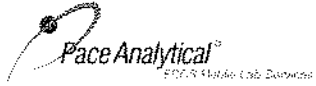
CHAIN OF CUSTODY

No. 10008

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Project Number: <u>MIC01454.0002.0001A</u> PO Number:					Lab Work Order #: <u>V184011</u>					Report To:														
Project Name: <u>FORD LTP</u>					Preservation Codes					Company:														
Project Location (City, State): <u>LIVONIA MI</u>					Analyses Requested					Address 1:														
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:20%;">Matrix</td> <td style="width:20%;">Total # of Containers</td> <td style="width:20%; text-align:center;">✓</td> <td style="width:20%; text-align:center;">✓</td> <td style="width:20%; text-align:center;">✓</td> <td style="width:20%; text-align:center;">✓</td> </tr> <tr> <td></td> <td style="text-align:center;">✓</td> <td style="text-align:center;">✓</td> <td style="text-align:center;">✓</td> <td style="text-align:center;">✓</td> <td style="text-align:center;">✓</td> </tr> </table>					Matrix	Total # of Containers	✓	✓	✓	✓		✓	✓	✓	✓	✓	Address 2:		
Matrix	Total # of Containers	✓	✓	✓						✓														
	✓	✓	✓	✓						✓														
If Rush, Report Due Date:										E-mail Address:														
Sampled By (Print): <u>ASHLEY REIBEL</u>					Invoice To:																			
Sample Description					Collection																			
					Date	Time																		
SB-109-25-29-100518					GW	2	✓				-01	10:15												
SB-109-20-24-100518					GW	2	✓				-02													
SB-109-15-19-100518					GW	2	✓				-03													
DUP 15-100518					GW	2	✓				-04													
<p>Preservation Codes</p> <p>A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</p> <p>Matrix Codes</p> <p>A=Air S=Soil W=Water O=Other</p>					<p>Other Comments:</p>			Relinquished By: <u>Ashley Reibel</u>			Date: <u>10/5/18</u>	Time: <u>10:15</u>	Received By: <u>[Signature]</u>	Date: <u>10/5/18</u>	Time: <u>10:15</u>									
								Relinquished By:			Date:	Time:	Received By:	Date:	Time:									
								Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			Shipped Via: <u>WALKIN</u>		Receipt Temp: <u>NA</u>	Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N								

✓ 10/5/18



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CHAIN OF CUSTODY

No. 9994

Page: 1 of 1

Lab Work Order #: V184101		Report To: JAN DROST	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Invoice To:	
If Rush, Report Due Date:		Company:	
Sampled By (Print): BRUCE EVANS		Address 1:	
		Address 2:	
		Comments	Lab ID
			Lab Receipt Time
Sample Description	Collection Date	Collection Time	Matrix
			Total # of Containers
LIFHP-108(1-2)-100918	10/18/18	12:30	5
LIFHP-108(3-4)-100918	10/18/18	12:35	1
LIFHP-108(5-6)-100918	10/18/18	12:40	1
LIFHP-108(7-8)-100918	10/18/18	12:50	1
LIFHP-108(9-10)-100918	10/18/18	12:55	1
LIFHP-108(26-27)-100918	10/19/18	14:05	1
LIFHP-108(29-30)-100918	10/19/18	14:15	1
Preservation Codes		Other Comments:	
A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Relinquished By: [Signature] Date: 10/18/18 Time: 14:55	
Matrix Codes		Relinquished By: _____ Date: _____ Time: _____	
A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	
		Shipped Via: WALKIN	
		Receipt Temp: NA	
		Thermometer #/ Exp. Date: NA	
		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

✓ us 10/29/18



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CHAIN OF CUSTODY

No. 09995

Page: 1 of 1

Lab Work Order #: 1184102

Report To: IAN DROST

Company:

Project Number: M1001494.0002.0001A

Project Name: Ford LTP

Project Location (City, State): Livonia, MI

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): BRUCE EVANS

Sample Description	Collection		Matrix	Total # of Containers	VOC
	Date	Time			
<u>LIFHP-108-21-25-100818</u>	<u>10/19/18</u>	<u>16:00</u>	<u>W</u>	<u>2</u>	<u>X</u>
<u>LIFHP-108-16-20-100818</u>	<u>10/19/18</u>	<u>16:40</u>	<u>W</u>	<u>2</u>	<u>X</u>
<u>LIFHP-108-10-14-100818</u>	<u>10/19/18</u>	<u>17:09</u>	<u>W</u>	<u>2</u>	<u>X</u>

Preservation Codes

Analyses Requested

Address 1:

Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Date	Time	Matrix	Total # of Containers	VOC	Comments	Lab ID	Lab Receipt Time
<u>LIFHP-108-21-25-100818</u>	<u>10/19/18</u>	<u>16:00</u>	<u>W</u>	<u>2</u>	<u>X</u>		<u>-01</u>	<u>18:22</u>
<u>LIFHP-108-16-20-100818</u>	<u>10/19/18</u>	<u>16:40</u>	<u>W</u>	<u>2</u>	<u>X</u>		<u>-02</u>	<u>↓</u>
<u>LIFHP-108-10-14-100818</u>	<u>10/19/18</u>	<u>17:09</u>	<u>W</u>	<u>2</u>	<u>X</u>		<u>-03</u>	<u>↓</u>

Preservation Codes
 A=None B=HCl C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: [Signature]
 Date: 10/19/18

Time: 18:20

Received By: [Signature]
 Date: 10/18/18

Time: 18:22

Relinquished By:

Date: Time:

Received By: Date: Time:

Date: Time:

Custody Seal:
 NA Intact Not Intact

Shipped Via: NALIN

Receipt Temp: NA

Thermometer #/ Exp. Date: NA
 Temp Blank: Y N

✓ call 10/19/18



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CHAIN OF CUSTODY

No. 10010

Page: 1 of 2

Project Number: MT0014540002.0001A PO Number:		Lab Work Order #: V184103		Report To: TAN DROST																																																																																																																															
Project Name: Ford LTP		Preservation Codes		Company:																																																																																																																															
Project Location (City, State): Livonia, MI		Analyses Requested		Address 1:																																																																																																																															
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50px; text-align:center;">Matrix</td> <td style="width:50px; text-align:center;">Total # of Containers</td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> </tr> <tr> <td></td> <td style="text-align:center;">VOCs</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers								VOCs							Address 2:																																																																																																															
Matrix	Total # of Containers																																																																																																																																		
	VOCs																																																																																																																																		
If Rush, Report Due Date:				E-mail Address:		Invoice To:																																																																																																																													
Sampled By (Print): Bruce Evans (DE)		Company:		Address 1:																																																																																																																															
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>LIFHP-109-23-27-100918</td> <td>10/09/18</td> <td>11:30</td> <td>W</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-01</td> <td>1245</td> </tr> <tr> <td>LIFHP-109-18-22-100918</td> <td>10/9/18</td> <td>12:00</td> <td>W</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-02</td> <td style="text-align:center;">↓</td> </tr> <tr> <td>LIFHP-109-13-17-100918</td> <td>10/9/18</td> <td>12:20</td> <td>W</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-03</td> <td style="text-align:center;">↓</td> </tr> <tr> <td colspan="21" style="text-align:center;"> <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> </tr> </table> </td> </tr> </tbody> </table>		Sample Description	Collection		Matrix	Total # of Containers														Comments	Lab ID	Lab Receipt Time	Date	Time	LIFHP-109-23-27-100918	10/09/18	11:30	W	2	X														-01	1245	LIFHP-109- 18 -22-100918	10/9/18	12:00	W	2	X														-02	↓	LIFHP-109-13-17-100918	10/9/18	12:20	W	2	X														-03	↓	 <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> <td style="width:50px;"></td> </tr> </table> 																																										Address 2:	
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		Date		Time																																																																																																																															
		LIFHP-109-23-27-100918	10/09/18	11:30	W	2	X														-01	1245																																																																																																													
LIFHP-109- 18 -22-100918	10/9/18	12:00	W	2	X														-02	↓																																																																																																															
LIFHP-109-13-17-100918	10/9/18	12:20	W	2	X														-03	↓																																																																																																															
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<p>Preservation Codes A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</p> <p>Matrix Codes A=Air S=Soil W=Water O=Other</p>		<p>Other Comments:</p>		<p>Relinquished By: <i>Bruce Evans</i> Date: 10/9/18 Time: 12:45</p> <p>Received By: <i>Colin Ash</i> Date: 10/9/18 Time: 12:45</p>																																																																																																																															
		<p>Relinquished By: _____ Date: _____ Time: _____</p> <p>Received By: _____ Date: _____ Time: _____</p>		<p>Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact</p> <p>Shipped Via: W/Kin Receipt Temp: NA Thermometer #/ Exp. Date: NA Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N</p>																																																																																																																															

✓ # 10/9/18

Rev. 12/15



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CHAIN OF CUSTODY

No. 09997

Page: 2 of 2

Project Number: MI001454.0002.000A PO Number:		Lab Work Order #: 1184103		Report To: IAN Drost	
Project Name: Ford LTP		Preservation Codes		Company:	
Project Location (City, State): Livonia, MI		Analyses Requested		Address 1:	
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix Total # of Containers VOC		Address 2:	
If Rush, Report Due Date:				E-mail Address:	
Sampled By (Print): BRUCE EVANS				Invoice To:	
				Company:	
				Address 1:	
				Address 2:	
Sample Description		Collection		Comments	
		Date	Time	Lab ID	Receipt Time
LIFHP-111A-20-24-100918	10/9/18	15:10	W 2 X		10/16/18
LIFHP-111A-15-19-100918	10/9/18	15:30	W 2 X		10/16/18
LIFHP-111A-8-12-100918	10/9/18	15:45	W 2 X		10/16/18
<div style="border: 1px solid black; width: 100%; height: 100%; transform: rotate(45deg); opacity: 0.5;"></div>					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>[Signature]</i> Date: 10/9/18 Time: 16:15	
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By:		Received By: <i>[Signature]</i> Date: 10/9/18 Time: 16:15	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: MAIL		Receipt Temp: NA	
		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	

✓ 10/16/18



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CHAIN OF CUSTODY

No. 10009

Page: 1 of 1

Project Number: MI001454.0002.0001A PO Number:
 Project Name: Ford LTP
 Project Location (City, State): Livonia, MI
 Turn Around (check one): Normal Rush

Lab Work Order #: V184104
 Report To: IAN DROST
 Preservation Codes
 Analyses Requested
 Company:
 Address 1:
 Address 2:
 E-mail Address:

If Rush, Report Due Date:
 Sampled By (Print): Bruce Evans (BE)

Sample Description	Collection		Matrix	Total # of Containers
	Date	Time		
LIFHP-109-1-2-100918	10/09/18	10:45	S	1
LIFHP-109-2-3-100918	10/9/18	10:50	S	1
LIFHP-109-3-4-100918		11:00	S	1
LIFHP-109-7-8-100918		11:05	S	1
LIFHP-109-9-10-100918		11:10	S	1
LIFHP-109-21-22-100918	10/9/18	11:15	S	1
Dup-16	10/9/18	-	S	1

Comments	Lab ID	Lab Receipt Time
	-01	12:45
	-02	
	-03	
	-04	
	-05	
	-06	
	-07	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: [Signature] Date: 10/9/18 Time: 12:45
 Relinquished By: _____ Date: _____ Time: _____
 Received By: Coleman Date: 10/9/18 Time: 12:45
 Received By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact
 Shipped Via: Walkin Receipt Temp: NA Thermometer #/ Exp. Date: NA
 Temp Blank: Y N

Rev. 12/15
 ✓ 12/10



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CHAIN OF CUSTODY

No. **9996**

Page: **2** of: **2**

M.I. 001454, 0002, 0001A

Project Number: For LTP PO Number:		Lab Work Order #: V184104		Report To: JM Drost																								
Project Name: For LTP		Preservation Codes		Company:																								
Project Location (City, State): Livonia, MI		Analyses Requested		Address 1:																								
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:																								
If Rush, Report Due Date:				E-mail Address:																								
Sampled By (Print): Bruce Evans				Invoice To:																								
				Company:																								
				Address 1:																								
				Address 2:																								
Sample Description	Collection		Matrix	Total # of Containers	VOCs					Comments	Lab ID	Lab Receipt Time																
	Date	Time																										
LIFHP-111A-1-2-100918	10/9/18	14:30	S	1	X						-08	16:15																
LIFHP-111A-3-4-100918	10/9/18	14:35	S	1	X						-09	↓																
LIFHP-111A-4-5-100918		14:40	S	1	X						-10	↓																
LIFHP-111A-5-6-100918		14:45	S	1	X						-11	↓																
LIFHP-111A-7-8-100918		14:50	S	1	X						-12	↓																
LIFHP-111A-26-27-100918	10/9/18	15:00	S	1	X						-13	↓																
<table border="1"> <tr> <td>Preservation Codes A=None B=HCl C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</td> <td>Other Comments:</td> <td>Relinquished By: <i>[Signature]</i> Date: 10/9/18 Time: 16:15</td> <td>Received By: <i>[Signature]</i> Date: 10/9/18 Time: 16:15</td> </tr> <tr> <td>Matrix Codes A=Air S=Soil W=Water O=Other</td> <td></td> <td>Relinquished By:</td> <td>Received By:</td> </tr> <tr> <td colspan="2">Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact</td> <td>Shipped Via: NA/KM</td> <td>Receipt Temp: NA</td> </tr> <tr> <td colspan="2"></td> <td>Thermometer #/ Exp. Date: NA</td> <td>Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N</td> </tr> </table>													Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:	Relinquished By: <i>[Signature]</i> Date: 10/9/18 Time: 16:15	Received By: <i>[Signature]</i> Date: 10/9/18 Time: 16:15	Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By:	Received By:	Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: NA/KM	Receipt Temp: NA			Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:	Relinquished By: <i>[Signature]</i> Date: 10/9/18 Time: 16:15	Received By: <i>[Signature]</i> Date: 10/9/18 Time: 16:15																									
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By:	Received By:																									
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: NA/KM	Receipt Temp: NA																									
		Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N																									

Rev. 12/15

✓ *[Signature]* 10/10/18



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CHAIN OF CUSTODY

No. 9972

Page: 1 of 1

Project Number: M1001454.0002.0001A PO Number:

Project Name: FORD LTP

Project Location (City, State): LIVONIA, MI

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): CAITLIN O'NEILL

Lab Work Order #: V184105
 Report To:
 Company:

Preservation Codes
 Address 1:

Analyses Requested
 Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers	82608	82608-SIM						Comments	Lab ID	Lab Receipt Time
	Date	Time												
LIFHP-107-1-2-100218	10/02/18	0910	S	2	X	X						HOLD	-01	13:30
LIFHP-107-3-4-100218	10/02/18	0915	S	2	X	X						HOLD	-02	↓
LIFHP-107-5-6-100218	10/02/18	0920	S	2	X	X						HOLD	-03	↓
LIFHP-107-7-8-100218	10/02/18	0925	S	2	X	X						HOLD	-04	↓
LIFHP-107-9-10-100218	10/02/18	0930	S	2	X	X						HOLD	-05	↓
LIFHP-107-21-22-100218	10/02/18	0940	S	2	X	X						HOLD	-06	↓

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: Caitlin O'Neill

Date: 10/02/18 Time: 13:30

Received By: [Signature]

Date: 10/02/18 Time: 13:30

Relinquished By:

Date: Time:

Received By:

Date: Time:

Custody Seal:
 NA Intact Not Intact

Shipped Via: Mail

Receipt Temp: NA

Thermometer #/ Exp. Date: NA
 Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10000

Page: 2 of 2

Lab Work Order #: V184106		Report To:	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Invoice To:		Company:	
Address 1:		Address 2:	
Comments		Lab ID	Lab Receipt Time

Project Number: **MT 001454.0002.0001A** PO Number:

Project Name: **Fox VLP**

Project Location (City, State): **Levada, MF**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **Alice Evans (BE)**

Sample Description

Sample Description	Collection		Matrix	Total # of Containers	VOCs
	Date	Time			
LIFHP-110-22-26-10/10/18	10/10/18	11:00	W	2	X
LIFHP-110-15-19-10/10/18	10/10/18	11:25	W	2	X
LIFHP-110-8-12-10/10/18	10/10/18	11:50	W	2	X
/					

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*
 Relinquished By:

Date: 10/10/18
 Time: 12:15

Received By: *[Signature]*
 Received By:

Date: 10/10/18
 Time: 12:15

Custody Seal:
 NA Intact Not Intact

Shipped Via: **NalKin**

Receipt Temp: **T/A**
 Thermometer #/ Exp. Date: **NA**

Temp Blank:
 Y N



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CHAIN OF CUSTODY

No. 09999

Page: 2 of 2

Project Number: MI00M54.0002.0001A PO Number:				Lab Work Order #: V184106				Report To: Jim Droet					
Project Name: Ford LTP				Preservation Codes				Company:					
Project Location (City, State): Levonig, MI				Analyses Requested				Address 1:					
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOCs				Address 2:					
If Rush, Report Due Date:								E-mail Address:					
Sampled By (Print): Bruce Evans (BE)								Invoice To:					
Sample Description				Collection						Comments			
				Date	Time								
LIFHP-114-18-22-101018				10/10/18	15:00	W	2	X				-04	1615
LIFHP-114-13-17-101018				10/10/18	15:30	W	2	X				-05	↓
LIFHP-114-8-12-101018				10/10/18	15:50	W	2	X				-06	↓
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <i>[Signature]</i> Date: 10/10/18 Time: 16:10 Relinquished By: _____ Date: _____ Time: _____				Received By: <i>[Signature]</i> Date: 10/10/18 Time: 1615					
								Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Walkin	



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CHAIN OF CUSTODY

No. 10002

Page: 1 of 2

Lab Work Order #: V184107				Report To: IAN DROST			
Preservation Codes				Company:			
Analyses Requested				Address 1:			
				Address 2:			
				E-mail Address:			
				Invoice To:			
				Company:			
				Address 1:			
				Address 2:			
Comments		Lab ID	Lab Receipt Time				

Project Number: **MI001454002.0001A** PO Number:

Project Name: **Ford LTP**

Project Location (City, State): **Leumia, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **Bruce Evans (OE)**

Sample Description	Collection		Matrix	Total # of Containers	VOCs
	Date	Time			
LIFHP-110-1-2-10/10/18	10/10/18	10:10	S	1	X
LIFHP-110-3-4-10/10/18	10/10/18	10:15	S	1	X
LIFHP-110-4-5-10/10/18		10:20	S	1	X
LIFHP-110-5-6-10/10/18		10:30	S	1	X
LIFHP-110-6-7-10/10/18		10:35	S	1	X
LIFHP-110-26-27-10/10/18	10/10/18	10:45	S	1	X

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*
 Relinquished By:
 Custody Seal:
 NA Intact Not Intact

Date: **10/10/18** Time: **12:15**
 Date: Time:

Received By: *[Signature]*
 Received By:
 Shipped Via: **W/R** Receipt Temp: **NA** Thermometer #/ Exp. Date: **NA**

Date: **10/10/18** Time: **12:15**
 Date: Time:
 Temp Blank:
 Y N



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CHAIN OF CUSTODY

No. 10012

Page: 2 of 2
 10/12/18

Project Number: MI 001454.0002.0001A PO Number:		Lab Work Order #: V184108		Report To: IAN DROST	
Project Name: Ford LTP		Preservation Codes		Company:	
Project Location (City, State): Livonia, MI		Analyses Requested		Address 1:	
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Address 2:	
If Rush, Report Due Date:				E-mail Address:	
Sampled By (Print): Bruce Evans (BE)				Invoice To:	
				Company:	
				Address 1:	
				Address 2:	

Sample Description	Collection		Matrix	Total # of Containers	VOCs								Comments	Lab ID	Lab Receipt Time
	Date	Time													
LIFHP-116-23-27-10118	10/11/18	11:30	W	2	X									-01	
LIFHP-116-16-20-10118	10/11/18	11:50	W	2	X									-02	
LIFHP-116-11-15-10118	10/11/18	12:10	W	2	X									-03	

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:	Relinquished By: [Signature]	Date: 10/11/18	Time: 12:30	Received By: Colin Hall	Date: 12/11/18	Time: 1250
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: Walk in	Receipt Temp: NA	Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10027

Page: 2 of 2

Lab Work Order #: V184108				Report To: IAN Drost			
Preservation Codes				Company:			
Analyses Requested				Address 1:			
				Address 2:			
				E-mail Address:			
				Invoice To:			
				Company:			
				Address 1:			
				Address 2:			
				Comments		Lab ID	Lab Receipt Time

Project Number: **MI001454-0002-0001A** PO Number:

Project Name: **Ford LTP**

Project Location (City, State): **Livonia, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **Bance Evans (BE)**

Sample Description	Collection		Matrix	Total # of Containers	VOCs
	Date	Time			
LIFHP-113-15-22-101118	10/11/18	16:30	W	2	X
LFFHP-113-13-17-101118	10/11/18	16:55	W	2	X
LIFHP-113-8-12-101118	10/11/18	17:10	W	2	X

Preservation Codes
 A=None B=HCl C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]* Date: **10/11/18** Time: **17:50**

Relinquished By: Date: Time:

Custody Seal: NA Intact Not Intact

Received By: **Colleen Small** Date: **10/11/18** Time: **17:45**

Received By: Date: Time:

Shipped Via: **Walk in** Receipt Temp: **NA** Thermometer #/ Exp. Date: **NA**

Temp Blank: Y N

Rev. 12/15



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CHAIN OF CUSTODY

No. 10011

Page: 1 of 2

Project Number: **MI 001454.0002.800PA** Number: _____
 Project Name: **Ford LTP**
 Project Location (City, State): **Livonia, MI**

Turn Around (check one): Normal Rush
 If Rush, Report Due Date: _____
 Sampled By (Print): **Bruce Evans (BE)**

Sample Description	Collection		Matrix	Total # of Containers	VOCs														
	Date	Time																	
LIFHP-116-1-2-101118	10/11/18	09:20	S	1	X														
LIFHP-116-3-4-101118	10/11/18	09:25	S	1	X														
LIFHP-116-5-6-101118		09:30	S	1	X														
LIFHP-116-7-8-101118		09:35	S	1	X														
LIFHP-116-9-10-101118		09:40	S	1	X														
LIFHP-116-23-24-101118	10/11/18	10:30	S	1	X														

Lab Work Order #: **V184109** Report To: **IAN PROET**
 Preservation Codes: _____ Company: _____
 Analyses Requested: _____ Address 1: _____
 Address 2: _____
 E-mail Address: _____
 Invoice To: _____
 Company: _____
 Address 1: _____
 Address 2: _____

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:	Relinquished By: <i>[Signature]</i> Date: 10/11/18 Time: 12:30	Received By: <i>[Signature]</i> Date: 10/11/18 Time: 1250
		Relinquished By: _____ Date: _____ Time: _____	Received By: _____ Date: _____ Time: _____
Matrix Codes A=Air S=Soil W=Water O=Other	Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: WALK IN	Receipt Temp: NA
		Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N



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CHAIN OF CUSTODY

No. 10026

Page: 2 of: 2

Project Number: MI001454.0002 0001A PO Number: _____

Project Name: Ford LTP

Project Location (City, State): Livonia, MI

Turn Around (check one): Normal Rush

If Rush, Report Due Date: _____

Sampled By (Print): Bruce Evans (BE)

Lab Work Order #: V184109 Report To: IAN Drost

Company: _____ Address 1: _____ Address 2: _____ E-mail Address: _____

Preservation Codes: _____ Analyses Requested: _____

Sample Description	Collection		Matrix	Total # of Containers	VOCs								Comments	Lab ID	Lab Receipt Time
	Date	Time													
LIFHP-113-1-2-10118	10/11/18	14:00	S	1	X									-07	
LIFHP-113-2-3-10118	10/11/18	14:10	S	1	X									-08	
LIFHP-113-3-4-10118		14:20	S	1	X									-09	
LIFHP-113-4-5-10118		14:25	S	1	X									-10	
LIFHP-113-5-6-10118		14:30	S	1	X									-11	
LIFHP-113-21-22-10118		15:55	S	1	X									-12	
LIFHP-113-22-23-10118	10/14/18	16:10	S	1	X									-13	

Preservation Codes: A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)

Matrix Codes: A=Air S=Soil W=Water O=Other

Other Comments: _____

Relinquished By: [Signature] Date: 10/11/18 Time: 1630

Received By: [Signature] Date: 10/11/18 Time: 1630

Custody Seal: NA Intact Not Intact

Shipped Via: Walk in Receipt Temp: NA Thermometer #/ Exp. Date: NA Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10025

Page: 2 of 2

Project Number: MI001494.0002.0001A PO Number:

Project Name: Ford LTP

Project Location (City, State): Livonia, MI

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Bance Evans (BE)

Lab Work Order #: V184110

Report To: IAN Drost

Company: Azeemis

Preservation Codes

Address 1:

Analyses Requested

Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers	VOCs							Comments	Lab ID	Lab Receipt Time
	Date	Time												
LIFHP-115-24-28-101218	10/12/18	11:00	W	2	X								-01	12:15
LIFHP-115-19-20-101218	10/12/18	11:25	W	2	X								-02	
LIFHP-115-14-18-101218	10/12/18	11:50	W	3	X							<u>MS/MSD</u>	-03	
Dup-18	—	—	W	2	X								-04	

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)
Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: [Signature]

Date: 10/12/18 Time: 12:15

Received By: Colleen Small

Date: 10/12/18 Time: 12:15

Relinquished By:

Date:

Received By:

Date:

Custody Seal:
 NA Intact Not Intact

Shipped Via: Walk in

Receipt Temp: N/A

Thermometer #/ Exp. Date: N/A
 Temp Blank: Y N



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Bottles!
CHAIN OF CUSTODY

No. 10004

Page: 2 of 2

Lab Work Order #: **V A184110**
 Report To: **IAN DROST**
 Company: **ARCADIS**

Project Number: **MF001454.0002.000A** PO Number:

Project Name: **FORD TP**

Project Location (City, State): **Livonia, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **BRUCE EVANS (HE)**

Sample Description

Sample Description	Collection		Matrix	Total # of Containers															
	Date	Time																	
LIFHP-118-21-25-10/21/18	10/21/18	15:05	W	2	X														
LIFHP-118-16-20-10/21/18	10/21/18	15:25	W	2	X														
LIFHP-118-11-15-10/21/18	10/21/18	15:45	W	2	X														
Dap-19	-	-	W	2	X														

Preservation Codes

Analyses Requested

Address 1:

Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Comments

Lab ID

Lab Receipt Time

Preservation Codes
 A=None B=HCL C=H₂SO₄

D=HNO₃ E=EnCore F=Methanol

G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *[Signature]*

Date: **10/12/18** Time: **16:15**

Received By: *[Signature]*

Date: **10/12/19** Time: **16:15**

Relinquished By:

Date: Time:

Received By:

Date: Time:

Custody Seal:
 NA Intact Not Intact

Shipped Via: **Walk in**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**

Temp Blank:
 Y N



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CHAIN OF CUSTODY

No. 10024

Page: 1 of 2

Project Number: MI001454.0002.0001A PO Number:				Lab Work Order #: V184111				Report To: IAN DROST											
Project Name: Ford LTP				Preservation Codes				Company: Accordis											
Project Location (City, State): Livonia, MI				Analyses Requested				Address 1:											
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOCs				Address 2:											
If Rush, Report Due Date:								E-mail Address:											
Sampled By (Print): Dance Evans (DE)								Invoice To:											
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID		Lab Receipt Time					
				Date	Time							Address 1:		Address 2:					
LIFHP-115-1-2-101218		10/12/18	10:20	S	1	X						-01	1215						
LIFHP-115-4-5-101218		10/12/18	10:25	S	1	X						-02							
LIFHP-115-6-7-101218		10/12/18	10:30	S	1	X						-03							
LIFHP-115-8-9-101218			10:35	S	1	X						-04							
LIFHP-115-10-11-101218			10:40	S	1	X						-05							
LIFHP-115-19-20-101218			10:45	S	1	X						-06							
LIFHP-115-22-23-101218		10/12/18	10:50	S	1	X				MS/MSD		-07							
DUP-17		-	-	S	1	X						-08							
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: [Signature]		Date: 10/12/18		Time: 12:15		Received By: Colleen Small		Date: 10/12/18		Time: 1215	
Matrix Codes A=Air S=Soil W=Water O=Other								Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Walk in				Receipt Temp: NA		Thermometer #/ Exp. Date: NA				Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

11-12-18

No. 10003

Page: 1 of 2

Project Number: MI001494.0002.0001A PO Number:				Lab Work Order #: V A184111				Report To: IAN DIOST																							
Project Name: Ford LTP				Preservation Codes				Company: ARCADIS																							
Project Location (City, State): Livonia, MI				Analyses Requested				Address 1:																							
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Vocs</th> <th></th><th></th><th></th><th></th><th></th><th></th><th></th><th></th> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>				Matrix	Total # of Containers	Vocs																				Address 2:	
Matrix	Total # of Containers	Vocs																													
If Rush, Report Due Date:								E-mail Address:		Invoice To:																					
Sampled By (Print): Gauce Evans (BE)				Company:		Address 1:																									
Sample Description				Collection		Matrix		Total # of Containers		Vocs		Address 2:																			
												Date		Time		Comments		Lab ID	Lab Receipt Time												
LIFHT-118-1-2-101218				10/12/18		14:30		S		1		X		-09	1540																
LIFHT-118-3-4-101218				10/12/18		14:35		S		1		X		-10																	
LIFHT-118-5-6-101218						15:00		S		1		X		-11																	
LIFHT-118-8-9-101218						15:05		S		1		X		-12																	
LIFHT-118-10-11-101218						15:10		S		1		X		-13																	
LIFHT-118-25-26-101218				10/12/18		15:15		S		1		X		-14																	
Dcp-20				-		-		S		1		X		-15	↓																
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments: Location ID is LIFHT not LIFHT. cls 10/12/18				Relinquished By: [Signature] Date: 10/12/18 Time: 14:35		Received By: Colleen Small Date: 10/12/18 Time: 1540																					
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: Walkin		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																	



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CHAIN OF CUSTODY

No. 10005

Page: 2 of 2

Project Number: <u>M1001454-000Z 0001A</u> PO Number:					Lab Work Order #: <u>V184201</u>					Report To:					
Project Name: <u>FORD LTP</u>					Preservation Codes					Company:					
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested					Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix Total # of Containers <u>VCCS</u>					Address 2:					
If Rush, Report Due Date:										E-mail Address:					
Sampled By (Print): <u>ASHLEY REIBEL</u>										Invoice To:					
Sample Description					Collection					Company:					
					Date	Time				Address 1:					
								Address 2:							
								Comments							
								Lab ID							
								Lab Receipt Time							
<u>LIFHP-122-21-25-101318</u>					<u>10/13/18</u>	<u>1640</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-01</u>	<u>0825</u>		
<u>LIFHP-122-16-20-101318</u>					<u>1</u>	<u>1700</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-02</u>	<u>1</u>		
<u>LIFHP-122-11-15-101318</u>					<u>1</u>	<u>1720</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-03</u>	<u>1</u>		
<u>LIFHP-122-22-26-101318</u>					<u>1</u>	<u>1722</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-04</u>	<u>1</u>		
<u>LIFHP-121-16-20-101318</u>					<u>1</u>	<u>1750</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-05</u>	<u>1</u>		
<u>LIFHP-121-11-15-101318</u>					<u>1</u>	<u>1810</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-06</u>	<u>1</u>		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other					Other Comments: Relinquished By: <u>Ashley Reibel</u> Relinquished By:					Date: <u>10/14/18</u> Time: <u>825</u>		Received By: <u>Coleman</u>		Date: <u>10/14/18</u> Time: <u>0825</u>	
										Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>With</u>		Receipt Temp: <u>on ice</u>	



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CHAIN OF CUSTODY

No. 10013

Page: ^{1 Oct 10/13/18} **Z** of: **Z**

Lab Work Order #: V184201		Report To: JAN DROST	
Preservation Codes		Company: ARCADIS	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Invoice To:		Company:	
Address 1:		Address 2:	
Comments		Lab ID	Lab Receipt Time
		-07	0825
		-08	↓
		-09	↓

Project Number: MI001454.0002.0001A PO Number:		Matrix	Total # of Containers	VOCs	
Project Name: FORD LTP					
Project Location (City, State): Livonia, MI					
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush					
If Rush, Report Due Date:					
Sampled By (Print): BRUCE FURVSCOBE					
Sample Description	Collection		Matrix	Total # of Containers	X
	Date	Time			
LIFHP-117B-22-26-101318	10/13/18	11:25	W	2	X
LIFHP-117B-17-21-101318	10/13/18	11:50	W	2	X
LIFHP-117B-12-16-101315	10/13/18	12:05	W	2	X

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: <i>[Signature]</i>	Date: 10/13/18	Time: 12:30	Received By: <i>[Signature]</i>	Date: 10/13/18	Time: 1300
Relinquished By: <i>[Signature]</i>	Date: 10/14/18	Time: 0925	Received By: <i>[Signature]</i>	Date: 10/14/18	Time: 0825
Custody Seal: <input type="checkbox"/> NA <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: Walk in	Receipt Temp: On ice	Thermometer #/ Exp. Date: NA	Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10007

Page: 1 of 23 *at 10/14/18*

Project Number: <i>MI001424, 0002, 0001A</i> PO Number:		Lab Work Order #: <i>V184202</i>				Report To: <i>IAN PROST</i>			
Project Name: <i>Ford LTP</i>		Preservation Codes				Company: <i>ARCADIS</i>			
Project Location (City, State): <i>Livonia, MI</i>		Analyses Requested				Address 1:			
Turn Around (check one): <input checked="" type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix Total # of Containers <i>VOCS</i>				Address 2:			
If Rush, Report Due Date:						E-mail Address:			
Sampled By (Print): <i>BRUCE EVANS (BE)</i>						Invoice To:			
						Company:			
						Address 1:			
						Address 2:			
Sample Description		Collection				Comments		Lab ID	Lab Receipt Time
		Date	Time	Matrix	Total # of Containers				
<i>LIFHP-117B-1-2-101318</i>		<i>10/13/18</i>	<i>10:20</i>	<i>S</i>	<i>1</i>	<i>X</i>		<i>-01</i>	<i>0825</i>
<i>LIFHP-117B-3-4-101318</i>		<i>10/13/18</i>	<i>10:25</i>	<i>S</i>	<i>1</i>	<i>X</i>		<i>-02</i>	<i> </i>
<i>LIFHP-117B-6-7-101318</i>			<i>10:30</i>	<i>S</i>	<i>1</i>	<i>X</i>		<i>-03</i>	<i> </i>
<i>LIFHP-117B-9-10-101318</i>			<i>10:35</i>	<i>S</i>	<i>1</i>	<i>X</i>		<i>-04</i>	<i> </i>
<i>LIFHP-117B-10-11-101318</i>			<i>10:40</i>	<i>S</i>	<i>1</i>	<i>X</i>		<i>-05</i>	<i> </i>
<i>LIFHP-117B-29-30-101318</i>		<i>10/13/18</i>	<i>11:00</i>	<i>S</i>	<i>1</i>	<i>X</i>		<i>-06</i>	<i> </i>
									<i>↓</i>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: <i>% Solids in lockloads</i>		Relinquished By: <i>[Signature]</i> Date: <i>10/13/18</i> Time: <i>12:30</i>		Received By: <i>[Signature]</i> Date: <i>10/13/18</i> Time: <i>1300</i>		Received By: <i>[Signature]</i> Date: <i>10/14/18</i> Time: <i>0825</i>	
Custody Seal: <input type="checkbox"/> NA <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Walk-in</i>		Receipt Temp: <i>on ice</i>		Thermometer #/ Exp. Date: <i>NA</i>	
								Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10006

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Project Number: FORDLTP		PO Number:		Lab Work Order #: V184202				Report To: EMAILLIST			
Project Name: M1001454.0002.0001A		Preservation Codes				Company: ARCADIS					
Project Location (City, State): LIVONIA MI		Analyses Requested				Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix Total # of Containers VOCs				Address 2:					
If Rush, Report Due Date:						E-mail Address:					
Sampled By (Print): ASHLEY REBEL						Invoice To:					
Sample Description		Collection						Company:			
		Date	Time					Address 1:			
								Address 2:			
								Comments		Lab ID	Lab Receipt Time
LIFHP-122-1-2-101318		10/13/18	1448	S	2	X			-07	0825	
LIFHP-122-3-4-101318			1450	S	2	X			-08		
LIFHP-122-6-7-101318			1452	S	2	X			-09		
LIFHP-122-9-10-101318			1454	S	2	X			-10		
LIFHP-122- 10-11 -101318			1515	S	2	X			-11		
LIFHP-122-25-26-101318			1630	S	2	X			-12		
LIFHP-121-1-2-101318			1650	S	2	X			-13		
LIFHP-121-2-3-101318			1652	S	2	X			-14		
LIFHP-121-4-5-101318			1654	S	2	X			-15		
LIFHP-8-9-101318			1656	S	2	X			-16	✓	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:		Relinquished By: <i>Ashley Rebel</i> Date: 10/14/18		Time: 825		Received By: <i>Colin Hall</i> Date: 10/14/18		Time: 0825	
				Relinquished By:		Date:		Received By:		Time:	
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walk-in		Receipt Temp: ca 100		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10014

Page: 2 of: 3 of 11/11/18

Project Number: M1001454.002.0001A PO Number:					Lab Work Order #: V187202					Report To:							
Project Name: FORDLTP					Preservation Codes					Company:							
Project Location (City, State): LIVONIA, MI					Analyses Requested					Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix	Total # of Containers	VCS					E-mail Address:					
If Rush, Report Due Date:												Invoice To:					
Sampled By (Print): ASHLEY REIBEL								Company:									
Sample Description					Collection					Address 1:							
					Date	Time				Address 2:							
LIFHP-121-9-10-10138					10/13/18	1655	S	2	X			Comments	Lab ID	Lab Receipt Time			
LIFHP-121-23-24-10138						1755	S	2	X				-17	0825			
													-18	↓			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)					Other Comments:					Relinquished By: <i>Ashley Reibel</i> Relinquished By:		Date: 10/13/18 Time: 0825		Received By: <i>Colin Hall</i> Received By:		Date: 10/14/18 Time: 0825	
Matrix Codes A=Air S=Soil W=Water O=Other					Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact					Shipped Via: Walk in		Receipt Temp: on ice		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10016

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Lab Work Order #: VI84203				Report To: EMAIL LIST			
Preservation Codes				Company: ARCADIS			
Analyses Requested				Address 1:			
				Address 2:			
				E-mail Address:			
				Invoice To:			
				Company:			
				Address 1:			
				Address 2:			
				Comments		Lab ID	Lab Receipt Time

Project Number: **M1001451 0002-0001A** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REBEI**

Sample Description

Sample Description	Collection		Matrix	Total # of Containers
	Date	Time		

LIFHP-123-22-26-101418	10/14/18	1250	GW	2	X
------------------------	----------	------	----	---	---

LIFHP-123-16-20-101418	1	1315	GW	2	X
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LIFHP-123-10-14-101418	1	1330	GW	2	X
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DUP-21-101418	1	-	GW	2	X
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Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Ashley Rebei*

Date: 10/14/18 Time: 1400

Received By: *Coleman Hall*

Date: 10/14/18 Time: 1400

Relinquished By:

Date: Time:

Received By:

Date: Time:

Custody Seal:
 NA Intact Not Intact

Shipped Via: Receipt Temp: Thermometer #/ Exp. Date:

Temp Blank:
 Y N



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CHAIN OF CUSTODY

No. 10018

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Project Number: M1001454.0002.000A		Project Name: FORD LTP		Project Location (City, State): LIVONIA, MI		Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		If Rush, Report Due Date:		Sampled By (Print): ASHLEY REIBEL		Lab Work Order #: V194203		Report To: EMAIL LIST														
PO Number:		Preservation Codes		Analyses Requested		Address 1:		Address 2:		E-mail Address:		Invoice To:		Company: ARCADIS														
Sample Description		Collection		Matrix	Total # of Containers	VOCs																						
		Date	Time																									
LIFHP-124-21-25-101418		10/14/18	1535													GW	2											
LIFHP-124-16-20-101418		—	1555													GW	2											
LIFHP-124-11-15-101418		—	1615	GW	2																							
<p>Preservation Codes A=None B=HCl C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</p> <p>Matrix Codes A=Air S=Soil W=Water O=Other</p>		<p>Other Comments:</p>		<p>Relinquished By: Ashley Reibel</p>		<p>Date: 10/14/18</p>		<p>Time: 1635</p>		<p>Received By: Colin Hall</p>		<p>Date: 10/14/18</p>		<p>Time: 1635</p>														
				<p>Relinquished By:</p>		<p>Date:</p>		<p>Time:</p>		<p>Received By:</p>		<p>Date:</p>		<p>Time:</p>														
				<p>Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact</p>		<p>Shipped Via: WALK IN</p>		<p>Receipt Temp: NA</p>		<p>Thermometer #/ Exp. Date: NA</p>		<p>Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N</p>																



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CHAIN OF CUSTODY

No. 10022

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Project Number: <u>M1001454-0002-0004</u> PO Number:		Lab Work Order #: <u>V184204</u>		Report To: <u>EMAILLIST</u>							
Project Name: <u>FORDLTP</u>		Preservation Codes		Company: <u>ARCADIS</u>							
Project Location (City, State): <u>LIVONIA MI</u>		Analyses Requested		Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix		Address 2:							
If Rush, Report Due Date:				E-mail Address:							
Sampled By (Print): <u>ASHLEY REBEL</u>		Total # of Containers		Invoice To:							
				Company:							
		VOCs		Address 1:							
				Address 2:							
Sample Description	Collection		Matrix	Total # of Containers	Comments	Lab ID	Lab Receipt Time				
	Date	Time									
LIFHP-123-1-2-101418	10/14/18	1110	S	2	X	-01	1400				
LIFHP-123-3-4-101418		1112	S	2	X	-02					
LIFHP-123-4-5-101418		1114	S	2	X	-03					
LIFHP-123-5-6-101418		1140	S	2	X	-04					
LIFHP-123-7-8-101418		1142	S	2	X	-05					
LIFHP-123-22-23-101418		1255	S	2	X	-06					
LIFHP-123-25-26-101418		1300	S	2	X	-07					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: * Depth did not match sample. AR confirmed it was 7-8 not 9-8		Relinquished By: <u>Ashley Rebel</u> Relinquished By:		Date: <u>10/14/18</u> Time: <u>1400</u> Date: Time:		Received By: <u>Coleman</u> Received By:		Date: <u>10/14/18</u> Time: <u>1400</u> Date: Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		

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CHAIN OF CUSTODY

No. 10017

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Lab Work Order #: V184204		Report To: EMAIL LIST	
Preservation Codes		Company: ARCADIS	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
		Invoice To:	
		Company:	
		Address 1:	
		Address 2:	
		Comments	Lab ID
			Lab Receipt Time

Project Number: **M1001454.0002.0001** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REIBEL**

Sample Description	Collection		Matrix	Total # of Containers	VOCs							
	Date	Time										
LIFHP-124-1-2-101418	10/14/18	1430	S	2	X							
LIFHP-124-3-4-101418		1432	S	2	X							
LIFHP-124-6-7-101418		1434	S	2	X							
LIFHP-124-8-9-101418		1436	S	2	X							
LIFHP-124-9-10-101418		1438	S	2	X							
LIFHP-124-24-25-101418		1515	S	2	X							

Preservation Codes
 A=None B=HCl C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Ashley Reibel*
 Relinquished By:

Date: **10/14/18** Time: **1635**

Received By: *Collin Small*
 Received By:

Date: **10/14/18** Time: **1635**

Custody Seal:
 NA Intact Not Intact

Shipped Via: **Walkin**

Receipt Temp: **NA**

Thermometer #/ Exp. Date: **NA**
 Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10023

Page: 1 of 3

Lab Work Order #: **V184205**
 Report To:
 Company:

Project Number: **M1001454.0002.0001A** PO Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REIBEL**

Preservation Codes

Analyses Requested

Address 1:

Address 2:

E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time
	Date	Time												
SB-110-8-12-101618	10/16/18	1200	GW	2	X								-01	1215

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:	Relinquished By: <i>Ashley Reibel</i>	Date: 10/16/18	Time: 1215	Received By: <i>Coleen Hall</i>	Date: 10/16/18	Time: 1215
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Matrix Codes A=Air S=Soil W=Water O=Other	Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Shipped Via: <i>Walk in</i>	Receipt Temp: <i>NA</i>	Thermometer #/ Exp. Date: <i>NK</i>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		

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CHAIN OF CUSTODY

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Lab Work Order #: V184205		Report To:	
Preservation Codes		Company:	
Analyses Requested		Address 1:	
		Address 2:	
		E-mail Address:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Invoice To:	
If Rush, Report Due Date:		Company:	
Sampled By (Print): CAITLIN O'NEILL		Address 1:	
		Address 2:	
		Comments	
		Lab ID	
		Lab Receipt Time	

Project Number: M1001454.0002.0001A PO Number:	
Project Name: FORD LTP	
Project Location (City, State): LIVONIA, MI	
Sample Description	
Collection	
Date	Time
10/16/18	1312
10/16/18	1257

Matrix	Total # of Containers	8260B	8260B-Sum
		X	X
		X	X

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments: 	Relinquished By: Caitlin O'Neill	Date: 10/16/18	Time: 1545	Received By: Colleen Small	Date: 10/16/18	Time: 1545
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal:	Shipped Via:	Receipt Temp:	Thermometer #/ Exp. Date:	Temp Blank:
<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact	Walk in	NA	NA	<input type="checkbox"/> Y <input type="checkbox"/> N



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CHAIN OF CUSTODY

No. 10252

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Lab Work Order #: V A184205

Report To: _____
 Company: _____
 Address 1: _____
 Address 2: _____
 E-mail Address: _____

Invoice To: _____
 Company: _____
 Address 1: _____
 Address 2: _____

Sample Description	Collection		Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time
	Date	Time												
SB-11-8-12-101618	10/16/18	1450	GW	2	X								-04	1655
SB-13-8-12-101618	I	1045	GW	2	X								-05	↓
DUP-22-101618	I	-	GW	2	X								-06	↓

Relinquished By: Ashley Reibel Date: 10/16/18 Time: 1655
 Received By: Colleen Smith Date: 10/16/18 Time: 1655

Relinquished By: _____ Date: _____ Time: _____
 Received By: _____ Date: _____ Time: _____

Custody Seal: NA Intact Not Intact
 Shipped Via: Walk in Receipt Temp: NA Thermometer #/ Exp. Date: NA Temp Blank: Y N

Project Number: M1001454.0002.0001A PO Number: _____

Project Name: FORD LTP

Project Location (City, State): LIVONIA, MI

Turn Around (check one): Normal Rush

If Rush, Report Due Date: _____

Sampled By (Print): ASHLEY REIBEL

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments: _____



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CHAIN OF CUSTODY

No. 10020

Page: 1 of 3 Oct 14, 2018

Project Number: M1001454.0002.CC01 APO Number:				Lab Work Order #: V184206				Report To: EMAILLIST									
Project Name: FORD LTP				Preservation Codes				Company: ARCADIS									
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:									
If Rush, Report Due Date:								E-mail Address:									
Sampled By (Print): ASHLEY REIBEL								Invoice To:									
								Company:									
								Address 1:									
								Address 2:									
Sample Description			Collection		Matrix	Total # of Containers	VOCS					Comments	Lab ID	Lab Receipt Time			
			Date	Time													
SB-110-1-2-101018			10/16/18	1132	S	2	X						-01	1215			
SB-110-3-4-101018				1134	S	2	X						-02				
SB-110-4-5-101018				1136	S	2	X						-03				
SB-110-5-6-101018				1138	S	2	X						-04				
SB-110-7-8-101018				1140	S	2	X					M/S/MSD	-05	↓			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)			Other Comments:			Relinquished By: Ashley Reibel		Date: 10/16/18		Time: 1215		Received By: Colleen Small		Date: 10/16/18		Time: 1215	
Matrix Codes A=Air S=Soil W=Water O=Other						Relinquished By:		Date:		Time:		Received By:		Date:		Time:	
			Custody Seal:			<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: WALKM		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank:		<input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 9978

Page: 2 of 3

Lab Work Order #: **V184206**

Report To: _____
 Company: _____

Project Number: **M1601454.0002.0001A** PO Number: _____

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date: _____

Sampled By (Print): **CATHY O'NEILL**

Preservation Codes

Analyses Requested

Address 1:
Address 2:
E-mail Address:

Invoice To:

Company:

Address 1:

Address 2:

Sample Description	Collection		Matrix	Total # of Containers	8260B	8260B - SIM						Comments	Lab ID	Lab Receipt Time
	Date	Time												
LIFHP-119-1-2-101618	10/16/18	1110	S	2	X	X							-06	1545
LIFHP-119-4-5-101618	10/16/18	1115	S	2	X	X							-07	
LIFHP-119-6-7-101618	10/16/18	1120	S	2	X	X							-08	
LIFHP-119-7-8-101618	10/16/18	1125	S	2	X	X							-09	
LIFHP-119-9-10-101618	10/16/18	1130	S	2	X	X							-10	
LIFHP-119-22-23-101618	10/16/18	1155	S	2	X	X							-11	↓

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Cathy O'Neill*

Date: 10/16/18 Time: 1545

Received By: *Cathy O'Neill*

Date: 10/16/18 Time: 1545

Relinquished By: _____

Date: _____ Time: _____

Received By: _____

Date: _____ Time: _____

Custody Seal:
 NA Intact Not Intact

Shipped Via: *WALM*

Receipt Temp: *NA*

Thermometer #/ Exp. Date: *NA*
 Temp Blank: Y N



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CHAIN OF CUSTODY

No. 10251

Page: X 3 of: X 3 *CS 10/17/18*

Project Number: <u>M1001454.0002.000NA</u>		Project Name: <u>FORDLTP</u>		Project Location (City, State): <u>LIVONIA MI</u>		Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		If Rush, Report Due Date:		Sampled By (Print): <u>AREIBEL</u>		Lab Work Order #: <u>V184206</u>		Report To:		Company:	
Collection Date		Collection Time		Matrix		Total # of Containers		Analyses Requested		Address 1:		Address 2:		E-mail Address:		Invoice To:	
Sample Description																	
SB-111-1-2-1011618		10/16/18 1410		S		2		X									
SB-111-3-4-1011618		1430		S		2		X									
SB-111-4-5-1011618		1430		S		2		X									
SB-111-5-6-1011618		1432		S		2		X									
SB-111-7-8-1011618		1434		S		2		X									
SB-113-2-3-1011618		1610		S		2		X									
SB-113-3-4-1011618		1612		S		2		X									
SB-113-4-5-1011618		1614		S		2		X									
SB-113-5-6-1011618		1616		S		2		X									
SB-113-6-7-1011618		1618		S		2		X									
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u><i>Ashtyn R...</i></u> Relinquished By:		Date: <u>10/16/18</u> Date:		Time: <u>1655</u> Time:		Received By: <u><i>Colleen Small</i></u> Received By:		Date: <u>10/16/18</u> Date:		Time: <u>1655</u> Time:			
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u><i>White or</i></u>		Receipt Temp: <u><i>NA</i></u>		Thermometer #/ Exp. Date: <u><i>NA</i></u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N							



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CHAIN OF CUSTODY

No. 9976

Page: 2 of 5

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184207</u>				Report To:													
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:													
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:													
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</th> <td style="width: 50px; text-align: center;"><u>8260B</u></td> <td style="width: 50px; text-align: center;"><u>8260B-SIM</u></td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>				Matrix	Total # of Containers	<u>8260B</u>	<u>8260B-SIM</u>							Address 2:			
Matrix	Total # of Containers	<u>8260B</u>	<u>8260B-SIM</u>																		
If Rush, Report Due Date:								E-mail Address:													
Sampled By (Print): <u>CAITLIN O'NEILL</u>				Invoice To:																	
Sample Description				Collection Date Time Matrix Total # of Containers				Company:													
								Address 1:													
								Address 2:													
								Comments				Lab ID		Lab Receipt Time							
<u>SB-112-10-14-101718</u>				<u>10/16/18 11:20 GW 2 X X</u>				<u>-02</u>													
<u>SB-112-15-19-101718</u>				<u>10/16/18 11:05 GW 2 X X</u>				<u>-03</u>													
<u>SB-112-20-24-101718</u>				<u>10/17/18 10:35 GW 2 X X</u>				<u>-04</u>													
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <u>Caitlin O'Neill</u> Date: <u>10/17/18</u> Time: <u>1130</u> Relinquished By: _____ Date: _____ Time: _____				Received By: <u>Coleman</u> Date: <u>10/17/18</u> Time: <u>1135</u> Received By: _____ Date: _____ Time: _____													
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Will in</u>				Receipt Temp: <u>NA</u> Thermometer #/ Exp. Date: <u>NA</u> Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N													



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CHAIN OF CUSTODY

No. 10253

Page: 4 of 5

Project Number: M10014SI.002, 001A PO Number:				Lab Work Order #: V184207				Report To:	
Project Name: FORD LTP				Preservation Codes				Company:	
Project Location (City, State): LIVONIA, MI				Analyses Requested				Address 1:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers 8260B 8260B-SIM				Address 2:	
If Rush, Report Due Date:								E-mail Address:	
Sampled By (Print): CATHY O'NEILL								Invoice To:	
								Company:	
Sample Description				Collection Date Time Matrix Total # of Containers				Address 1:	
								Comments	
SB-116_20-24_101718				10/17/18 1425 GW 2 X X				-06	1520
SB-116_15-19_101718				10/17/18 1450 GW 2 X X				-07	↓
SB-116_10-14_101718				10/17/18 1505 GW 3 X X				MS/MSD	-08 ↓
Preservation Codes A=None B=HCL C=H2SO4 D=HNO3 E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: Relinquished By: <i>Cathy O'Neill</i> Relinquished By:		Date: 10/17/18 Time: 1515		Received By: <i>Cathy O'Neill</i> Received By:		Date: 10/17/18 Time: 1520	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walk in		Receipt Temp: NA		Thermometer #/ Exp. Date: NA Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10019

Page: 2 of 5

Project Number: <u>MI601454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184208</u>				Report To:															
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:															
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:															
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align:center;">Matrix</td> <td style="width:50%; text-align:center;">Total # of Containers</td> </tr> <tr> <td style="text-align:center;">S</td> <td style="text-align:center;">2</td> </tr> <tr> <td style="text-align:center;">S</td> <td style="text-align:center;">2</td> </tr> <tr> <td style="text-align:center;">S</td> <td style="text-align:center;">2</td> </tr> <tr> <td style="text-align:center;">S</td> <td style="text-align:center;">2</td> </tr> <tr> <td style="text-align:center;">S</td> <td style="text-align:center;">2</td> </tr> <tr> <td style="text-align:center;">S</td> <td style="text-align:center;">2</td> </tr> </table>				Matrix	Total # of Containers	S	2	S	2	S	2	S	2	S	2	S	2	Address 2:	
Matrix	Total # of Containers																						
S	2																						
S	2																						
S	2																						
S	2																						
S	2																						
S	2																						
If Rush, Report Due Date:				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align:center;">8260B</td> <td style="width:50%; text-align:center;">8260B-SIM</td> </tr> </table>				8260B	8260B-SIM	E-mail Address:													
8260B	8260B-SIM																						
Sampled By (Print): <u>CAITLIN O'NEILL</u>				Invoice To:																			
Sample Description				Collection				Company:															
								Date		Time		Address 1:											
SB-112_1-2_101718				10/17/18				0905		Address 2:													
										Date		Time		Comments									
SB-112_3-4_101718				10/17/18				0910		Lab ID													
										Date		Time		Lab Receipt Time									
SB-112_5-6_101718				10/17/18				0915		-06													
										Date		Time		-07									
SB-112_6-7_101718				10/17/18				0920		-08													
										Date		Time		-09									
SB-112_7-8_101718				10/17/18				0925		-10													
										Date		Time		-11									
SB-112_2425_101718				10/17/18				0940		↓													
										Date		Time											
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments:				Relinquished By: <u>Caitlin O'Neill</u> Date: <u>10/17/18</u> Time: <u>1130</u>		Received By: <u>Com Hall</u> Date: <u>10/17/18</u> Time: <u>1135</u>													
				Relinquished By: _____ Date: _____ Time: _____				Received By: _____ Date: _____ Time: _____															
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>White</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N													



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CHAIN OF CUSTODY

No. 10236

Page: 4 of 5
 Date: 10/18/18

Project Number: <u>M1001454 0002 0001A</u> PO Number:					Lab Work Order #: <u>V184208</u>					Report To:							
Project Name: <u>FORD LTP</u>					Preservation Codes					Company:							
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested					Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix Total # of Containers <u>VCS</u>					Address 2:							
If Rush, Report Due Date:										E-mail Address:							
Sampled By (Print): <u>ASHLEY REIBEL</u>										Invoice To:							
										Company:							
Sample Description					Collection					Comments			Lab ID	Lab Receipt Time			
					Date	Time											
<u>SB-115-0-1-101718</u>					<u>10/17/18</u>	<u>1215</u>	<u>S</u>	<u>2</u>	<u>Y</u>				<u>-12</u>				
<u>SB-115-1-2-101718</u>					<u> </u>	<u>1217</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-13</u>				
<u>SB-115-2-3-101718</u>					<u> </u>	<u>1219</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-14</u>				
<u>SB-115-3-4-101718</u>					<u> </u>	<u>1221</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-15</u>				
<u>SB-115-4-5-101718</u>					<u> </u>	<u>1223</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-16</u>				
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)					Other Comments:					Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/17/18</u>	Time: <u>1255</u>	Received By: <u>Colin Hall</u>		Date: <u>10/17/18</u>	Time: <u>1255</u>
Matrix Codes A=Air S=Soil W=Water O=Other										Relinquished By:		Date:	Time:	Received By:		Date:	Time:
					Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact					Shipped Via: <u>Walk In</u>		Receipt Temp: <u>N/A</u>		Thermometer #/ Exp. Date: <u>N/A</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10254

Page: 4 of 5

Project Number: <u>M1081454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184208</u>				Report To:																					
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																					
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:5%;">Matrix</td> <td style="width:5%;">Total # of Containers</td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> <td style="width:5%;"></td> </tr> <tr> <td></td> <td></td> <td style="text-align:center;"><u>8260B</u></td> <td style="text-align:center;"><u>8260B-SJM</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Matrix	Total # of Containers											<u>8260B</u>	<u>8260B-SJM</u>							Address 2:	
Matrix	Total # of Containers																												
		<u>8260B</u>	<u>8260B-SJM</u>																										
If Rush, Report Due Date:								E-mail Address:																					
Sampled By (Print): <u>CAITLIN O'NEILL</u>								Invoice To:																					
Sample Description				Collection Date Time				Company:																					
								Address 1:																					
								Address 2:																					
								Comments		Lab ID	Lab Receipt Time																		
<u>SB-116-1-2-101718</u>				<u>10/17/18</u>				<u>1305</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>						<u>-17</u>	<u>1520</u>										
<u>SB-116-3-4-101718</u>				<u>10/17/18</u>				<u>1310</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>							<u>-18</u>										
<u>SB-116-5-6-101718</u>				<u>10/17/18</u>				<u>1320 1315</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>							<u>-19</u>										
<u>SB-116-6-7-101718</u>				<u>10/17/18</u>				<u>1325 1320</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>							<u>-20</u>										
<u>SB-116-7-8-101718</u>				<u>10/17/18</u>				<u>1330 1325</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>							<u>-21</u>										
<u>SB-116-21-22-101718</u>				<u>10/17/18</u>				<u>1340</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>							<u>-22</u>	↓									
<u>DUP-23-101718 *</u>				<u>10/17/18</u>																									
<u>cc 10/17/18</u>																													
<u>DUP-23-101718</u>				<u>10/17/18</u>				<u>—</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>							<u>-27</u>										
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: <u>* cc 10/17/18</u>		Relinquished By: <u>Caitlin O'Neill</u>		Date: <u>10/17/18</u>		Time: <u>1515</u>		Received By: <u>Colin Analt</u>		Date: <u>10/17/18</u>		Time: <u>1520</u>															
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:		Time:		Received By:		Date:		Time:															
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NW</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																			



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CHAIN OF CUSTODY

No. 10237

Page: 5 of 5

Project Number: M1601454.0002.0001A PO Number:					Lab Work Order #: VI84208					Report To: EMAIL LIST				
Project Name: FORD LTP					Preservation Codes					Company: ARCADIS				
Project Location (City, State): LIVONIA MI					Analyses Requested					Address 1:				
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Matrix: SOIL Total # of Containers: 2 VOCs					Address 2:				
If Rush, Report Due Date:										E-mail Address:				
Sampled By (Print): ASHLEY REIBEL										Invoice To:				
										Company:				
Sample Description					Collection Date Time Matrix Total # of Containers					Address 1:				
										Address 2:				
										Comments				
										Lab ID				
										Lab Receipt Time				
SB-117-1-2-101718					10/17/18 1443 S 2 X					-23 1535				
SB-117-2-3-101718					I 1445 S 2 X					-24 ↓				
SB-117-3-4-101718					I 1447 S 2 X					-25 ↓				
SB-117-4-5-101718					I 1449 S 2 X					-26 ↓				
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other					Other Comments: Relinquished By: Ashley Reibel Date: 10/17/18 Time: 1535 Relinquished By: _____ Date: _____ Time: _____					Received By: _____ Date: _____ Time: 1535 Received By: _____ Date: _____ Time: _____				
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact					Shipped Via: Walk in					Receipt Temp: NA				
					Thermometer #/ Exp. Date: NA					Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N				



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CHAIN OF CUSTODY

No. 10242

Page: 1 of 1

Project Number: <u>MICU154.0002.0001A</u> PO Number:		Lab Work Order #: <u>V184209</u>				Report To: <u>EMAIL</u>															
Project Name: <u>FORD ITP</u>		Preservation Codes				Company: <u>ARMAS</u>															
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested				Address 1:															
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1"> <tr> <td rowspan="4">Matrix</td> <td rowspan="4">Total # of Containers</td> <td rowspan="4"><u>2</u></td> <td rowspan="4"><u>YES</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Matrix	Total # of Containers	<u>2</u>	<u>YES</u>										Address 2:		
Matrix	Total # of Containers									<u>2</u>	<u>YES</u>										
												E-mail Address:									
												Invoice To:									
		Company:																			
If Rush, Report Due Date:						Address 1:															
Sampled By (Print): <u>ASHLEY REBEL</u>						Address 2:															
Sample Description		Collection																			
		Date	Time	Matrix	Total # of Containers					Comments	Lab ID	Lab Receipt Time									
<u>SB-120 - 8-12 - 101818</u>		<u>10/18/18</u>	<u>1050</u>	<u>GNW</u>	<u>2</u>	<u>X</u>					<u>-02</u>										
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Rebel</u>		Date: <u>10/18/18</u>	Time: <u>1135</u>	Received By: <u>Colin Hall</u>		Date: <u>10/18/18</u>	Time: <u>1135</u>										
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Received By:		Date:	Time:										
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>WIKEM</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N											



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CHAIN OF CUSTODY

No. 10244

Page: of:

Project Number: M1001454. URR. 001A PO Number:		Lab Work Order #: VIG4209				Report To:		Company:					
Project Name: FORD LTP		Preservation Codes				Address 1:		Address 2:					
Project Location (City, State): LIVONIA, MI		Analyses Requested				E-mail Address:		Invoice To:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		Matrix				Total # of Containers							
If Rush, Report Due Date:													
Sampled By (Print): Ashley Reibel		VIG4209				Company:							
Sample Description						Address 1:							
						Address 2:							
						Comments		Lab ID	Lab Receipt Time				
SB-12L 8-12-101818		10/18/18	1405	GW	2			-06					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <i>Ashley Reibel</i> Relinquished By:		Date: 10/18/18 Date:		Time: 1420 Time:		Received By: <i>Colin Hall</i> Received By:		Date: 10/18/18 Date:		Time: 1420 Time:	
		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <i>Mail in</i>		Receipt Temp: <i>N/A</i>		Thermometer #/ Exp. Date: <i>N/A</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 10245

Page: 1 of 1

Project Number: <u>MIDCON 0002-0001A</u> PO Number:				Lab Work Order #: <u>V184209</u>				Report To:																																																																																																																																																																																																																																																																																																
Project Name: <u>FORD LTD</u>				Preservation Codes				Company:																																																																																																																																																																																																																																																																																																
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																																																																																																																																																																																																																																																																																																
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs</u>				Address 2:																																																																																																																																																																																																																																																																																																
If Rush, Report Due Date:								E-mail Address:																																																																																																																																																																																																																																																																																																
Sampled By (Print): <u>Ashley Reibel</u>				<table border="1"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td><u>DUP-24-101818</u></td> <td><u>01/18/18</u></td> <td><u>—</u></td> <td><u>2</u></td> <td><u>GW</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-07</u></td> <td></td> </tr> <tr> <td><u>SB-123-8-12-101818</u></td> <td><u>L</u></td> <td><u>1540</u></td> <td><u>2</u></td> <td><u>GW</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-08</u></td> <td></td> </tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>				Sample Description	Collection		Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time	Date	Time	<u>DUP-24-101818</u>	<u>01/18/18</u>	<u>—</u>	<u>2</u>	<u>GW</u>	<u>X</u>								<u>-07</u>		<u>SB-123-8-12-101818</u>	<u>L</u>	<u>1540</u>	<u>2</u>	<u>GW</u>	<u>X</u>								<u>-08</u>																																																																																																																																																																																																																																																		Invoice To:	
Sample Description	Collection		Matrix						Total # of Containers																				Comments	Lab ID	Lab Receipt Time																																																																																																																																																																																																																																																																									
	Date	Time																																																																																																																																																																																																																																																																																																						
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<u>SB-123-8-12-101818</u>	<u>L</u>	<u>1540</u>	<u>2</u>	<u>GW</u>	<u>X</u>								<u>-08</u>																																																																																																																																																																																																																																																																																											
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Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments: 	Relinquished By: <u>Ashley Reibel</u>	Date: <u>10/18/18</u>	Time: <u>1558</u>	Received By: <u>Columbian</u>	Date: <u>10/18/18</u>	Time: <u>1558</u>		
		Relinquished By:	Date:	Time:	Received By:	Date:	Time:		
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Wife in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10258

Page: of:

Project Number: <u>M1001454.0002.0001A</u> PO Number:		Lab Work Order #: <u>V1812109</u>		Report To:																																																													
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:																																																													
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:																																																													
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:30px;">Matrix</td> <td style="width:30px;">Total # of Containers</td> <td style="width:30px;"></td> <td style="width:30px;"></td> <td style="width:30px;"></td> <td style="width:30px;"></td> <td style="width:30px;"></td> <td style="width:30px;"></td> <td style="width:30px;"></td> <td style="width:30px;"></td> <td style="width:30px;"></td> <td style="width:30px;"></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td style="text-align:center;"><u>8260B</u></td> <td style="text-align:center;"><u>8260B-SIM</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers																									<u>8260B</u>	<u>8260B-SIM</u>																																	Address 2:	
Matrix	Total # of Containers																																																																
				<u>8260B</u>	<u>8260B-SIM</u>																																																												
If Rush, Report Due Date:				E-mail Address:																																																													
Sampled By (Print): <u>CAITLIN O'NEILL</u>				Invoice To:																																																													
Sample Description		Collection		Company:																																																													
		Date	Time	Address 1:																																																													
				Address 2:																																																													
SB-122-25-29-101818		10/18/18	1545	GW	2	X	X				Comments	Lab ID	Lab Receipt Time																																																				
SB-122-20-24-101818		10/18/18	1610	GW	2	X	X					-09																																																					
SB-122-15-19-101818		10/18/18	1630	GW	2	X	X					-10																																																					
DUP-25-101818		10/18/18	---	GW	2	X	X					-11																																																					
												-12																																																					
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Caitlin O'Neill</u>		Date: <u>10/18/18</u>	Time: <u>1645</u>	Received By: <u>Columban</u>		Date: <u>10/18/18</u>	Time: <u>1645</u>																																																						
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Received By:		Date:	Time:																																																						
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																					



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CHAIN OF CUSTODY

No. 10239

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Project Number: <u>M1001454.0002-000A</u> PO Number:				Lab Work Order #: <u>V184210</u>				Report To: <u>EMANUEL</u>			
Project Name: <u>FORD LTP</u>				Preservation Codes				Company: <u>ARCADIS</u>			
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VCCS</u>				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:			
Sample Description				Collection Date Time				Company:			
								Address 1:			
								Address 2:			
								Comments			Lab ID
<u>SB-118-1-2-101818</u>				<u>10/18/18</u> <u>0844</u>				<u>S</u> <u>2</u> <u>X</u> <u>-01</u>			
<u>SB-118-2-3-101818</u>				<u>10/18/18</u> <u>0846</u>				<u>S</u> <u>2</u> <u>X</u> <u>-02</u>			
<u>SB-118-3-4-101818</u>				<u>10/18/18</u> <u>0848</u>				<u>S</u> <u>2</u> <u>X</u> <u>-03</u>			
<u>SB-118-4-5-101818</u>				<u>10/18/18</u> <u>0850</u>				<u>S</u> <u>2</u> <u>X</u> <u>-04</u>			
<u>SB-118-5-6-101818</u>				<u>10/18/18</u> <u>0852</u>				<u>S</u> <u>2</u> <u>X</u> <u>-05</u>			
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <u>Ashley Reibel</u> Date: <u>10/18/18</u> Time: <u>0920</u>		Received By: <u>Colin Hall</u> Date: <u>10/18/18</u> Time: <u>0920</u>	
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:				Date: Time:		Received By: Date: Time:	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10256

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Project Number: <u>M1001454.0002.0001A</u> PO Number:		Lab Work Order #: <u>V1842.0</u>		Report To:						
Project Name: <u>FORD LTP</u>		Preservation Codes		Company:						
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested		Address 1:						
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%; text-align:center;">Matrix</td> <td style="width:50%; text-align:center;">Total # of Containers</td> </tr> <tr> <td style="text-align:center;">8260B</td> <td style="text-align:center;">8260B-SIM</td> </tr> </table>		Matrix	Total # of Containers	8260B	8260B-SIM	Address 2:		
Matrix	Total # of Containers									
8260B	8260B-SIM									
If Rush, Report Due Date:				E-mail Address:						
Sampled By (Print): <u>CAITLIN O'NEILL</u>		Invoice To:								
Sample Description		Collection Date Time		Company:						
				Address 1:						
				Address 2:						
				Comments	Lab ID	Lab Receipt Time				
<u>SB-119-1-2-101818</u>		<u>10/18/18 0945</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-10</u>	
<u>SB-119-5-6-101818</u>		<u>10/18/18 0950</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-11</u>	
<u>SB-119-7-8-101818</u>		<u>10/18/18 0955</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-12</u>	
<u>SB-119-9-10-101818</u>		<u>10/18/18 1000</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-13</u>	
<u>SB-119-11-12-101818</u>		<u>10/18/18 1005</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-14</u>	
<u>SB-119-19-20-101818</u>		<u>10/18/18 1015</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-15</u>	
<u>SB-119-23.5-24.5-101818</u>		<u>10/18/18 1020</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-16</u>	
<u>SB-119-26-27-101818</u>		<u>10/18/18 1030</u>		<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>		<u>-17</u>	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments: Relinquished By: <u>Caithlin O'Neill</u> Relinquished By:		Date:	Time:	Received By:	Date:	Time:		
				<u>10/18/18</u>	<u>1310</u>	<u>Caithlin O'Neill</u>	<u>10/18/18</u>	<u>1320</u>		
		Custody Seal:		Shipped Via:	Receipt Temp:	Thermometer #/ Exp. Date:	Temp Blank:			
		<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		<u>Walk in</u>	<u>NA</u>	<u>NA</u>	<input type="checkbox"/> Y <input type="checkbox"/> N			



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CHAIN OF CUSTODY

No. 10243

Page: 1 of 1

Project Number: <u>M1001454.002.0001A</u> PO Number:				Lab Work Order #: <u>V184210</u>				Report To:																																																																																														
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																																																																																														
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																																																																																														
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:																																																																																														
If Rush, Report Due Date:								E-mail Address:																																																																																														
Sampled By (Print): <u>ASHLEY REIBEL</u>				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> <tr> <td><u>SB-121-2-3-101818</u></td> <td><u>10/2/18</u></td> <td><u>1352</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-18</u></td> <td><u>1420</u></td> </tr> <tr> <td><u>SB-121-3-4-101818</u></td> <td><u> </u></td> <td><u>1354</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-19</u></td> <td><u> </u></td> </tr> <tr> <td><u>SB-121-4-5-101818</u></td> <td><u> </u></td> <td><u>1356</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-20</u></td> <td><u> </u></td> </tr> <tr> <td><u>SB-121-5-6-101818</u></td> <td><u> </u></td> <td><u>1358</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-21</u></td> <td><u> </u></td> </tr> <tr> <td><u>SB-121-6-7-101818</u></td> <td><u> </u></td> <td><u>1400</u></td> <td><u>S</u></td> <td><u>2</u></td> <td><u>X</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td><u>-22</u></td> <td><u>↓</u></td> </tr> </table>				Sample Description	Collection		Matrix	Total # of Containers								Comments	Lab ID	Lab Receipt Time	Date	Time	<u>SB-121-2-3-101818</u>	<u>10/2/18</u>	<u>1352</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-18</u>	<u>1420</u>	<u>SB-121-3-4-101818</u>	<u> </u>	<u>1354</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-19</u>	<u> </u>	<u>SB-121-4-5-101818</u>	<u> </u>	<u>1356</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-20</u>	<u> </u>	<u>SB-121-5-6-101818</u>	<u> </u>	<u>1358</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-21</u>	<u> </u>	<u>SB-121-6-7-101818</u>	<u> </u>	<u>1400</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-22</u>	<u>↓</u>	Invoice To:		
Sample Description	Collection		Matrix						Total # of Containers																				Comments	Lab ID	Lab Receipt Time																																																																							
	Date	Time																																																																																																				
<u>SB-121-2-3-101818</u>	<u>10/2/18</u>	<u>1352</u>	<u>S</u>					<u>2</u>	<u>X</u>								<u>-18</u>	<u>1420</u>																																																																																				
<u>SB-121-3-4-101818</u>	<u> </u>	<u>1354</u>	<u>S</u>					<u>2</u>	<u>X</u>								<u>-19</u>	<u> </u>																																																																																				
<u>SB-121-4-5-101818</u>	<u> </u>	<u>1356</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-20</u>	<u> </u>																																																																																								
<u>SB-121-5-6-101818</u>	<u> </u>	<u>1358</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-21</u>	<u> </u>																																																																																								
<u>SB-121-6-7-101818</u>	<u> </u>	<u>1400</u>	<u>S</u>	<u>2</u>	<u>X</u>								<u>-22</u>	<u>↓</u>																																																																																								
								Company:																																																																																														
								Address 1:																																																																																														
								Address 2:																																																																																														

Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Matrix Codes A=Air S=Soil W=Water O=Other	Other Comments:	Relinquished By: <u>Ashley Reibel</u> Date: <u>10/2/18</u> Time: <u>1420</u> Relinquished By: _____ Date: _____ Time: _____	Received By: <u>Colin Stahl</u> Date: <u>10/18/18</u> Time: <u>1420</u> Received By: _____ Date: _____ Time: _____	
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>W. H. M.</u>	Receipt Temp: <u>NA</u>	Thermometer #/ Exp. Date: <u>NA</u>	Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N



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CHAIN OF CUSTODY

No. 10257

Page: of:

Project Number: <u>M1001454 0822 0521A</u> PO Number:				Lab Work Order #: <u>V184210</u>				Report To:		
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:		
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:		
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>8260B</u> <u>8260B-SIM</u>				Address 2:		
If Rush, Report Due Date:								E-mail Address:		
Sampled By (Print): <u>CAITLIN O'NEILL</u>								Invoice To:		
								Company:		
								Address 1:		
								Address 2:		
Sample Description			Collection				Comments		Lab ID	Lab Receipt Time
			Date	Time						
<u>SB-122-1-2-101818</u>			<u>10/18/18</u>	<u>1455</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-23</u>	
<u>SB-122-5-6-101818</u>			<u>10/18/18</u>	<u>1500</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-24</u>	
<u>SB-122-7-8-101818</u>			<u>10/18/18</u>	<u>1505</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-25</u>	
<u>SB-122-9-10-101818</u>			<u>10/18/18</u>	<u>1510</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-26</u>	
<u>SB-122-11-12-101818</u>			<u>10/18/18</u>	<u>1515</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-27</u>	
<u>SB-122-19-20-101818</u>			<u>10/18/18</u>	<u>1520</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-28</u>	
<u>SB-122-23.5-24.5-101818</u>			<u>10/18/18</u>	<u>1525</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-29</u>	
<u>SB-122-26-27-101818</u>			<u>10/18/18</u>	<u>1530</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>X</u>	<u>-30</u>	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Caitlin O'Neill</u> Date: <u>10/18/18</u> Time: <u>15:45</u>		Received By: <u>Colin Fran</u> Date: <u>10/18/18</u> Time: <u>1545</u>				
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date: Time:		Received By:		
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N		



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CHAIN OF CUSTODY

No. 10248

Page: 1 of 3 *02-01-2/18*

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184301</u>				Report To: <u>EMAIL LIST</u>					
Project Name: <u>FORD LTP</u>				Preservation Codes				Company: <u>ARCADIS</u>					
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs</u>				Address 2:					
If Rush, Report Due Date:								E-mail Address:					
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:					
Sample Description				Collection		Matrix		Total # of Containers		Comments		Lab ID	Lab Receipt Time
				Date	Time								
<u>SB-124-6-10-101818</u>				<u>10/18/18</u>	<u>1650</u>	<u>GW</u>	<u>2</u>	<u>X</u>			<u>-01</u>		
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u> Date: <u>10/18/18</u> Time: <u>1730</u>		Received By: <u>Colin Smith</u> Date: <u>10/22/18</u> Time: <u>1600</u>							
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walton</u>		Receipt Temp: <u>39°C</u>							
				Thermometer #/ Exp. Date: <u>181303091 / 9/17/19</u>		Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N							

*Sample left in fridge * 38*



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CHAIN OF CUSTODY

No. 10249

Page: 3 of: 3 *CS (10/22/18)*

Project Number: <u>M001454-0002-0001</u> PO Number:		Lab Work Order #: <u>V184301</u>			Report To:																															
Project Name: <u>FORD ITP</u>		Preservation Codes			Company:																															
Project Location (City, State): <u>LIVONIA MI</u>		Analyses Requested			Address 1:																															
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					Address 2:																															
If Rush, Report Due Date:					E-mail Address:																															
Sampled By (Print): <u>ASHLEY REIBEL</u>					Invoice To:																															
					Company:																															
					Address 1:																															
					Address 2:																															
Sample Description	Collection		Matrix	Total # of Containers							Comments	Lab ID	Lab Receipt Time																							
	Date	Time																																		
<u>SB-127-25-29-102218</u>	<u>10/22/18</u>	<u>1530</u>	<u>GW</u>	<u>2</u>	<u>X</u>							<u>-04</u>																								
<u>SB-127-20-24-102218</u>	<u> </u>	<u>1545</u>	<u>GW</u>	<u>2</u>	<u>X</u>							<u>-05</u>																								
<u>SB-127-15-19-102218</u>	<u> </u>	<u>1605</u>	<u>GW</u>	<u>2</u>	<u>X</u>							<u>-06</u>																								
<table border="0"> <tr> <td>Preservation Codes A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</td> <td>Other Comments:</td> <td>Relinquished By: <i>Ashley Reibel</i></td> <td>Date: <u>10/22/18</u></td> <td>Time: <u>1625</u></td> <td>Received By: <i>Coleman Smith</i></td> <td>Date: <u>10/22/18</u></td> <td>Time: <u>1625</u></td> </tr> <tr> <td>Matrix Codes A=Air S=Soil W=Water O=Other</td> <td></td> <td>Relinquished By:</td> <td>Date:</td> <td>Time:</td> <td>Received By:</td> <td>Date:</td> <td>Time:</td> </tr> <tr> <td colspan="2">Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact</td> <td colspan="2">Shipped Via: <u>NA</u></td> <td>Receipt Temp: <u>NA</u></td> <td colspan="2">Thermometer #/ Exp. Date: <u>NA</u></td> <td>Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N</td> </tr> </table>													Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:	Relinquished By: <i>Ashley Reibel</i>	Date: <u>10/22/18</u>	Time: <u>1625</u>	Received By: <i>Coleman Smith</i>	Date: <u>10/22/18</u>	Time: <u>1625</u>	Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By:	Date:	Time:	Received By:	Date:	Time:	Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>NA</u>		Receipt Temp: <u>NA</u>	Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Other Comments:	Relinquished By: <i>Ashley Reibel</i>	Date: <u>10/22/18</u>	Time: <u>1625</u>	Received By: <i>Coleman Smith</i>	Date: <u>10/22/18</u>	Time: <u>1625</u>																													
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By:	Date:	Time:	Received By:	Date:	Time:																													
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>NA</u>		Receipt Temp: <u>NA</u>	Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																													

While in CS 10/22/18



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CHAIN OF CUSTODY

No. 10247

Page: 1 of 13 ¹³ ^{01/22/18}

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184302</u>				Report To: <u>EMAILLIST</u>							
Project Name: <u>FORDLTP</u>				Preservation Codes				Company: <u>ARCADIS</u>							
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix	Total # of Containers	<u>VOCs</u>					Address 2:				
If Rush, Report Due Date:											E-mail Address:				
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:							
Sample Description				Collection								Address 1:			
				Date	Time							Address 2:			
<u>SB-124-1-2-101818</u>				<u>10/18/18</u>	<u>1634</u>	<u>S</u>	<u>2</u>	<u>X</u>				Comments	Lab ID	Lab Receipt Time	
<u>SB-124-2-3-101818</u>					<u>1636</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-01</u>		
<u>SB-124-3-4-101818</u>					<u>1638</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-02</u>		
<u>SB-124-4-5-101818</u>					<u>1640</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-03</u>		
<u>SB-124-5-6-101818</u>					<u>1642</u>	<u>S</u>	<u>2</u>	<u>X</u>					<u>-04</u>		
													<u>-05</u>		
<u>Preservation Codes</u> A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				<u>Other Comments:</u>				Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/18/18</u>	Time: <u>1715</u>	Received By: <u>Coleman</u>		Date: <u>10/22/18</u>	Time: <u>1600</u>
								Relinquished By:		Date:	Time:	Received By:		Date:	Time:
<u>Matrix Codes</u> A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10268

Page: 2 of 3

Project Number: <u>WI001454 1232 0031A</u> PO Number:					Lab Work Order #: <u>V184302</u>					Report To:																																																																																																																																																																																											
Project Name: <u>FORD LTP</u>					Preservation Codes					Company:																																																																																																																																																																																											
Project Location (City, State): <u>LIVONIA, MI</u>					Analyses Requested					Address 1:																																																																																																																																																																																											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush					<table border="1"> <tr> <td rowspan="4">Matrix</td> <td rowspan="4">Total # of Containers</td> <td rowspan="4">82608</td> <td rowspan="4">82608-51M</td> <td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>					Matrix	Total # of Containers	82608	82608-51M																																	Address 2:																																																																																																																																																							
Matrix	Total # of Containers	82608	82608-51M																																																																																																																																																																																																		
If Rush, Report Due Date:					<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> </table>																									E-mail Address:																																																																																																																																																																							
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Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact					Shipped Via: <u>Walton</u>			Receipt Temp: <u>5.9°C</u>		Thermometer #/ Exp. Date: <u>181303091 / 9/7/19</u>		Temp Blank: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N																																																																																																																																																																																									

Samples left in fridge #38.



Pace Analytical - ECCS Division
 2525 Advance Road
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 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10233

Page: X³ of: V³ *CEL 10/22/18*

Project Number: <u>M1001454.0002.0001A</u>		Project Name: <u>FORD LTP</u>		Project Location (City, State): <u>LIVONIA MI</u>		Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		If Rush, Report Due Date:		Sampled By (Print): <u>ASHLEY REIBEL</u>		Lab Work Order #: <u>V184302</u>		Report To:		Company:		Address 1:		Address 2:		E-mail Address:									
Sample Description		Collection Date Time		Matrix		Total # of Containers																		Comments		Lab ID		Lab Receipt Time			
SB-127-1-2-102218		10/22/18 1432		S		2		X																		-16					
SB-127-5-6-102218		1444		S		2		X																		-17					
SB-127-7-8-102218		1450		S		2		X																		-18					
SB-127-9-10-102218		1454		S		2		X																		-19					
SB-127-11-12-102218		1458		S		2		X																		-20					
SB-127-19-20-102218		1512		S		2		X																		-21					
SB-127-23.5-24.5-102218		1514		S		2		X																		-22					
SB-127-26-27-102218		1516		S		2		X																		-23					
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u> Relinquished By:				Date: <u>10/22/18</u> Time: <u>1625</u>		Received By: <u>Coleman Smith</u> Received By:				Date: <u>10/22/18</u> Time: <u>1625</u>																	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NR</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																			



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CHAIN OF CUSTODY

No. 10015

Page: 1 of 1

Project Numbers: <u>M10001454.0002.0001</u> APO Number:				Lab Work Order #: <u>V184303</u>				Report To:																																																											
Project Name: <u>FORDLTP</u>				Preservation Codes				Company:																																																											
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																																																											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush								Address 2:																																																											
If Rush, Report Due Date:								E-mail Address:																																																											
Sampled By (Print): <u>ASHLEY REIBEL</u>				Matrix Total # of Containers <u>V005</u>				Invoice To:																																																											
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CHAIN OF CUSTODY

No. 10210

Page: 1 of: 1

Project Number: M1001454-0002-0001A-PO Number:				Lab Work Order #: V184303				Report To:																																																																																																																																																																																																																																																																																																																																	
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SB-128-20-24-102318	10/23/18	1650	GW	2	X											04																																																																																																																																																																																																																																																																																																																									
SB-128-15-19-102318	L	1710	GW	2	X											05																																																																																																																																																																																																																																																																																																																									
Address 2:				Address 2:				Address 2:																																																																																																																																																																																																																																																																																																																																	
Preservation Codes				Matrix				Address 2:																																																																																																																																																																																																																																																																																																																																	
Other Comments:				Relinquished By:				Date:		Time:		Received By:		Date:		Time:																																																																																																																																																																																																																																																																																																																									
<p>A=None B=HCL C=H₂SO₄ D=HNO₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)</p> <p>Matrix Codes A=Air S=Soil W=Water O=Other</p>				<p><i>* Actual times are 1850 & 1910, respectively.</i></p> <p><i>Ashley Reibel</i></p>				10/23/18		1925		<i>Colin Hall</i>		10/23/18		1925																																																																																																																																																																																																																																																																																																																									
Relinquished By:				Custody Seal:				Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank:																																																																																																																																																																																																																																																																																																																											
<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Walk in				NA		NA				<input type="checkbox"/> Y <input type="checkbox"/> N																																																																																																																																																																																																																																																																																																																											



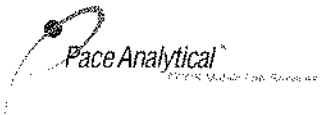
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CHAIN OF CUSTODY

No. 10259

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Project Number: <u>MILWAUKEE 0002 0001A</u> PO Number:		Lab Work Order #: <u>V184304</u>			Report To:																																													
Project Name: <u>FORD LTP</u>		Preservation Codes			Company:																																													
Project Location (City, State): <u>LIVONIA, MI</u>		Analyses Requested			Address 1:																																													
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1"> <tr> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">VACS</td> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>			Matrix	Total # of Containers	VACS																																										Address 2:	
Matrix	Total # of Containers							VACS																																										
If Rush, Report Due Date:		E-mail Address:		Invoice To:																																														
Sampled By (Print): <u>ASHLEY REIBEL</u>		Company:		Address 1:																																														
Sample Description		Collection		Address 2:																																														
		Date	Time	Comments	Lab ID	Lab Receipt Time																																												
<u>UFHP-128_1-2-102318</u>		<u>10/23/18</u>	<u>1214</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>ms/MSD</u>	<u>-01</u>																																										
<u>UFHP-128_3-4-102318</u>			<u>1216</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-02</u>																																										
<u>UFHP-128_5-6-102318</u>			<u>1218</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-03</u>																																										
<u>UFHP-128_7-8-102318</u>			<u>1220</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-04</u>																																										
<u>UFHP-128_9-10-102318</u>			<u>1222</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-05</u>																																										
<u>UFHP-128_19-20-102318</u>			<u>1242</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-06</u>																																										
<u>DUP-26-102318</u>			<u>-</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-07</u>																																										
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u> Date: <u>10/23/18</u> Time: <u>1430</u>		Received By: <u>Colin Smith</u> Date: <u>10/23/18</u> Time: <u>1430</u>																																												
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By: Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Work in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																								



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CHAIN OF CUSTODY

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Project Number: <u>L1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184304</u>				Report To:			
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:			
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs</u>				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:			
								Company:			
Sample Description				Collection		Address 1:		Address 2:			
				Date	Time	Matrix	Total # of Containers	Comments		Lab ID	Lab Receipt Time
<u>SB-128-1-2-102318</u>				<u>10/23/18</u>	<u>1748</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-08</u>		
<u>SB-128-5-6-102318</u>					<u>1750</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-09</u>		
<u>SB-128-7-8-102318</u>					<u>1752</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-10</u>		
<u>SB-128-9-10-102318</u>					<u>1754</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-11</u>		
<u>SB-128-11-12-102318</u>					<u>1756</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-12</u>		
<u>SB-128-19-20-102318</u>					<u>1758</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-13</u>		
<u>SB-128-23.5-24.5-102318</u>					<u>*1600</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-14</u>		
<u>SB-128-26-27-102318</u>					<u>*1602</u>	<u>S</u>	<u>2</u>	<u>X</u>	<u>-15</u>		
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments: <u>* Actual time is 1800 & 1802, respectively.</u>		Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/23/18</u>	Time: <u>1830</u>	Received By: <u>Colin [Signature]</u>		Date: <u>10/23/18</u>	Time: <u>1830</u>
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date:	Time:	Received By:		Date:	Time:
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

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Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184306</u>				Report To:																	
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:																	
Project Location (City, State): <u>LIVONIA, MI</u>				Analyses Requested				Address 1:																	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1"> <tr> <th>Matrix</th> <th>Total # of Containers</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> </tr> <tr> <td></td> <td><u>VOCs</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>				Matrix	Total # of Containers								<u>VOCs</u>							Address 2:	
Matrix	Total # of Containers																								
	<u>VOCs</u>																								
If Rush, Report Due Date:								E-mail Address:																	
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:																	
Sample Description				Collection				Company:																	
								Date		Time		Address 1:													
								Address 2:																	
								Comments																	
								Lab ID																	
								Lab Receipt Time																	
<u>SB-129-1-2-102418</u>				<u>10/24/18 1100</u>				<u>S 2 X</u>		<u>-01</u>															
<u>SB-129-3-4-102418</u>				<u>1102</u>				<u>S 2 X</u>		<u>-02</u>															
<u>SB-129-6-7-102418</u>				<u>1114</u>				<u>S 2 X</u>		<u>-03</u>															
<u>SB-129-7-8-102418</u>				<u>1116</u>				<u>S 2 X</u>		<u>-04</u>															
<u>SB-129-9-10-102418</u>				<u>1118</u>				<u>S 2 X</u>		<u>-05</u>															
<u>SB-129-24-25-102418</u>				<u>1200</u>				<u>S 2 X</u>		<u>-06</u>															
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <u>Ashley Reibel</u>		Date: <u>10/24/18</u>		Time: <u>1240</u>		Received By: <u>Colleen Ansel</u>		Date: <u>10/24/18</u>		Time: <u>1240</u>							
Matrix Codes A=Air S=Soil W=Water O=Other								Relinquished By:		Date:		Time:		Received By:		Date:		Time:							
								Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>WALK CO</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N									



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CHAIN OF CUSTODY

No. 10211

Page: 2 of: 13 *CUA 1 of 2 of 18*

Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184308</u>				Report To:	
Project Name: <u>FORD ITP</u>				Preservation Codes				Company:	
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs</u>				Address 2:	
If Rush, Report Due Date:								E-mail Address:	
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:	
Sample Description								Company:	
				Address 1:					
				Address 2:		Lab ID		Lab Receipt Time	
								Comments	
<u>HPT-180-1-2-102518</u>		<u>10/25/18</u>	<u>1026</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-08</u>	
<u>HPT-180-2-3-102518</u>			<u>1028</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-09</u>	
<u>HPT-180-3-4-102518</u>			<u>1030</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-10</u>	
<u>HPT-180-4-5-102518</u>			<u>1032</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-11</u>	
<u>HPT-180-23-24-102518</u>			<u>1155</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-12</u>	
<u>HPT-180-25-26-102518</u>			<u>1157</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-13</u>	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Reibel</u> Date: <u>10/25/18</u> Time: <u>1320</u>		Received By: <u>Colleen Moore</u> Date: <u>10/25/18</u> Time: <u>1320</u>			
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Received By:			
				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>	
						Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10213

Page: 3 of: 3 *CA 10/22/18*

Project Number: <u>M1001454 0002 0004</u> APO Number:				Lab Work Order #: <u>V184308</u>				Report To:		
Project Name: <u>FORD LTP</u>				Preservation Codes				Company:		
Project Location (City, State): <u>LIVONIA MI</u>				Analyses Requested				Address 1:		
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>6225</u>				Address 2:		
If Rush, Report Due Date:								E-mail Address:		
Sampled By (Print): <u>ASHLEY REIBEL</u>								Invoice To:		
Sample Description				Collection Date Time Matrix Total # of Containers				Company:		
								Address 1:		
								Address 2:		
								Comments		
								Lab ID	Lab Receipt Time	
<u>HPT-181-1-2-102518</u>				<u>10/25/18 1424 S 2 X</u>				<u>-14</u>		
<u>HPT-181-2-3-102518</u>				<u>1428 S 2 X</u>				<u>-15</u>		
<u>HPT-181-3-4-102518</u>				<u>1430 S 2 X</u>				<u>-16</u>		
<u>HPT-181-4-5-102518</u>				<u>1432 S 2 X</u>				<u>-17</u>		
<u>HPT-181-6-6-102518</u>				<u>1502 S 2 X</u>				<u>-18</u>		
<u>HPT-181-22-23-102518</u>				<u>1622 S 2 X</u>				<u>-19</u>		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <u>Ashley Reibel</u> Date: <u>10/25/18</u> Time: <u>1645</u> Relinquished By: _____ Date: _____ Time: _____				Received By: <u>Colleen Marshall</u> Date: <u>10/25/18</u> Time: <u>1645</u> Received By: _____ Date: _____ Time: _____		
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N



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CHAIN OF CUSTODY

No. 10232

Page: 1 of 12 ^{WS} 10/26/18

Lab Work Order #: V184309				Report To: EMAIL LIST			
				Company: ARCADIS			
Preservation Codes				Address 1:			
Analyses Requested				Address 2:			
				E-mail Address:			
Invoice To:				Company:			
				Address 1:			
				Address 2:			
				Comments		Lab ID	Lab Receipt Time

Project Number: **MIG0454 C002 C001A** PD Number:

Project Name: **FORD LTP**

Project Location (City, State): **LIVONIA, MI**

Turn Around (check one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): **ASHLEY REIBEL**

Sample Description	Collection		Matrix	Total # of Containers	VOCs													
	Date	Time																
HPT-181-24-28-102618	10/26/18	1000	GW	2	X													
HPT-181-115-102618		1120	GW	2	X													
HPT-181-6-10-102618		1135	GW	2	X													

Preservation Codes
 A=None B=HCL C=H₂SO₄
 D=HNO₃ E=EnCore F=Methanol
 G=NaOH O=Other (Indicate)

Matrix Codes
 A=Air S=Soil W=Water O=Other

Other Comments:

Relinquished By: *Ashley Reibel*
 Relinquished By: *[Signature]*

Custody Seal:
 NA Intact Not Intact

Date: 10/26/18 Time: 1142
 Date: Time:

Shipped Via: **W&I**

Received By: *[Signature]*
 Received By:

Receipt Temp: Thermometer #/ Exp. Date: Temp Blank: Y N

Date: 10/26/18 Time: 1142
 Date: Time:

Rev. 12/15



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CHAIN OF CUSTODY

No. 10214

Page: 1 of 1

Project Number: <u>M1001454-0002.0001A</u> PO Number:		Lab Work Order #: <u>V184310</u>		Report To: <u>EMERSON</u>																					
Project Name: <u>FORD LTP</u>		Preservation Codes		Company: <u>ARADIS</u>																					
Project Location (City, State): <u>LIVONIA MI</u>		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;">Matrix</td> <td style="width:10%;">Total # of Containers</td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td></td> <td style="text-align:center; vertical-align:middle;"><u>VCCS</u></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		Matrix	Total # of Containers										<u>VCCS</u>									Address 2:	
Matrix	Total # of Containers																								
	<u>VCCS</u>																								
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): <u>ASHLEY ZEIGEL</u>		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Comments	Lab ID	Lab Receipt Time																			
<u>HPT-184-1-2-102018</u>		<u>10/26/18</u>	<u>1232</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-01</u>															
<u>HPT-184-2-3-102018</u>		<u>10/26/18</u>	<u>1234</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-02</u>															
<u>HPT-184-3-4-102018</u>		<u> </u>	<u>1236</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-03</u>															
<u>HPT-184-4-5-102018</u>		<u> </u>	<u>1238</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-04</u>															
<u>HPT-184-5-6-102018</u>		<u> </u>	<u>1240</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-05</u>															
<u>HPT-184-21-22-102018</u>		<u> </u>	<u>132</u>	<u>S</u>	<u>2</u>	<u>X</u>				<u>-06</u>															
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>Ashley Zeigel</u>		Date: <u>10/26/18</u> Time: <u>1325</u>		Received By: <u>Colin Hall</u>		Date: <u>10/26/18</u> Time: <u>1325</u>															
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walk in</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N															



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CHAIN OF CUSTODY

No. 10269

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Project Number: M1001454.0002 PO Number:				Lab Work Order #: V184402				Report To:																																																																																																														
Project Name: Ford LTP				Preservation Codes				Company: Arcadis																																																																																																														
Project Location (City, State): Livonia, MI				Analyses Requested				Address 1:																																																																																																														
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers VOC				Address 2:																																																																																																														
If Rush, Report Due Date:								E-mail Address:																																																																																																														
Sampled By (Print): C. Reuteman				<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2">Sample Description</th> <th colspan="2">Collection</th> <th rowspan="2">Matrix</th> <th rowspan="2">Total # of Containers</th> <th rowspan="2">X</th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2"></th> <th rowspan="2">Comments</th> <th rowspan="2">Lab ID</th> <th rowspan="2">Lab Receipt Time</th> </tr> <tr> <th>Date</th> <th>Time</th> </tr> </thead> <tbody> <tr> <td>HPT-182 - 1-2 - 102918</td> <td>10/29/18</td> <td>1420</td> <td>S</td> <td>2</td> <td>X</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-01</td> <td>16:00</td> </tr> <tr> <td>HPT-182 - 2-3 - 102918</td> <td></td> <td>1425</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-02</td> <td></td> </tr> <tr> <td>HPT-182 - 3-4 - 102918</td> <td></td> <td>1430</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-03</td> <td></td> </tr> <tr> <td>HPT-182 - 4-5 - 102918</td> <td></td> <td>1435</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-04</td> <td></td> </tr> <tr> <td>HPT-182 - 5-6 - 102918</td> <td></td> <td>1440</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-05</td> <td></td> </tr> <tr> <td>HPT-182 - 27-28 - 102918</td> <td></td> <td>1445</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-06</td> <td>2</td> </tr> </tbody> </table>				Sample Description	Collection		Matrix	Total # of Containers	X							Comments	Lab ID	Lab Receipt Time	Date	Time	HPT-182 - 1-2 - 102918	10/29/18	1420	S	2	X								-01	16:00	HPT-182 - 2-3 - 102918		1425											-02		HPT-182 - 3-4 - 102918		1430											-03		HPT-182 - 4-5 - 102918		1435											-04		HPT-182 - 5-6 - 102918		1440											-05		HPT-182 - 27-28 - 102918		1445											-06	2	Invoice To:			
Sample Description	Collection		Matrix						Total # of Containers	X																			Comments	Lab ID	Lab Receipt Time																																																																																							
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HPT-182 - 5-6 - 102918		1440											-05																																																																																																									
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				Company:				Address 1:																																																																																																														
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Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: 				Relinquished By: Date: 10/29/18 Time: 1700		Received By: Date: 10/29/18 Time: 17:00																																																																																																												
Relinquished By: _____ Date: _____ Time: _____				Received By: _____ Date: _____ Time: _____		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: Walk'n		Receipt Temp: NA		Thermometer #/ Exp. Date: NA		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																																																																																								



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CHAIN OF CUSTODY

No. 10273

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Project Number: <u>M100454.0002.0001 A</u> PO Number:				Lab Work Order #: <u>✓184403</u>				Report To:																									
Project Name: <u>Ford LTP</u>				Preservation Codes				Company: <u>Arcadis</u>																									
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:																									
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOC</u>				Address 2:																									
If Rush, Report Due Date:								E-mail Address:																									
Sampled By (Print): <u>L. Reuteman</u>								Invoice To:																									
								Company:																									
Sample Description				Collection Date Time				Address 1:																									
								Comments		Lab ID	Lab Receipt Time																						
<u>SB-131-14-18-103018</u>		<u>10/30/18</u>	<u>1545</u>	<u>W</u>	<u>2</u>	<u>X</u>		<u>-04</u>	<u>16:40</u>																								
<u>SB-131-5-9-103018</u>		<u>↓</u>	<u>1605</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>		<u>-05</u>	<u>↓</u>																								
 <table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td colspan="2">Sample Description</td> <td colspan="2">Collection Date Time</td> <td colspan="2">Matrix Total # of Containers</td> <td colspan="2"></td> <td colspan="2">Comments</td> <td>Lab ID</td> <td>Lab Receipt Time</td> </tr> <tr> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td colspan="2"></td> <td></td> <td></td> </tr> </table> 										Sample Description		Collection Date Time		Matrix Total # of Containers				Comments		Lab ID	Lab Receipt Time												
Sample Description		Collection Date Time		Matrix Total # of Containers				Comments		Lab ID	Lab Receipt Time																						
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u>		Date: <u>10/30/18</u> Time: <u>1645</u>		Received By: <u>[Signature]</u>		Date: <u>10/30/18</u> Time: <u>16:45</u>																							
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Date: Time:		Received By:		Date: Time:																							
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Wa/Kit</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																							



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CHAIN OF CUSTODY

No. 10272

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Project Number: M1001454.0002.0001 APO Number:		Lab Work Order #: V184404		Report To:																					
Project Name: Ford LTP		Preservation Codes		Company: Arcadis																					
Project Location (City, State): Livonia, MI		Analyses Requested		Address 1:																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="text-align:center;">VOC</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>												Matrix	Total # of Containers	VOC								Address 2:	
Matrix	Total # of Containers			VOC																					
If Rush, Report Due Date:				E-mail Address:		Invoice To:																			
Sampled By (Print): L. Reuteman		Company:		Address 1:																					
Sample Description		Collection		Address 2:																					
		Date	Time	Comments	Lab ID	Lab Receipt Time																			
HPT-185-12-103018		10/30/18	1030	S	2	X		-01	13:10																
HPT-185-2-3-103018			1035					-02																	
HPT-185-3-4-103018			1040					-03																	
HPT-185-4-5-103018			1045					-04																	
HPT-185-5-6-103018			1050					-05																	
HPT-185-21-22-103018			1055					-06																	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other		Other Comments:		Relinquished By:		Date: 10/30/18		Time: 16:45																	
		Relinquished By:		Date:		Received By:		Date: 10/30/18		Time:															
Custody Seal:		Shipped Via:		Receipt Temp:		Thermometer #/ Exp. Date:		Temp Blank:																	
<input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Walkin		NA		NA		<input type="checkbox"/> Y <input type="checkbox"/> N																	



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CHAIN OF CUSTODY

No. 10274

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Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184401</u>				Report To:							
Project Name: <u>EORD LTP</u>				Preservation Codes				Company: <u>Arcadis</u>							
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:							
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOC</u>				Address 2:							
If Rush, Report Due Date:								E-mail Address:							
Sampled By (Print): <u>L. Reuteman</u>								Invoice To:							
								Company:							
Sample Description				Collection Date Time				Address 1:							
								Comments		Lab ID	Lab Receipt Time				
<u>SB-131-1-2-103018</u>				<u>10/30/18</u> <u>1445</u>				<u>S</u>	<u>2</u>	<u>X</u>			<u>-07</u>	<u>16:40</u>	
<u>SB-131-2-3-103018</u>													<u>-08</u>		
<u>SB-131-3-4-103018</u>													<u>-09</u>		
<u>SB-131-4-5-103018</u>													<u>-10</u>		
<u>SB-131-5-6-103018</u>													<u>-11</u>		
<u>SB-131-19-20-103018</u>													<u>-12</u>	<u>8</u>	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <u>[Signature]</u>		Date: <u>10/30/18</u>	Time:	Received By: <u>[Signature]</u>		Date: <u>10/30/18</u>	Time:
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:				Date:	Time:	Received By:		Date:	Time:		
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

No. 10278

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Project Number: <u>M100454.0002.0001A</u> PO Number:		Lab Work Order #: <u>V184405</u>		Report To:																																						
Project Name: <u>Ford LTP</u>		Preservation Codes		Company: <u>Arcais</u>																																						
Project Location (City, State): <u>Livonia, MI</u>		Analyses Requested		Address 1:																																						
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="text-align: center;">VOC</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>		Matrix	Total # of Containers	VOC																																			Address 2:	
Matrix	Total # of Containers					VOC																																				
If Rush, Report Due Date:		Invoice To:		Company:																																						
Sampled By (Print): <u>L. Reuteman</u>		Address 1:		Address 2:																																						
Sample Description	Collection		Matrix	Total # of Containers	VOC	Comments	Lab ID	Lab Receipt Time																																		
	Date	Time																																								
<u>SB-133-16-20-103118</u>	<u>10/31/18</u>	<u>1515</u>							<u>W</u>	<u>2</u>	<u>X</u>		<u>-04</u>	<u>16:25</u>																												
<u>SB-133-11-15-103118</u>	↓	<u>1530</u>							↓	↓	↓		<u>-05</u>	↓																												
<u>SB-133-6-10-103118</u>	↓	<u>1555</u>	↓	↓	↓		<u>-06</u>	↓																																		
 																																										
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u>		Date: <u>10/31/18</u> Time: <u>16:25</u>		Received By: <u>[Signature]</u>																																		
Matrix Codes A=Air S=Soil W=Water O=Other		Relinquished By:		Date:		Time:		Received By:																																		
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact			Shipped Via: <u>WALKIN</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																																	



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CHAIN OF CUSTODY

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Project Number: <u>M1001454.0002.0001A</u> PO Number:				Lab Work Order #: <u>V184406</u>		Report To:			
Project Name: <u>Ford LTP</u>				Preservation Codes		Company: <u>Arcadis</u>			
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested		Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOC</u>		Address 2:			
If Rush, Report Due Date:						E-mail Address:			
Sampled By (Print): <u>L. Reuteman</u>						Invoice To:			
Sample Description						Company:			
				Address 1:					
				Address 2:		Comments	Lab ID	Lab Receipt Time	
		Collection							
		Date	Time	Matrix	Total # of Containers				
<u>SB-132-1-2-103118</u>		<u>10/31/18</u>	<u>1115</u>	<u>S</u>	<u>2</u>	<u>X</u>		<u>-01</u>	<u>12:25</u>
<u>SB-132-2-3-103118</u>			<u>1120</u>					<u>-02</u>	
<u>SB-132-3-4-103118</u>			<u>1125</u>					<u>-03</u>	
<u>SB-132-45-103118</u>			<u>1130</u>					<u>-04</u>	
<u>SB-132-5-6-103118</u>			<u>1135</u>		<u>6</u>			<u>-05</u>	
<u>SB-132-21-22-103118</u>			<u>1140</u>		<u>2</u>			<u>-06</u>	
<u>DUP-28-103118</u>			<u>-</u>					<u>-07</u>	<u>2</u>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Date: <u>10/31/18</u> Time: <u>12:25</u>		Received By: <u>[Signature]</u> Date: <u>12/31/18</u> Time: <u>12:25</u>			
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By: Date: Time:		Received By: Date: Time:			
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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Project Number: <u>M1001454002.0001A</u> PO Number:		Lab Work Order #: <u>V184406</u>		Report To:																																					
Project Name: <u>Ford LTP</u>		Preservation Codes		Company: <u>ArcaDis</u>																																					
Project Location (City, State): <u>Livonia, MI</u>		Analyses Requested		Address 1:																																					
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush		<table border="1"> <tr> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td rowspan="4" style="writing-mode: vertical-rl; transform: rotate(180deg);">VOC</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>		Matrix	Total # of Containers	VOC																																		Address 2:	
Matrix	Total # of Containers						VOC																																		
If Rush, Report Due Date:		Invoice To:		E-mail Address:																																					
Sampled By (Print): <u>L. Restman</u>		Company:		Address 1:																																					
Sample Description		Collection		Address 2:																																					
		Date	Time	Comments	Lab ID	Lab Receipt Time																																			
<u>SB-133_1-2_103118</u>		<u>10/31/18</u>	<u>1435</u>	<u>S</u>	<u>2</u>	<u>X</u>			<u>-08</u>	<u>16:25</u>																															
<u>SB-133_2-3_103118</u>			<u>1440</u>						<u>-09</u>																																
<u>SB-133_3-4_103118</u>			<u>1445</u>						<u>-10</u>																																
<u>SB-133_4-5_103118</u>			<u>1450</u>						<u>-11</u>																																
<u>SB-133_5-6_103118</u>			<u>1455</u>						<u>-12</u>																																
<u>SB-133_26-27_103118</u>			<u>1500</u>						<u>-13</u>																																
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u>		Date: <u>10/31/18</u> Time: <u>16:25</u>		Received By: <u>[Signature]</u>		Date: <u>10/31/18</u> Time: <u>16:25</u>																															
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Walkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N																															



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No. 10281

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Project Number: <i>MI001454.0002.0001 C</i> PO Number:				Lab Work Order #: <i>V184407</i>				Report To:																																																																																																																																																																																																																																																				
Project Name: <i>Ford LTP</i>				Preservation Codes				Company: <i>Arcadis of Michigan, LLC</i>																																																																																																																																																																																																																																																				
Project Location (City, State): <i>Livonia, MI</i>				Analyses Requested				Address 1:																																																																																																																																																																																																																																																				
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> <td style="width:10%;"></td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Matrix</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Total # of Containers</td> <td style="text-align: center;"><i>VOC</i></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>												Matrix	Total # of Containers	<i>VOC</i>						Address 2:																																																																																																																																																																																																																																				
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Date: <i>NA</i> </td> <td colspan="2"> Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N </td> </tr> </tbody></table>				Sample Description	Collection		Matrix	Total # of Containers	VOC							Comments	Lab ID	Lab Receipt Time	Date	Time	<i>SB-134_24-28_110118</i>	<i>11/1/18</i>	<i>1115</i>	<i>W</i>	<i>2</i>	<input checked="" type="checkbox"/>								<i>-01</i>	<i>12:07</i>	<i>SB-134_11-15_110118</i>	<i>11/1/18</i>	<i>1135</i>	<i>W</i>	<i>2</i>	<input checked="" type="checkbox"/>								<i>-02</i>	<i>↓</i>	<i>SB-134_6-10_110118</i>	<i>11/1/18</i>	<i>1150</i>	<i>W</i>	<i>2</i>	<input checked="" type="checkbox"/>								<i>-03</i>	<i>↓</i>																																																																																																																																																																						Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate) Matrix Codes A=Air S=Soil W=Water O=Other				Other Comments: Relinquished By: <i>[Signature]</i> Date: <i>11/1/18</i> Time: <i>1200</i> Relinquished By: _____ Date: _____ Time: _____				Received By: <i>[Signature]</i> Date: <i>11/1/18</i> Time: <i>12:00</i> Received By: _____ Date: _____ Time: _____		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Walkin</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. 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Pace Analytical - ECCS Division
 2525 Advance Road
 Madison, WI 53718
 608-221-8700 (phone)
 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10285

Page: 2 of 2

Project Number: <i>MF001454.0002.0001C</i> PO Number:				Lab Work Order #: <i>V184407</i>				Report To:											
Project Name: <i>Ford LTP</i>				Preservation Codes				Company: <i>Arcadis of Michigan, LLC</i>											
Project Location (City, State): <i>Livonia, MI</i>				Analyses Requested				Address 1:											
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix				Address 2:											
If Rush, Report Due Date:								E-mail Address:											
Sampled By (Print): <i>Austin Westhuis</i>				Total # of Containers				Invoice To:											
Sample Description								VOCs				Company:							
				Collection Date								Address 1:							
Time				Address 2:				Comments		Lab ID		Lab Receipt Time							
<i>HPT-183-14-18-11018</i>		<i>11/1/18 1450</i>		<i>W 2</i>		<i>✓</i>				<i>-04</i>		<i>15:50</i>							
<i>HPT-183-9-13-11018</i>		<i>11/1/18 1505</i>		<i>W 2</i>		<i>✓</i>				<i>-05</i>		<i>1</i>							
<i>HPT-183-3-8-11018</i>		<i>11/1/18 1520</i>		<i>W 2</i>		<i>✓</i>				<i>-06</i>		<i>1</i>							
<i>Dup-29-11018</i>		<i>11/1/18 —</i>		<i>W 2</i>		<i>✓</i>				<i>-07</i>		<i>0</i>							
Preservation Codes A=None B=HCl C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)				Other Comments:				Relinquished By: <i>[Signature]</i>		Date: <i>11/1/18</i>		Time: <i>1545</i>		Received By: <i>[Signature]</i>		Date: <i>11/1/18</i>		Time: <i>15:50</i>	
Matrix Codes A=Air S=Soil W=Water O=Other				Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Vol/Kin</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>NA</i>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N					



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CHAIN OF CUSTODY

No. 10284

Page: 2 of 2

Project Number: <i>MI001454.0002.0001C</i> PO Number:				Lab Work Order #: <i>V184408</i>				Report To:	
Project Name: <i>Ford LTP</i>				Preservation Codes				Company: <i>Arcadis of Michigan, LLC</i>	
Project Location (City, State): <i>Livonia, MI</i>				Analyses Requested				Address 1:	
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <i>VOCs</i>				Address 2:	
If Rush, Report Due Date:								E-mail Address:	
Sampled By (Print): <i>Austin Westhuis</i>								Invoice To:	
								Company:	
Sample Description				Collection Date Time				Address 1:	
								Comments	
<i>HPT-183-1-2-110118</i>				<i>11/1/18 1335 S 2</i>				<i>✓</i>	<i>-07 15:50</i>
<i>HPT-183-2-3-110118</i>				<i>11/1/18 1340 S 2</i>				<i>✓</i>	<i>-08</i>
<i>HPT-183-3-4-110118</i>				<i>11/1/18 1345 S 2</i>				<i>✓</i>	<i>-09</i>
<i>HPT-183-4-5-110118</i>				<i>11/1/18 1350 S 2</i>				<i>✓</i>	<i>-10</i>
<i>HPT-183-5-6-110118</i>				<i>11/1/18 1355 S 2</i>				<i>✓</i>	<i>-11</i>
<i>HPT-183-17-18-110118</i>				<i>11/1/18 1425 S 2</i>				<i>✓</i>	<i>-12</i>
<i>HPT-183-28-29-110118</i>				<i>11/1/18 1430 S 2</i>				<i>✓</i>	<i>-13</i>
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <i>Austin Westhuis</i> Date: <i>11/1/18</i> Time: <i>1545</i>		Received By: <i>[Signature]</i> Date: <i>11/1/18</i> Time: <i>15:45</i>			
Matrix Codes A=Air S=Soil W=Water O=Other				Relinquished By:		Received By:			
Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact				Shipped Via: <i>Walther</i>		Receipt Temp: <i>NA</i>		Thermometer #/ Exp. Date: <i>N/A</i>	
								Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10287

Page: 2 of 2

Project Number: <u>ME001454.0002.0001C</u> PO Number:					Lab Work Order #: <u>1184409</u>					Report To:																																																																																																																																																																	
Project Name: <u>Ford LTP</u>					Preservation Codes					Company: <u>Arcadis of Michigan, LLC</u>																																																																																																																																																																	
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Pace Analytical - ECCS Division
 2525 Advance Road
 Madison, WI 53718
 608-221-8700 (phone)
 608-221-4889 (fax)

CHAIN OF CUSTODY

No. 10289

Page: 1 of 2

Project Number: <u>MF001454.0002.0001C</u> PO Number:				Lab Work Order #: <u>V184410</u>				Report To:			
Project Name: <u>Ford LTP</u>				Preservation Codes				Company: <u>Arcadis of Michigan, LLC</u>			
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>Austin Westhuis</u>				Total # of Containers				Invoice To:			
Sample Description								VOCs			
				Collection							
								Address 2:			
								Comments		Lab ID	Lab Receipt Time
HPT-186-1-2-110218		11/2/18	0945	S	2	✓			-01	11:32	
HPT-186-2-3-110218		11/2/18	0950	S	2	✓			-02		
HPT-186-3-4-110218		11/2/18	0955	S	2	✓			-03		
HPT-186-4-5-110218		11/2/18	1000	S	2	✓			-04		
HPT-186-5-6-110218		11/2/18	1005	S	2	✓			-05		
HPT-186-18-19-110218		11/2/18	1025	S	2	✓			-06		
HPT-186-28-29-110218		11/2/18	1030	S	2	✓			-07		
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Relinquished By:		Date: <u>11/2/18</u> Time: <u>1132</u> Date: Time:		Received By: <u>[Signature]</u> Received By:		Date: <u>11/2/18</u> Time: <u>1132</u> Date: Time:	
Matrix Codes A=Air S=Soil W=Water O=Other		Custody Seal: <input type="checkbox"/> NA <input type="checkbox"/> Intact <input type="checkbox"/> Not Intact		Shipped Via: <u>Watkin</u>		Receipt Temp: <u>NA</u>		Thermometer #/ Exp. Date: <u>NA</u>		Temp Blank: <input type="checkbox"/> Y <input type="checkbox"/> N	



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CHAIN OF CUSTODY

No. 10286

Page: 2 of 2

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Project Name: <u>Ford LTP</u>				Preservation Codes				Company: <u>Arcadis of Michigan, LLC</u>			
Project Location (City, State): <u>Livonia, MI</u>				Analyses Requested				Address 1:			
Turn Around (check one): <input type="checkbox"/> Normal <input type="checkbox"/> Rush				Matrix Total # of Containers <u>VOCs</u>				Address 2:			
If Rush, Report Due Date:								E-mail Address:			
Sampled By (Print): <u>Austin Westhuis</u>								Invoice To:			
								Company:			
Sample Description				Collection Date Time				Address 1:			
								Address 2:			
								Comments		Lab ID	Lab Receipt Time
<u>SB-135-1-2-110218</u>				<u>11/2/18 1220</u>						<u>-08</u>	<u>14:21</u>
<u>SB-135-2-3-110218</u>				<u>11/2/18 1225</u>						<u>-09</u>	
<u>SB-135-3-4-110218</u>				<u>11/2/18 1230</u>						<u>-10</u>	
<u>SB-135-4-5-110218</u>				<u>11/2/18 1235</u>						<u>-11</u>	
<u>SB-135-5-6-110218</u>				<u>11/2/18 1240</u>						<u>-12</u>	
<u>SB-135-19.5-20.5-110218</u>				<u>11/2/18 1300</u>						<u>-13</u>	
<u>SB-135-28-29-110218</u>				<u>11/2/18 1305</u>						<u>-14</u>	
Preservation Codes A=None B=HCL C=H ₂ SO ₄ D=HNO ₃ E=EnCore F=Methanol G=NaOH O=Other (Indicate)		Other Comments:		Relinquished By: <u>[Signature]</u> Relinquished By:		Date: <u>11/2/18</u> Time: <u>1421</u> Date: Time:		Received By: <u>[Signature]</u> Received By:		Date: <u>11/2/18</u> Time: <u>1421</u> Date: Time:	
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April 17, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110362-1
Sample date: 2019-04-01
Report received by CADENA: 2019-04-17
Initial Data Verification completed by CADENA: 2019-04-17

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC sample -001 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

SPV - SIM GCMS VOC samples -001 and -003 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

TBK - GCMS VOC TRIP blank had a detection below the RL for the following analyte: TRICHLOROETHENE. The following client sample results should be considered to be non-detect at the RL and qualified with UB flags: -005.

SIM GCMS VOC sample -002 SURROGATE recoveries were outliers biased high for 1 surrogate. Associated client sample results were non-detect so qualification was not required based on this high bias QC outlier.

GCMS VOC sample -003 MS recovery only was outlying for TRICHLOROETHENE so client sample results were not qualified based on this QC outlier alone.

SIM GCMS VOC QC batch MS/MSD issues were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

4 Water sample(s) were analyzed for GCMS VOC parameter(s).
5 Soil sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110362-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401103621	HPT-210-13-17_040119	4/1/2019	6:25:00	X	X	
2401103622	HPT-210-8-12_040119	4/1/2019	6:40:00	X	X	
2401103623	HPT-210-3-7_040119	4/1/2019	6:55:00	X	X	
2401103624	HPT-211-1-2_040119	4/1/2019	5:00:00	X		
2401103625	HPT-211-2-3_040119	4/1/2019	5:00:00	X		
2401103626	HPT-211-3-4_040119	4/1/2019	5:00:00	X		
2401103627	HPT-211-4-5_040119	4/1/2019	5:00:00	X		
2401103628	HPT-211-5-6_040119	4/1/2019	5:00:00	X		
2401103629	TRIP BLANK	4/1/2019	12:00:00	X		

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110362-1

Sample Name:	HPT-210-13-17_040119	HPT-210-3-7_040119	HPT-211-2-3_040119
Lab Sample ID:	2401103621	2401103623	2401103625
Sample Date:	4/1/2019	4/1/2019	4/1/2019

Analyte	Cas No.	Report		Valid	Report		Valid	Report		Valid	
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit

GC/MS VOC

OSW-8260B

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ								
cis-1,2-Dichloroethene	156-59-2	7.1	1.0	ug/l	J								
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ								
trans-1,2-Dichloroethene	156-60-5	1.8	1.0	ug/l	J								
Trichloroethene	79-01-6	6.3	1.0	ug/l	J				17	64	ug/kg	UB	
Vinyl chloride	75-01-4	ND	1.0	ug/l	UJ								

OSW-8260BBSim

1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	ND	20	ug/l	UJ				
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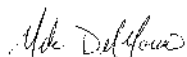
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110478-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/18/2019 3:11:31 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
TotalAccess

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 **Ask
The
Expert**

Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Job ID: 240-110478-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110478-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/4/2019 9:55 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 4 coolers at receipt time were 0.6° C, 0.8° C, 2.2° C and 3.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-211_13-17_080219 (240-110478-1), HPT-211_2-6_080219 (240-110478-2), HPT-211_7-11_080219 (240-110478-3), HPT-212_18-22_080219 (240-110478-4), HPT-212_10-14_080219 (240-110478-5), HPT-212_5-9_080219 (240-110478-6) and TRIP BLANK (240-110478-15) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/15/2019.

Samples HPT-211_2-6_080219 (240-110478-2)[1.67X], HPT-211_7-11_080219 (240-110478-3)[14.29X], HPT-212_18-22_080219 (240-110478-4)[5X] and HPT-212_10-14_080219 (240-110478-5)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples HPT-211_18-19_080219 (240-110478-7), HPT-210_0-1_080219 (240-110478-8), HPT-210_1-2_080219 (240-110478-9), HPT-210_2-3_080219 (240-110478-10), HPT-212_1-2_080219 (240-110478-11), HPT-212_2-3_080219 (240-110478-12), HPT-212_3-4_080219 (240-110478-13) and HPT-212_4-5_080219 (240-110478-14) were analyzed for volatile organic compounds in

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Job ID: 240-110478-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/09/2019.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-375537 and analytical batch 240-375622.

The continuing calibration verification (CCV) associated with batch 240-375622 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HPT-211_18-19_080219 (240-110478-7), HPT-210_0-1_080219 (240-110478-8), HPT-210_1-2_080219 (240-110478-9), HPT-210_2-3_080219 (240-110478-10), HPT-212_1-2_080219 (240-110478-11), HPT-212_2-3_080219 (240-110478-12), HPT-212_3-4_080219 (240-110478-13), HPT-212_4-5_080219 (240-110478-14) and (CCVIS 240-375622/4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-211_13-17_080219 (240-110478-1), HPT-211_2-6_080219 (240-110478-2), HPT-211_7-11_080219 (240-110478-3), HPT-212_18-22_080219 (240-110478-4), HPT-212_10-14_080219 (240-110478-5) and HPT-212_5-9_080219 (240-110478-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/10/2019.

Internal standard responses were outside of acceptance limits for the following samples: HPT-211_7-11_080219 (240-110478-3). The samples shows evidence of matrix interference.

The pH is greater than 2 for the following samples HPT-212_18-22_080219 (240-110478-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-211_18-19_080219 (240-110478-7), HPT-210_0-1_080219 (240-110478-8), HPT-210_1-2_080219 (240-110478-9), HPT-210_2-3_080219 (240-110478-10), HPT-212_1-2_080219 (240-110478-11), HPT-212_2-3_080219 (240-110478-12), HPT-212_3-4_080219 (240-110478-13) and HPT-212_4-5_080219 (240-110478-14) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/05/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110478-1	HPT-211_13-17_080219	Water	04/02/19 10:18	04/04/19 09:55
240-110478-2	HPT-211_2-6_080219	Water	04/02/19 10:50	04/04/19 09:55
240-110478-3	HPT-211_7-11_080219	Water	04/02/19 10:35	04/04/19 09:55
240-110478-4	HPT-212_18-22_080219	Water	04/02/19 14:05	04/04/19 09:55
240-110478-5	HPT-212_10-14_080219	Water	04/02/19 14:18	04/04/19 09:55
240-110478-6	HPT-212_5-9_080219	Water	04/02/19 14:33	04/04/19 09:55
240-110478-7	HPT-211_18-19_080219	Solid	04/02/19 09:45	04/04/19 09:55
240-110478-8	HPT-210_0-1_080219	Solid	04/02/19 09:00	04/04/19 09:55
240-110478-9	HPT-210_1-2_080219	Solid	04/02/19 09:00	04/04/19 09:55
240-110478-10	HPT-210_2-3_080219	Solid	04/02/19 09:00	04/04/19 09:55
240-110478-11	HPT-212_1-2_080219	Solid	04/02/19 15:40	04/04/19 09:55
240-110478-12	HPT-212_2-3_080219	Solid	04/02/19 15:40	04/04/19 09:55
240-110478-13	HPT-212_3-4_080219	Solid	04/02/19 15:40	04/04/19 09:55
240-110478-14	HPT-212_4-5_080219	Solid	04/02/19 15:40	04/04/19 09:55
240-110478-15	TRIP BLANK	Water	04/02/19 00:00	04/04/19 09:55

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_13-17_080219

Lab Sample ID: 240-110478-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	14		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	1.8		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	1.4		1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-211_2-6_080219

Lab Sample ID: 240-110478-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9.4		1.7	0.27	ug/L	1.67		8260B	Total/NA
trans-1,2-Dichloroethene	0.77	J	1.7	0.32	ug/L	1.67		8260B	Total/NA
Trichloroethene	45		1.7	0.17	ug/L	1.67		8260B	Total/NA

Client Sample ID: HPT-211_7-11_080219

Lab Sample ID: 240-110478-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	63		14	2.3	ug/L	14.29		8260B	Total/NA
trans-1,2-Dichloroethene	4.6	J	14	2.7	ug/L	14.29		8260B	Total/NA
Trichloroethene	320		14	1.4	ug/L	14.29		8260B	Total/NA

Client Sample ID: HPT-212_18-22_080219

Lab Sample ID: 240-110478-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	110		5.0	0.80	ug/L	5		8260B	Total/NA
trans-1,2-Dichloroethene	0.96	J	5.0	0.95	ug/L	5		8260B	Total/NA
Vinyl chloride	46		5.0	1.0	ug/L	5		8260B	Total/NA

Client Sample ID: HPT-212_10-14_080219

Lab Sample ID: 240-110478-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	35		10	1.6	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	3.2	J	10	1.9	ug/L	10		8260B	Total/NA
Trichloroethene	220		10	1.0	ug/L	10		8260B	Total/NA
Vinyl chloride	9.1	J	10	2.0	ug/L	10		8260B	Total/NA

Client Sample ID: HPT-212_5-9_080219

Lab Sample ID: 240-110478-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9.9		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.98	J	1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	7.5		1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	3.6		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-211_18-19_080219

Lab Sample ID: 240-110478-7

No Detections.

Client Sample ID: HPT-210_0-1_080219

Lab Sample ID: 240-110478-8

No Detections.

Client Sample ID: HPT-210_1-2_080219

Lab Sample ID: 240-110478-9

No Detections.

Client Sample ID: HPT-210_2-3_080219

Lab Sample ID: 240-110478-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_1-2_080219

Lab Sample ID: 240-110478-11

No Detections.

Client Sample ID: HPT-212_2-3_080219

Lab Sample ID: 240-110478-12

No Detections.

Client Sample ID: HPT-212_3-4_080219

Lab Sample ID: 240-110478-13

No Detections.

Client Sample ID: HPT-212_4-5_080219

Lab Sample ID: 240-110478-14

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110478-15

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_13-17_080219

Lab Sample ID: 240-110478-1

Date Collected: 04/02/19 10:18

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 16:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		63 - 125		04/10/19 16:39	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/15/19 16:12	1
cis-1,2-Dichloroethene	14		1.0	0.16	ug/L			04/15/19 16:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/15/19 16:12	1
trans-1,2-Dichloroethene	1.8		1.0	0.19	ug/L			04/15/19 16:12	1
Trichloroethene	1.4		1.0	0.10	ug/L			04/15/19 16:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/15/19 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 121		04/15/19 16:12	1
4-Bromofluorobenzene (Surr)	72		59 - 120		04/15/19 16:12	1
Toluene-d8 (Surr)	94		70 - 123		04/15/19 16:12	1
Dibromofluoromethane (Surr)	88		75 - 128		04/15/19 16:12	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_2-6_080219

Lab Sample ID: 240-110478-2

Date Collected: 04/02/19 10:50

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 17:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		63 - 125		04/10/19 17:05	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.7	U	1.7	0.32	ug/L	-		04/15/19 16:35	1.67
cis-1,2-Dichloroethene	9.4		1.7	0.27	ug/L			04/15/19 16:35	1.67
Tetrachloroethene	1.7	U	1.7	0.25	ug/L	-		04/15/19 16:35	1.67
trans-1,2-Dichloroethene	0.77	J	1.7	0.32	ug/L			04/15/19 16:35	1.67
Trichloroethene	45		1.7	0.17	ug/L			04/15/19 16:35	1.67
Vinyl chloride	1.7	U	1.7	0.33	ug/L	-		04/15/19 16:35	1.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		70 - 121		04/15/19 16:35	1.67
4-Bromofluorobenzene (Surr)	72		59 - 120		04/15/19 16:35	1.67
Toluene-d8 (Surr)	90		70 - 123		04/15/19 16:35	1.67
Dibromofluoromethane (Surr)	82		75 - 128		04/15/19 16:35	1.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_7-11_080219

Lab Sample ID: 240-110478-3

Date Collected: 04/02/19 10:35

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U *	2.0	0.86	ug/L	-		04/10/19 17:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		63 - 125		04/10/19 17:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	14	U	14	2.7	ug/L	-		04/15/19 16:57	14.29
cis-1,2-Dichloroethene	63		14	2.3	ug/L			04/15/19 16:57	14.29
Tetrachloroethene	14	U	14	2.1	ug/L			04/15/19 16:57	14.29
trans-1,2-Dichloroethene	4.6	J	14	2.7	ug/L			04/15/19 16:57	14.29
Trichloroethene	320		14	1.4	ug/L			04/15/19 16:57	14.29
Vinyl chloride	14	U	14	2.9	ug/L			04/15/19 16:57	14.29

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/15/19 16:57	14.29
4-Bromofluorobenzene (Surr)	81		59 - 120		04/15/19 16:57	14.29
Toluene-d8 (Surr)	100		70 - 123		04/15/19 16:57	14.29
Dibromofluoromethane (Surr)	97		75 - 128		04/15/19 16:57	14.29

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_18-22_080219

Lab Sample ID: 240-110478-4

Date Collected: 04/02/19 14:05

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 17:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		63 - 125		04/10/19 17:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L	-		04/15/19 17:19	5
cis-1,2-Dichloroethene	110		5.0	0.80	ug/L			04/15/19 17:19	5
Tetrachloroethene	5.0	U	5.0	0.75	ug/L			04/15/19 17:19	5
trans-1,2-Dichloroethene	0.96	J	5.0	0.95	ug/L			04/15/19 17:19	5
Trichloroethene	5.0	U	5.0	0.50	ug/L			04/15/19 17:19	5
Vinyl chloride	46		5.0	1.0	ug/L			04/15/19 17:19	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 121		04/15/19 17:19	5
4-Bromofluorobenzene (Surr)	85		59 - 120		04/15/19 17:19	5
Toluene-d8 (Surr)	105		70 - 123		04/15/19 17:19	5
Dibromofluoromethane (Surr)	100		75 - 128		04/15/19 17:19	5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_10-14_080219

Lab Sample ID: 240-110478-5

Date Collected: 04/02/19 14:18

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 18:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		63 - 125		04/10/19 18:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	1.9	ug/L	-		04/15/19 17:41	10
cis-1,2-Dichloroethene	35		10	1.6	ug/L			04/15/19 17:41	10
Tetrachloroethene	10	U	10	1.5	ug/L			04/15/19 17:41	10
trans-1,2-Dichloroethene	3.2	J	10	1.9	ug/L			04/15/19 17:41	10
Trichloroethene	220		10	1.0	ug/L			04/15/19 17:41	10
Vinyl chloride	9.1	J	10	2.0	ug/L			04/15/19 17:41	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		70 - 121		04/15/19 17:41	10
4-Bromofluorobenzene (Surr)	74		59 - 120		04/15/19 17:41	10
Toluene-d8 (Surr)	93		70 - 123		04/15/19 17:41	10
Dibromofluoromethane (Surr)	91		75 - 128		04/15/19 17:41	10

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_5-9_080219

Lab Sample ID: 240-110478-6

Date Collected: 04/02/19 14:33

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 18:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		63 - 125		04/10/19 18:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 18:03	1
cis-1,2-Dichloroethene	9.9		1.0	0.16	ug/L			04/15/19 18:03	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/15/19 18:03	1
trans-1,2-Dichloroethene	0.98	J	1.0	0.19	ug/L			04/15/19 18:03	1
Trichloroethene	7.5		1.0	0.10	ug/L			04/15/19 18:03	1
Vinyl chloride	3.6		1.0	0.20	ug/L			04/15/19 18:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 121		04/15/19 18:03	1
4-Bromofluorobenzene (Surr)	78		59 - 120		04/15/19 18:03	1
Toluene-d8 (Surr)	98		70 - 123		04/15/19 18:03	1
Dibromofluoromethane (Surr)	95		75 - 128		04/15/19 18:03	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_18-19_080219

Lab Sample ID: 240-110478-7

Date Collected: 04/02/19 09:45

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 80.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	67	U	67	27	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
1,4-Dioxane	21000	U	21000	1800	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
cis-1,2-Dichloroethene	67	U	67	15	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
Tetrachloroethene	67	U	67	30	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
trans-1,2-Dichloroethene	67	U	67	17	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
Trichloroethene	67	U	67	18	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1
Vinyl chloride	53	U	53	20	ug/Kg	☼	04/09/19 11:56	04/09/19 19:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		53 - 155	04/09/19 11:56	04/09/19 19:36	1
4-Bromofluorobenzene (Surr)	111		48 - 151	04/09/19 11:56	04/09/19 19:36	1
Dibromofluoromethane (Surr)	95		49 - 138	04/09/19 11:56	04/09/19 19:36	1
Toluene-d8 (Surr)	112		49 - 147	04/09/19 11:56	04/09/19 19:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80.4		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	19.6		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-210_0-1_080219

Lab Sample ID: 240-110478-8

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 83.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	66	U	66	27	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
1,4-Dioxane	21000	U	21000	1800	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
cis-1,2-Dichloroethene	66	U	66	15	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
Tetrachloroethene	66	U	66	30	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
trans-1,2-Dichloroethene	66	U	66	17	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
Trichloroethene	66	U	66	18	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1
Vinyl chloride	53	U	53	20	ug/Kg	☼	04/09/19 11:56	04/09/19 19:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		53 - 155	04/09/19 11:56	04/09/19 19:57	1
4-Bromofluorobenzene (Surr)	122		48 - 151	04/09/19 11:56	04/09/19 19:57	1
Dibromofluoromethane (Surr)	104		49 - 138	04/09/19 11:56	04/09/19 19:57	1
Toluene-d8 (Surr)	127		49 - 147	04/09/19 11:56	04/09/19 19:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.3		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	16.7		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-210_1-2_080219

Lab Sample ID: 240-110478-9

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 84.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
Tetrachloroethene	59	U	59	26	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 11:56	04/09/19 20:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		53 - 155	04/09/19 11:56	04/09/19 20:19	1
4-Bromofluorobenzene (Surr)	106		48 - 151	04/09/19 11:56	04/09/19 20:19	1
Dibromofluoromethane (Surr)	94		49 - 138	04/09/19 11:56	04/09/19 20:19	1
Toluene-d8 (Surr)	110		49 - 147	04/09/19 11:56	04/09/19 20:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.8		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	15.2		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-210_2-3_080219

Lab Sample ID: 240-110478-10

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 84.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	56	U	56	22	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
cis-1,2-Dichloroethene	56	U	56	13	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
Tetrachloroethene	56	U	56	25	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
trans-1,2-Dichloroethene	56	U	56	14	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
Trichloroethene	56	U	56	15	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1
Vinyl chloride	45	U	45	17	ug/Kg	☼	04/09/19 11:56	04/09/19 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/09/19 11:56	04/09/19 20:40	1
4-Bromofluorobenzene (Surr)	99		48 - 151	04/09/19 11:56	04/09/19 20:40	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 11:56	04/09/19 20:40	1
Toluene-d8 (Surr)	107		49 - 147	04/09/19 11:56	04/09/19 20:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.6		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	15.4		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_1-2_080219

Lab Sample ID: 240-110478-11

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 89.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
1,4-Dioxane	17000	U	17000	1400	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
Trichloroethene	53	U	53	15	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	04/09/19 11:56	04/09/19 21:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		53 - 155	04/09/19 11:56	04/09/19 21:02	1
4-Bromofluorobenzene (Surr)	96		48 - 151	04/09/19 11:56	04/09/19 21:02	1
Dibromofluoromethane (Surr)	79		49 - 138	04/09/19 11:56	04/09/19 21:02	1
Toluene-d8 (Surr)	98		49 - 147	04/09/19 11:56	04/09/19 21:02	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.4		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	10.6		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_2-3_080219

Lab Sample ID: 240-110478-12

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 86.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	22	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
trans-1,2-Dichloroethene	54	U	54	13	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/09/19 11:56	04/09/19 21:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		53 - 155	04/09/19 11:56	04/09/19 21:24	1
4-Bromofluorobenzene (Surr)	109		48 - 151	04/09/19 11:56	04/09/19 21:24	1
Dibromofluoromethane (Surr)	90		49 - 138	04/09/19 11:56	04/09/19 21:24	1
Toluene-d8 (Surr)	111		49 - 147	04/09/19 11:56	04/09/19 21:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.4		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	13.6		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_3-4_080219

Lab Sample ID: 240-110478-13

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 88.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/09/19 11:56	04/09/19 21:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		53 - 155	04/09/19 11:56	04/09/19 21:45	1
4-Bromofluorobenzene (Surr)	102		48 - 151	04/09/19 11:56	04/09/19 21:45	1
Dibromofluoromethane (Surr)	87		49 - 138	04/09/19 11:56	04/09/19 21:45	1
Toluene-d8 (Surr)	109		49 - 147	04/09/19 11:56	04/09/19 21:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.4		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	11.6		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_4-5_080219

Lab Sample ID: 240-110478-14

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 89.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	22	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
trans-1,2-Dichloroethene	54	U	54	14	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/09/19 11:56	04/09/19 22:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		53 - 155	04/09/19 11:56	04/09/19 22:07	1
4-Bromofluorobenzene (Surr)	104		48 - 151	04/09/19 11:56	04/09/19 22:07	1
Dibromofluoromethane (Surr)	91		49 - 138	04/09/19 11:56	04/09/19 22:07	1
Toluene-d8 (Surr)	110		49 - 147	04/09/19 11:56	04/09/19 22:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.2		0.1	0.1	%			04/05/19 13:21	1
Percent Moisture	10.8		0.1	0.1	%			04/05/19 13:21	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110478-15

Date Collected: 04/02/19 00:00

Matrix: Water

Date Received: 04/04/19 09:55

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 18:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/15/19 18:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/15/19 18:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 18:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/15/19 18:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/15/19 18:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/15/19 18:26	1
4-Bromofluorobenzene (Surr)	78		59 - 120		04/15/19 18:26	1
Toluene-d8 (Surr)	100		70 - 123		04/15/19 18:26	1
Dibromofluoromethane (Surr)	96		75 - 128		04/15/19 18:26	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110459-E-1 MSD	Matrix Spike Duplicate	81	91	102	91
240-110459-H-1 MS	Matrix Spike	82	91	106	91
240-110478-1	HPT-211_13-17_080219	80	72	94	88
240-110478-2	HPT-211_2-6_080219	76	72	90	82
240-110478-3	HPT-211_7-11_080219	89	81	100	97
240-110478-4	HPT-212_18-22_080219	90	85	105	100
240-110478-5	HPT-212_10-14_080219	80	74	93	91
240-110478-6	HPT-212_5-9_080219	84	78	98	95
240-110478-15	TRIP BLANK	85	78	100	96
LCS 240-376459/4	Lab Control Sample	84	98	107	91
MB 240-376459/6	Method Blank	84	84	94	93

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	DBFM (49-138)	TOL (49-147)
240-110478-7	HPT-211_18-19_080219	97	111	95	112
240-110478-8	HPT-210_0-1_080219	106	122	104	127
240-110478-9	HPT-210_1-2_080219	97	106	94	110
240-110478-10	HPT-210_2-3_080219	86	99	85	107
240-110478-11	HPT-212_1-2_080219	82	96	79	98
240-110478-12	HPT-212_2-3_080219	94	109	90	111
240-110478-13	HPT-212_3-4_080219	92	102	87	109
240-110478-14	HPT-212_4-5_080219	92	104	91	110
LCS 240-375537/2-A	Lab Control Sample	76	89	76	91
MB 240-375537/1-A	Method Blank	76	90	74	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-110458-C-3 MS	Matrix Spike	122
240-110458-C-3 MSD	Matrix Spike Duplicate	117
240-110478-1	HPT-211_13-17_080219	120
240-110478-2	HPT-211_2-6_080219	124

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110478-3	HPT-211_7-11_080219	125
240-110478-4	HPT-212_18-22_080219	120
240-110478-5	HPT-212_10-14_080219	124
240-110478-6	HPT-212_5-9_080219	121
LCS 240-375762/4	Lab Control Sample	116
MB 240-375762/5	Method Blank	116

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376459/6
Matrix: Water
Analysis Batch: 376459

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 11:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/15/19 11:47	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/15/19 11:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/15/19 11:47	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/15/19 11:47	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/15/19 11:47	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 121		04/15/19 11:47	1
4-Bromofluorobenzene (Surr)	84		59 - 120		04/15/19 11:47	1
Toluene-d8 (Surr)	94		70 - 123		04/15/19 11:47	1
Dibromofluoromethane (Surr)	93		75 - 128		04/15/19 11:47	1

Lab Sample ID: LCS 240-376459/4
Matrix: Water
Analysis Batch: 376459

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139
cis-1,2-Dichloroethene	10.0	9.47		ug/L		95	76 - 128
Tetrachloroethene	10.0	9.10		ug/L		91	74 - 130
trans-1,2-Dichloroethene	10.0	9.76		ug/L		98	78 - 133
Trichloroethene	10.0	9.01		ug/L		90	76 - 125
Vinyl chloride	10.0	9.11		ug/L		91	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		70 - 121
4-Bromofluorobenzene (Surr)	98		59 - 120
Toluene-d8 (Surr)	107		70 - 123
Dibromofluoromethane (Surr)	91		75 - 128

Lab Sample ID: 240-110459-E-1 MSD
Matrix: Water
Analysis Batch: 376459

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	53 - 140	17	35
cis-1,2-Dichloroethene	2.1		10.0	12.0		ug/L		99	64 - 130	3	21
Tetrachloroethene	12		10.0	21.0		ug/L		86	51 - 136	0	23
Trichloroethene	1.6		10.0	10.6		ug/L		90	55 - 131	7	23
Vinyl chloride	1.0	U	10.0	9.10		ug/L		91	43 - 154	5	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	81		70 - 121
4-Bromofluorobenzene (Surr)	91		59 - 120
Toluene-d8 (Surr)	102		70 - 123
Dibromofluoromethane (Surr)	91		75 - 128

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110459-H-1 MS

Matrix: Water

Analysis Batch: 376459

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	8.72		ug/L		87	53 - 140
cis-1,2-Dichloroethene	2.1		10.0	11.6		ug/L		95	64 - 130
Tetrachloroethene	12		10.0	21.0		ug/L		86	51 - 136
Trichloroethene	1.6		10.0	9.86		ug/L		83	55 - 131
Vinyl chloride	1.0	U	10.0	8.65		ug/L		86	43 - 154

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	82		70 - 121
4-Bromofluorobenzene (Surr)	91		59 - 120
Toluene-d8 (Surr)	106		70 - 123
Dibromofluoromethane (Surr)	91		75 - 128

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375537/1-A

Matrix: Solid

Analysis Batch: 375622

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 375537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Trichloroethene	40	U	40	11	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Vinyl chloride	32	U	32	12	ug/Kg		04/09/19 11:56	04/09/19 18:52	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		53 - 155	04/09/19 11:56	04/09/19 18:52	1
4-Bromofluorobenzene (Surr)	90		48 - 151	04/09/19 11:56	04/09/19 18:52	1
Dibromofluoromethane (Surr)	74		49 - 138	04/09/19 11:56	04/09/19 18:52	1
Toluene-d8 (Surr)	90		49 - 147	04/09/19 11:56	04/09/19 18:52	1

Lab Sample ID: LCS 240-375537/2-A

Matrix: Solid

Analysis Batch: 375622

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 375537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1000	1030		ug/Kg		103	57 - 139
1,4-Dioxane	20000	19200		ug/Kg		96	51 - 140
cis-1,2-Dichloroethene	1000	911		ug/Kg		91	74 - 123
Tetrachloroethene	1000	939		ug/Kg		94	76 - 120
trans-1,2-Dichloroethene	1000	1050		ug/Kg		105	71 - 133
Trichloroethene	1000	862		ug/Kg		86	73 - 126
Vinyl chloride	1000	1130		ug/Kg		113	52 - 130

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	76		53 - 155

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-375537/2-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375537

Surrogate	LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	89		48 - 151
Dibromofluoromethane (Surr)	76		49 - 138
Toluene-d8 (Surr)	91		49 - 147

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375762/5
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 12:22	1

Surrogate	MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 12:22	1

Lab Sample ID: LCS 240-375762/4
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,4-Dioxane	10.0	11.9		ug/L		119	59 - 131

Surrogate	LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	116		63 - 125

Lab Sample ID: 240-110458-C-3 MS
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,4-Dioxane	68		10.0	82.4	4	ug/L		142	52 - 129

Surrogate	MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	122		63 - 125

Lab Sample ID: 240-110458-C-3 MSD
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
				Result	Qualifier						
1,4-Dioxane	68		10.0	79.6	4	ug/L		113	52 - 129	4	13

Surrogate	MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	117		63 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110478-14 DU

Matrix: Solid

Analysis Batch: 374979

Client Sample ID: HPT-212_4-5_080219

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	Limit
Percent Solids	89.2		88.0		%		1	20
Percent Moisture	10.8		12.0		%		11	20

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

GC/MS VOA

Prep Batch: 375537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-7	HPT-211_18-19_080219	Total/NA	Solid	5030B	
240-110478-8	HPT-210_0-1_080219	Total/NA	Solid	5030B	
240-110478-9	HPT-210_1-2_080219	Total/NA	Solid	5030B	
240-110478-10	HPT-210_2-3_080219	Total/NA	Solid	5030B	
240-110478-11	HPT-212_1-2_080219	Total/NA	Solid	5030B	
240-110478-12	HPT-212_2-3_080219	Total/NA	Solid	5030B	
240-110478-13	HPT-212_3-4_080219	Total/NA	Solid	5030B	
240-110478-14	HPT-212_4-5_080219	Total/NA	Solid	5030B	
MB 240-375537/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-375537/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 375622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-7	HPT-211_18-19_080219	Total/NA	Solid	8260B MI	375537
240-110478-8	HPT-210_0-1_080219	Total/NA	Solid	8260B MI	375537
240-110478-9	HPT-210_1-2_080219	Total/NA	Solid	8260B MI	375537
240-110478-10	HPT-210_2-3_080219	Total/NA	Solid	8260B MI	375537
240-110478-11	HPT-212_1-2_080219	Total/NA	Solid	8260B MI	375537
240-110478-12	HPT-212_2-3_080219	Total/NA	Solid	8260B MI	375537
240-110478-13	HPT-212_3-4_080219	Total/NA	Solid	8260B MI	375537
240-110478-14	HPT-212_4-5_080219	Total/NA	Solid	8260B MI	375537
MB 240-375537/1-A	Method Blank	Total/NA	Solid	8260B MI	375537
LCS 240-375537/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	375537

Analysis Batch: 375762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-1	HPT-211_13-17_080219	Total/NA	Water	8260B SIM	
240-110478-2	HPT-211_2-6_080219	Total/NA	Water	8260B SIM	
240-110478-3	HPT-211_7-11_080219	Total/NA	Water	8260B SIM	
240-110478-4	HPT-212_18-22_080219	Total/NA	Water	8260B SIM	
240-110478-5	HPT-212_10-14_080219	Total/NA	Water	8260B SIM	
240-110478-6	HPT-212_5-9_080219	Total/NA	Water	8260B SIM	
MB 240-375762/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-375762/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110458-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110458-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-1	HPT-211_13-17_080219	Total/NA	Water	8260B	
240-110478-2	HPT-211_2-6_080219	Total/NA	Water	8260B	
240-110478-3	HPT-211_7-11_080219	Total/NA	Water	8260B	
240-110478-4	HPT-212_18-22_080219	Total/NA	Water	8260B	
240-110478-5	HPT-212_10-14_080219	Total/NA	Water	8260B	
240-110478-6	HPT-212_5-9_080219	Total/NA	Water	8260B	
240-110478-15	TRIP BLANK	Total/NA	Water	8260B	
MB 240-376459/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376459/4	Lab Control Sample	Total/NA	Water	8260B	
240-110459-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-110459-H-1 MS	Matrix Spike	Total/NA	Water	8260B	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

General Chemistry

Analysis Batch: 374979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110478-7	HPT-211_18-19_080219	Total/NA	Solid	Moisture	
240-110478-8	HPT-210_0-1_080219	Total/NA	Solid	Moisture	
240-110478-9	HPT-210_1-2_080219	Total/NA	Solid	Moisture	
240-110478-10	HPT-210_2-3_080219	Total/NA	Solid	Moisture	
240-110478-11	HPT-212_1-2_080219	Total/NA	Solid	Moisture	
240-110478-12	HPT-212_2-3_080219	Total/NA	Solid	Moisture	
240-110478-13	HPT-212_3-4_080219	Total/NA	Solid	Moisture	
240-110478-14	HPT-212_4-5_080219	Total/NA	Solid	Moisture	
240-110478-14 DU	HPT-212_4-5_080219	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_13-17_080219

Lab Sample ID: 240-110478-1

Date Collected: 04/02/19 10:18

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376459	04/15/19 16:12	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 16:39	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 16:39	SAM	TAL CAN

Client Sample ID: HPT-211_2-6_080219

Lab Sample ID: 240-110478-2

Date Collected: 04/02/19 10:50

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1.67	376459	04/15/19 16:35	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 17:05	SAM	TAL CAN

Client Sample ID: HPT-211_7-11_080219

Lab Sample ID: 240-110478-3

Date Collected: 04/02/19 10:35

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		14.29	376459	04/15/19 16:57	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 17:30	SAM	TAL CAN

Client Sample ID: HPT-212_18-22_080219

Lab Sample ID: 240-110478-4

Date Collected: 04/02/19 14:05

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	376459	04/15/19 17:19	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 17:56	SAM	TAL CAN

Client Sample ID: HPT-212_10-14_080219

Lab Sample ID: 240-110478-5

Date Collected: 04/02/19 14:18

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	376459	04/15/19 17:41	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 18:22	SAM	TAL CAN

Client Sample ID: HPT-212_5-9_080219

Lab Sample ID: 240-110478-6

Date Collected: 04/02/19 14:33

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376459	04/15/19 18:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 18:47	SAM	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-211_18-19_080219

Lab Sample ID: 240-110478-7

Date Collected: 04/02/19 09:45

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-211_18-19_080219

Lab Sample ID: 240-110478-7

Date Collected: 04/02/19 09:45

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 80.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 19:36	TJL1	TAL CAN

Client Sample ID: HPT-210_0-1_080219

Lab Sample ID: 240-110478-8

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-210_0-1_080219

Lab Sample ID: 240-110478-8

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 83.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 19:57	TJL1	TAL CAN

Client Sample ID: HPT-210_1-2_080219

Lab Sample ID: 240-110478-9

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-210_1-2_080219

Lab Sample ID: 240-110478-9

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 20:19	TJL1	TAL CAN

Client Sample ID: HPT-210_2-3_080219

Lab Sample ID: 240-110478-10

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-210_2-3_080219

Lab Sample ID: 240-110478-10

Date Collected: 04/02/19 09:00

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 20:40	TJL1	TAL CAN

Client Sample ID: HPT-212_1-2_080219

Lab Sample ID: 240-110478-11

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-212_1-2_080219

Lab Sample ID: 240-110478-11

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 89.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 21:02	TJL1	TAL CAN

Client Sample ID: HPT-212_2-3_080219

Lab Sample ID: 240-110478-12

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-212_2-3_080219

Lab Sample ID: 240-110478-12

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 21:24	TJL1	TAL CAN

Client Sample ID: HPT-212_3-4_080219

Lab Sample ID: 240-110478-13

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Client Sample ID: HPT-212_3-4_080219

Lab Sample ID: 240-110478-13

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 21:45	TJL1	TAL CAN

Client Sample ID: HPT-212_4-5_080219

Lab Sample ID: 240-110478-14

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	374979	04/05/19 13:21	BLW	TAL CAN

Client Sample ID: HPT-212_4-5_080219

Lab Sample ID: 240-110478-14

Date Collected: 04/02/19 15:40

Matrix: Solid

Date Received: 04/04/19 09:55

Percent Solids: 89.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 22:07	TJL1	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110478-15

Date Collected: 04/02/19 00:00

Matrix: Water

Date Received: 04/04/19 09:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376459	04/15/19 18:26	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110478-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica Canton
 4301 Shufel Street NW
 North Canton, OH 44720
 Phone (330) 497-9396 Fax (330) 497-0772

MICHIGAN

Chain of Custody Record

TestAmerica
 THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Sample Information		Analysis Requested		Carrier Tracking Info		COC No	
Client Contact: Caitlin O'Neill	Company: ARCADIS U.S. Inc.	Sample ID: 248-722-2411	Lab P/N: DeMonico, Michael	Analysis Requested	Carrier Tracking Info	COC No	Page 1 of 2	240-59411-25360 1	
Address: 28550 Cabot Drive, Suite 500 Columbus, OH 43228	City: Columbus	State, Zip: OH 43228	Phone: (614) 48377	Due Date Requested: TAT Requested (days) 10-DAY (STD)	Project Name: Ford LTP (Votina MI - E203631)	Project #: 24015353	Project # (Short List): E203631	Project # (Short List): E203631	Project # (Short List): E203631
City: LIVONIA	State, Zip: MI 48377	Phone: 248-722-2411	PO #: MID01316.0002.00002	NOI #: E203631	Subject #: 24015353	Subject # (Short List): E203631	Subject # (Short List): E203631	Subject # (Short List): E203631	Subject # (Short List): E203631
Project Name: Ford LTP (Votina MI - E203631)	City: LIVONIA	State, Zip: MI 48377	Phone: 248-722-2411	PO #: MID01316.0002.00002	NOI #: E203631	Subject #: 24015353	Subject # (Short List): E203631	Subject # (Short List): E203631	Subject # (Short List): E203631
Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-grab)	Matrix (Water, Swab, Soil, etc.)	Preservation Code	82608, 82609, SIM	82608, MI, VOCs (Short List)	82608, VOCs (Short List)	Total Number of Containers
HPT-211-13-17-040219	4/2/19	1018	6	Water		3	0	3	6
HPT-211-2-6-040219	4/2/19	1050	6	Water		3	0	3	6
HPT-211-7-11-040219	4/2/19	1035	6	Water		3	0	3	6
HPT-212-18-22-040219	4/2/19	1405	6	Water		3	0	3	6
HPT-212-10-14-040219	4/2/19	1418	6	Water		3	0	3	6
HPT-212-5-9-040219	4/2/19	1433	6	Water		3	0	3	6
HPT-211-18-19-040219	4/2/19	0945	6	Solid		0	1	0	2
HPT-210-0-1-040219	4/2/19	0900	6	Solid		0	1	0	2
HPT-210-1-2-040219	4/2/19	0900	6	Solid		0	1	0	2
HPT-210-2-3-040219	4/2/19	0900	6	Solid		0	1	0	2
HPT-212-1-2-040219	4/2/19	1540	6	Solid		0	1	0	2
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison E <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: I, II, III, IV, Other (specify)									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/OC Requirements: Submit all results through camera at Sun. 4/15/19 to General Co.									
Empty Kit Reimquired by: _____ Date: _____ Reimquired by: <i>Christina Ueber</i> Date: 4/2/19 1740 Reimquired by: <i>Caitlin O'Neill</i> Date: 4/15/19 1410 Reimquired by: <i>Sally Miller</i> Date: 4/14/19 955 Custody Seal No.: _____ <input type="checkbox"/> Yes <input type="checkbox"/> No									



TestAmerica Canton Sample Receipt Form/Narrative

Login #: 110478

Canton Facility

Client Arceadis Site Name _____ Cooler unpacked by: [Signature]
 Cooler Received on 4/4/19 Opened on 4/4/19
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 765 Foam Box Client Cooler Box Other
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

- Cooler temperature upon receipt: See Multiple Cooler Form
 IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #36 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
- Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
- Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC861535
- Were VOAs on the COC? Yes No
- Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this: [Circle]
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 1/10 Yes No
- Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: JR
Could not decipher between Samples HPT-210, All 3
Bottle labels washed off of vials. Ink is unreadable.
Further looking could make out ID: from glare of light and
indentation of pen mark

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____



April 18, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110478-1
Sample date: 2019-04-02
Report received by CADENA: 2019-04-18
Initial Data Verification completed by CADENA: 2019-04-18

The following minor QC exceptions or missing information were noted:

SPV - SIM GCMS VOC sample -004 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

GCMS VOC QC Soils batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

SIM GCMS VOC QC batch MS/MSD issues were not using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

SIM GCMS VOC QC batch INTERNAL STANDARD response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

7 Water sample(s) were analyzed for GCMS VOC parameter(s).

8 Soil sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110478-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401104781	HPT-211_13-17_080219	4/2/2019	10:18:00	X	X	
24011047810	HPT-210_2-3_080219	4/2/2019	9:00:00	X		
24011047811	HPT-212_1-2_080219	4/2/2019	3:40:00	X		
24011047812	HPT-212_2-3_080219	4/2/2019	3:40:00	X		
24011047813	HPT-212_3-4_080219	4/2/2019	3:40:00	X		
24011047814	HPT-212_4-5_080219	4/2/2019	3:40:00	X		
24011047815	TRIP BLANK	4/2/2019	12:00:00	X		
2401104782	HPT-211_2-6_080219	4/2/2019	10:50:00	X	X	
2401104783	HPT-211_7-11_080219	4/2/2019	10:35:00	X	X	
2401104784	HPT-212_18-22_080219	4/2/2019	2:05:00	X	X	
2401104785	HPT-212_10-14_080219	4/2/2019	2:18:00	X	X	
2401104786	HPT-212_5-9_080219	4/2/2019	2:33:00	X	X	
2401104787	HPT-211_18-19_080219	4/2/2019	9:45:00	X		
2401104788	HPT-210_0-1_080219	4/2/2019	9:00:00	X		
2401104789	HPT-210_1-2_080219	4/2/2019	9:00:00	X		

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110478-1

Sample Name: HPT-212_18-22_080219

Lab Sample ID: 2401104784

Sample Date: 4/2/2019

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units	Qualifier	
GC/MS VOC						
<u>OSW-8260BBSim</u>						
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	

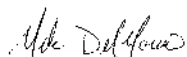
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110529-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/18/2019 4:00:36 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Job ID: 240-110529-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110529-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/5/2019 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.8° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-110529-10), HPT-214_5-9_040319 (240-110529-11), HPT-214_10-14_040319 (240-110529-12), HPT-214_16-20_040319 (240-110529-13), HPT-213_15-19_040319 (240-110529-14), HPT-213_10-14_040319 (240-110529-15), HPT-213_20-24_040319 (240-110529-16) and HPT-213_5-9_040319 (240-110529-17) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/16/2019.

Trichloroethene failed the recovery criteria low for the MS of sample HPT-214_10-14_040319MS (240-110529-12) in batch 240-376652.

Tetrachloroethene and Vinyl chloride exceeded the RPD limit for the MSD of sample HPT-214_10-14_040319MSD (240-110529-12) in batch 240-376652. Refer to the QC report for details.

Samples HPT-214_10-14_040319 (240-110529-12)[5X] and HPT-214_16-20_040319 (240-110529-13)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The pH of the sample was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Job ID: 240-110529-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

susceptible to biological degradation if sample is not preserved to a pH of 2: HPT-214_16-20_040319 (240-110529-13).

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-375537 and analytical batch 240-375622.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples HPT-214_26-27_040319 (240-110529-1), HPT-214_2-3_040319 (240-110529-2), HPT-214_1-2_040319 (240-110529-3), DUP-01 (240-110529-4), HPT-214_3-4_040319 (240-110529-5), HPT-214_4-5_040319 (240-110529-6), HPT-213_26-27_040319 (240-110529-7), HPT-213_3-4_040319 (240-110529-8) and HPT-213_4-5_040319 (240-110529-9) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/09/2019 and 04/10/2019.

The continuing calibration verification (CCV) associated with batch 240-375622 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HPT-214_26-27_040319 (240-110529-1), HPT-214_2-3_040319 (240-110529-2), HPT-214_1-2_040319 (240-110529-3), DUP-01 (240-110529-4), HPT-214_3-4_040319 (240-110529-5), HPT-214_4-5_040319 (240-110529-6), HPT-213_26-27_040319 (240-110529-7), HPT-213_3-4_040319 (240-110529-8), HPT-213_4-5_040319 (240-110529-9) and (CCVIS 240-375622/4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-214_5-9_040319 (240-110529-11), HPT-214_10-14_040319 (240-110529-12), HPT-214_16-20_040319 (240-110529-13), HPT-213_15-19_040319 (240-110529-14), HPT-213_10-14_040319 (240-110529-15), HPT-213_20-24_040319 (240-110529-16) and HPT-213_5-9_040319 (240-110529-17) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/11/2019.

The pH is greater than 2 for the following samples HPT-214_16-20_040319 (240-110529-13) and HPT-213_15-19_040319 (240-110529-14).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-214_26-27_040319 (240-110529-1), HPT-214_2-3_040319 (240-110529-2), HPT-214_1-2_040319 (240-110529-3), DUP-01 (240-110529-4), HPT-214_3-4_040319 (240-110529-5), HPT-214_4-5_040319 (240-110529-6), HPT-213_26-27_040319 (240-110529-7), HPT-213_3-4_040319 (240-110529-8) and HPT-213_4-5_040319 (240-110529-9) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/08/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110529-1	HPT-214_26-27_040319	Solid	04/03/19 14:05	04/05/19 08:20
240-110529-2	HPT-214_2-3_040319	Solid	04/03/19 11:40	04/05/19 08:20
240-110529-3	HPT-214_1-2_040319	Solid	04/03/19 11:40	04/05/19 08:20
240-110529-4	DUP-01	Solid	04/03/19 00:00	04/05/19 08:20
240-110529-5	HPT-214_3-4_040319	Solid	04/03/19 11:40	04/05/19 08:20
240-110529-6	HPT-214_4-5_040319	Solid	04/03/19 11:40	04/05/19 08:20
240-110529-7	HPT-213_26-27_040319	Solid	04/03/19 10:00	04/05/19 08:20
240-110529-8	HPT-213_3-4_040319	Solid	04/03/19 08:50	04/05/19 08:20
240-110529-9	HPT-213_4-5_040319	Solid	04/03/19 08:50	04/05/19 08:20
240-110529-10	TRIP BLANK	Water	04/03/19 00:00	04/05/19 08:20
240-110529-11	HPT-214_5-9_040319	Water	04/03/19 14:42	04/05/19 08:20
240-110529-12	HPT-214_10-14_040319	Water	04/03/19 14:24	04/05/19 08:20
240-110529-13	HPT-214_16-20_040319	Water	04/03/19 14:10	04/05/19 08:20
240-110529-14	HPT-213_15-19_040319	Water	04/03/19 10:55	04/05/19 08:20
240-110529-15	HPT-213_10-14_040319	Water	04/03/19 11:10	04/05/19 08:20
240-110529-16	HPT-213_20-24_040319	Water	04/03/19 10:30	04/05/19 08:20
240-110529-17	HPT-213_5-9_040319	Water	04/03/19 11:30	04/05/19 08:20

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_26-27_040319

Lab Sample ID: 240-110529-1

No Detections.

Client Sample ID: HPT-214_2-3_040319

Lab Sample ID: 240-110529-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	170		51	11	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	74		51	14	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: HPT-214_1-2_040319

Lab Sample ID: 240-110529-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	84		56	13	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	35	J	56	15	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: DUP-01

Lab Sample ID: 240-110529-4

No Detections.

Client Sample ID: HPT-214_3-4_040319

Lab Sample ID: 240-110529-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	20	J	61	14	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: HPT-214_4-5_040319

Lab Sample ID: 240-110529-6

No Detections.

Client Sample ID: HPT-213_26-27_040319

Lab Sample ID: 240-110529-7

No Detections.

Client Sample ID: HPT-213_3-4_040319

Lab Sample ID: 240-110529-8

No Detections.

Client Sample ID: HPT-213_4-5_040319

Lab Sample ID: 240-110529-9

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110529-10

No Detections.

Client Sample ID: HPT-214_5-9_040319

Lab Sample ID: 240-110529-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	17		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.2		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	37		1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	10		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-214_10-14_040319

Lab Sample ID: 240-110529-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	32		5.0	0.80	ug/L	5		8260B	Total/NA
trans-1,2-Dichloroethene	4.1	J	5.0	0.95	ug/L	5		8260B	Total/NA
Trichloroethene	120	F1	5.0	0.50	ug/L	5		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_16-20_040319

Lab Sample ID: 240-110529-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	200		10	1.6	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	17		10	1.9	ug/L	10		8260B	Total/NA

Client Sample ID: HPT-213_15-19_040319

Lab Sample ID: 240-110529-14

No Detections.

Client Sample ID: HPT-213_10-14_040319

Lab Sample ID: 240-110529-15

No Detections.

Client Sample ID: HPT-213_20-24_040319

Lab Sample ID: 240-110529-16

No Detections.

Client Sample ID: HPT-213_5-9_040319

Lab Sample ID: 240-110529-17

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_26-27_040319

Lab Sample ID: 240-110529-1

Date Collected: 04/03/19 14:05

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 84.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	62	U	62	25	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
cis-1,2-Dichloroethene	62	U	62	14	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
Tetrachloroethene	62	U	62	28	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
trans-1,2-Dichloroethene	62	U	62	16	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
Trichloroethene	62	U	62	17	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1
Vinyl chloride	50	U	50	19	ug/Kg	☼	04/09/19 11:56	04/09/19 22:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		53 - 155	04/09/19 11:56	04/09/19 22:29	1
4-Bromofluorobenzene (Surr)	124		48 - 151	04/09/19 11:56	04/09/19 22:29	1
Dibromofluoromethane (Surr)	98		49 - 138	04/09/19 11:56	04/09/19 22:29	1
Toluene-d8 (Surr)	118		49 - 147	04/09/19 11:56	04/09/19 22:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.2		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	15.8		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_2-3_040319

Lab Sample ID: 240-110529-2

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 88.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	51	U	51	20	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
cis-1,2-Dichloroethene	170		51	11	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
Tetrachloroethene	51	U	51	23	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
trans-1,2-Dichloroethene	51	U	51	13	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
Trichloroethene	74		51	14	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	04/09/19 11:56	04/09/19 22:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		53 - 155	04/09/19 11:56	04/09/19 22:50	1
4-Bromofluorobenzene (Surr)	133		48 - 151	04/09/19 11:56	04/09/19 22:50	1
Dibromofluoromethane (Surr)	96		49 - 138	04/09/19 11:56	04/09/19 22:50	1
Toluene-d8 (Surr)	122		49 - 147	04/09/19 11:56	04/09/19 22:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.3		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	11.7		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_1-2_040319

Lab Sample ID: 240-110529-3

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 90.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	56	U	56	22	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
cis-1,2-Dichloroethene	84		56	13	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
Tetrachloroethene	56	U	56	25	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
trans-1,2-Dichloroethene	56	U	56	14	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
Trichloroethene	35 J		56	15	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1
Vinyl chloride	45	U	45	17	ug/Kg	☼	04/09/19 11:56	04/09/19 23:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		53 - 155	04/09/19 11:56	04/09/19 23:12	1
4-Bromofluorobenzene (Surr)	127		48 - 151	04/09/19 11:56	04/09/19 23:12	1
Dibromofluoromethane (Surr)	92		49 - 138	04/09/19 11:56	04/09/19 23:12	1
Toluene-d8 (Surr)	113		49 - 147	04/09/19 11:56	04/09/19 23:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.0		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	10		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: DUP-01

Lab Sample ID: 240-110529-4

Date Collected: 04/03/19 00:00

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 84.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/09/19 11:56	04/09/19 23:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		53 - 155	04/09/19 11:56	04/09/19 23:34	1
4-Bromofluorobenzene (Surr)	135		48 - 151	04/09/19 11:56	04/09/19 23:34	1
Dibromofluoromethane (Surr)	101		49 - 138	04/09/19 11:56	04/09/19 23:34	1
Toluene-d8 (Surr)	123		49 - 147	04/09/19 11:56	04/09/19 23:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.6		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	15.4		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_3-4_040319

Lab Sample ID: 240-110529-5

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 81.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	61	U	61	24	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
cis-1,2-Dichloroethene	20	J	61	14	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
Tetrachloroethene	61	U	61	27	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
trans-1,2-Dichloroethene	61	U	61	15	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
Trichloroethene	61	U	61	17	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1
Vinyl chloride	49	U	49	18	ug/Kg	☼	04/09/19 11:56	04/09/19 23:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		53 - 155	04/09/19 11:56	04/09/19 23:55	1
4-Bromofluorobenzene (Surr)	125		48 - 151	04/09/19 11:56	04/09/19 23:55	1
Dibromofluoromethane (Surr)	100		49 - 138	04/09/19 11:56	04/09/19 23:55	1
Toluene-d8 (Surr)	119		49 - 147	04/09/19 11:56	04/09/19 23:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.6		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	18.4		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_4-5_040319

Lab Sample ID: 240-110529-6

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 89.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	51	U	51	20	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
cis-1,2-Dichloroethene	51	U	51	11	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
Tetrachloroethene	51	U	51	23	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
trans-1,2-Dichloroethene	51	U	51	13	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
Trichloroethene	51	U	51	14	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	04/09/19 11:56	04/10/19 00:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		53 - 155	04/09/19 11:56	04/10/19 00:17	1
4-Bromofluorobenzene (Surr)	104		48 - 151	04/09/19 11:56	04/10/19 00:17	1
Dibromofluoromethane (Surr)	92		49 - 138	04/09/19 11:56	04/10/19 00:17	1
Toluene-d8 (Surr)	113		49 - 147	04/09/19 11:56	04/10/19 00:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.6		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	10.4		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_26-27_040319

Lab Sample ID: 240-110529-7

Date Collected: 04/03/19 10:00

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 83.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	23	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
Tetrachloroethene	59	U	59	26	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 11:56	04/10/19 00:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/09/19 11:56	04/10/19 00:38	1
4-Bromofluorobenzene (Surr)	107		48 - 151	04/09/19 11:56	04/10/19 00:38	1
Dibromofluoromethane (Surr)	93		49 - 138	04/09/19 11:56	04/10/19 00:38	1
Toluene-d8 (Surr)	114		49 - 147	04/09/19 11:56	04/10/19 00:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.4		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	16.6		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_3-4_040319

Lab Sample ID: 240-110529-8

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 85.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	21	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
trans-1,2-Dichloroethene	54	U	54	13	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/09/19 11:56	04/10/19 01:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/09/19 11:56	04/10/19 01:00	1
4-Bromofluorobenzene (Surr)	110		48 - 151	04/09/19 11:56	04/10/19 01:00	1
Dibromofluoromethane (Surr)	96		49 - 138	04/09/19 11:56	04/10/19 01:00	1
Toluene-d8 (Surr)	118		49 - 147	04/09/19 11:56	04/10/19 01:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.6		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	14.4		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_4-5_040319

Lab Sample ID: 240-110529-9

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 91.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
Trichloroethene	55	U	55	15	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1
Vinyl chloride	44	U	44	16	ug/Kg	☼	04/09/19 11:56	04/10/19 01:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/09/19 11:56	04/10/19 01:22	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/09/19 11:56	04/10/19 01:22	1
Dibromofluoromethane (Surr)	82		49 - 138	04/09/19 11:56	04/10/19 01:22	1
Toluene-d8 (Surr)	102		49 - 147	04/09/19 11:56	04/10/19 01:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.4		0.1	0.1	%			04/08/19 11:31	1
Percent Moisture	8.6		0.1	0.1	%			04/08/19 11:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110529-10

Date Collected: 04/03/19 00:00

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 11:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 11:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 11:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 11:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 11:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 11:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 121		04/16/19 11:34	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/16/19 11:34	1
Toluene-d8 (Surr)	93		70 - 123		04/16/19 11:34	1
Dibromofluoromethane (Surr)	92		75 - 128		04/16/19 11:34	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_5-9_040319

Lab Sample ID: 240-110529-11

Date Collected: 04/03/19 14:42

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/11/19 18:38	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 11:56	1
cis-1,2-Dichloroethene	17		1.0	0.16	ug/L			04/16/19 11:56	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 11:56	1
trans-1,2-Dichloroethene	3.2		1.0	0.19	ug/L			04/16/19 11:56	1
Trichloroethene	37		1.0	0.10	ug/L			04/16/19 11:56	1
Vinyl chloride	10		1.0	0.20	ug/L			04/16/19 11:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/16/19 11:56	1
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 11:56	1
Toluene-d8 (Surr)	98		70 - 123		04/16/19 11:56	1
Dibromofluoromethane (Surr)	94		75 - 128		04/16/19 11:56	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_10-14_040319

Lab Sample ID: 240-110529-12

Date Collected: 04/03/19 14:24

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 19:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 125		04/11/19 19:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L			04/16/19 12:18	5
cis-1,2-Dichloroethene	32		5.0	0.80	ug/L			04/16/19 12:18	5
Tetrachloroethene	5.0	U F2	5.0	0.75	ug/L			04/16/19 12:18	5
trans-1,2-Dichloroethene	4.1	J	5.0	0.95	ug/L			04/16/19 12:18	5
Trichloroethene	120	F1	5.0	0.50	ug/L			04/16/19 12:18	5
Vinyl chloride	5.0	U F2	5.0	1.0	ug/L			04/16/19 12:18	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/16/19 12:18	5
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 12:18	5
Toluene-d8 (Surr)	99		70 - 123		04/16/19 12:18	5
Dibromofluoromethane (Surr)	97		75 - 128		04/16/19 12:18	5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_16-20_040319

Lab Sample ID: 240-110529-13

Date Collected: 04/03/19 14:10

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/11/19 19:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		63 - 125		04/11/19 19:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	1.9	ug/L	-		04/16/19 19:43	10
cis-1,2-Dichloroethene	200		10	1.6	ug/L			04/16/19 19:43	10
Tetrachloroethene	10	U	10	1.5	ug/L			04/16/19 19:43	10
trans-1,2-Dichloroethene	17		10	1.9	ug/L			04/16/19 19:43	10
Trichloroethene	10	U	10	1.0	ug/L			04/16/19 19:43	10
Vinyl chloride	10	U	10	2.0	ug/L			04/16/19 19:43	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/16/19 19:43	10
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 19:43	10
Toluene-d8 (Surr)	98		70 - 123		04/16/19 19:43	10
Dibromofluoromethane (Surr)	94		75 - 128		04/16/19 19:43	10

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_15-19_040319

Lab Sample ID: 240-110529-14

Date Collected: 04/03/19 10:55

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 19:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/11/19 19:55	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:03	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 13:03	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 13:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:03	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 13:03	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 13:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/16/19 13:03	1
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 13:03	1
Toluene-d8 (Surr)	100		70 - 123		04/16/19 13:03	1
Dibromofluoromethane (Surr)	98		75 - 128		04/16/19 13:03	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_10-14_040319

Lab Sample ID: 240-110529-15

Date Collected: 04/03/19 11:10

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 20:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		04/11/19 20:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 13:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 13:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 13:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 13:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/16/19 13:26	1
4-Bromofluorobenzene (Surr)	79		59 - 120		04/16/19 13:26	1
Toluene-d8 (Surr)	98		70 - 123		04/16/19 13:26	1
Dibromofluoromethane (Surr)	97		75 - 128		04/16/19 13:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_20-24_040319

Lab Sample ID: 240-110529-16

Date Collected: 04/03/19 10:30

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 20:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/11/19 20:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 13:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 13:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 13:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 13:48	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 13:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/16/19 13:48	1
4-Bromofluorobenzene (Surr)	76		59 - 120		04/16/19 13:48	1
Toluene-d8 (Surr)	102		70 - 123		04/16/19 13:48	1
Dibromofluoromethane (Surr)	99		75 - 128		04/16/19 13:48	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_5-9_040319

Lab Sample ID: 240-110529-17

Date Collected: 04/03/19 11:30

Matrix: Water

Date Received: 04/05/19 08:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 21:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/11/19 21:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 14:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 14:10	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 14:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 14:10	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 14:10	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 14:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/16/19 14:10	1
4-Bromofluorobenzene (Surr)	71		59 - 120		04/16/19 14:10	1
Toluene-d8 (Surr)	94		70 - 123		04/16/19 14:10	1
Dibromofluoromethane (Surr)	93		75 - 128		04/16/19 14:10	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110529-10	TRIP BLANK	84	75	93	92
240-110529-11	HPT-214_5-9_040319	85	80	98	94
240-110529-12	HPT-214_10-14_040319	85	80	99	97
240-110529-12 MS	HPT-214_10-14_040319	88	94	111	94
240-110529-12 MSD	HPT-214_10-14_040319	82	88	101	94
240-110529-13	HPT-214_16-20_040319	85	80	98	94
240-110529-14	HPT-213_15-19_040319	88	80	100	98
240-110529-15	HPT-213_10-14_040319	89	79	98	97
240-110529-16	HPT-213_20-24_040319	87	76	102	99
240-110529-17	HPT-213_5-9_040319	85	71	94	93
LCS 240-376652/4	Lab Control Sample	83	95	105	94
MB 240-376652/6	Method Blank	89	84	107	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	DBFM (49-138)	TOL (49-147)
240-110529-1	HPT-214_26-27_040319	101	124	98	118
240-110529-2	HPT-214_2-3_040319	99	133	96	122
240-110529-3	HPT-214_1-2_040319	95	127	92	113
240-110529-4	DUP-01	106	135	101	123
240-110529-5	HPT-214_3-4_040319	107	125	100	119
240-110529-6	HPT-214_4-5_040319	96	104	92	113
240-110529-7	HPT-213_26-27_040319	98	107	93	114
240-110529-8	HPT-213_3-4_040319	98	110	96	118
240-110529-9	HPT-213_4-5_040319	88	94	82	102
LCS 240-375537/2-A	Lab Control Sample	76	89	76	91
MB 240-375537/1-A	Method Blank	76	90	74	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 DBFM = Dibromofluoromethane (Surr)
 TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-110529-11	HPT-214_5-9_040319	104
240-110529-12	HPT-214_10-14_040319	109

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Surrogate Summary

Client: ARCADIS U.S., Inc.

Job ID: 240-110529-1

Project/Site: Ford LTP Livonia MI - E203631

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110529-13	HPT-214_16-20_040319	98
240-110529-14	HPT-213_15-19_040319	102
240-110529-15	HPT-213_10-14_040319	100
240-110529-16	HPT-213_20-24_040319	106
240-110529-17	HPT-213_5-9_040319	101
240-110662-A-3 MS	Matrix Spike	102
240-110662-A-3 MSD	Matrix Spike Duplicate	101
LCS 240-376059/4	Lab Control Sample	99
MB 240-376059/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376652/6
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 10:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 10:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 10:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/16/19 10:41	1
4-Bromofluorobenzene (Surr)	84		59 - 120		04/16/19 10:41	1
Toluene-d8 (Surr)	107		70 - 123		04/16/19 10:41	1
Dibromofluoromethane (Surr)	102		75 - 128		04/16/19 10:41	1

Lab Sample ID: LCS 240-376652/4
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.67		ug/L		97	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	8.87		ug/L		89	74 - 130
trans-1,2-Dichloroethene	10.0	9.88		ug/L		99	78 - 133
Trichloroethene	10.0	8.99		ug/L		90	76 - 125
Vinyl chloride	10.0	10.2		ug/L		102	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	105		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: HPT-214_10-14_040319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	5.0	U	50.0	34.9		ug/L		70	53 - 140
cis-1,2-Dichloroethene	32		50.0	67.3		ug/L		71	64 - 130
Tetrachloroethene	5.0	U F2	50.0	32.8		ug/L		66	51 - 136
trans-1,2-Dichloroethene	4.1	J	50.0	41.2		ug/L		74	68 - 133
Trichloroethene	120	F1	50.0	134	F1	ug/L		36	55 - 131
Vinyl chloride	5.0	U F2	50.0	34.7		ug/L		69	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	111		70 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110529-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: HPT-214_10-14_040319
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-12 MSD
Matrix: Water
Analysis Batch: 376652

Client Sample ID: HPT-214_10-14_040319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	5.0	U	50.0	49.1		ug/L		98	53 - 140	34	35
cis-1,2-Dichloroethene	32		50.0	77.8		ug/L		92	64 - 130	14	21
Tetrachloroethene	5.0	U F2	50.0	44.2	F2	ug/L		88	51 - 136	30	23
trans-1,2-Dichloroethene	4.1	J	50.0	52.6		ug/L		97	68 - 133	24	24
Trichloroethene	120	F1	50.0	144		ug/L		57	55 - 131	7	23
Vinyl chloride	5.0	U F2	50.0	47.9	F2	ug/L		96	43 - 154	32	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		70 - 121
4-Bromofluorobenzene (Surr)	88		59 - 120
Toluene-d8 (Surr)	101		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375537/1-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Trichloroethene	40	U	40	11	ug/Kg		04/09/19 11:56	04/09/19 18:52	1
Vinyl chloride	32	U	32	12	ug/Kg		04/09/19 11:56	04/09/19 18:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		53 - 155	04/09/19 11:56	04/09/19 18:52	1
4-Bromofluorobenzene (Surr)	90		48 - 151	04/09/19 11:56	04/09/19 18:52	1
Dibromofluoromethane (Surr)	74		49 - 138	04/09/19 11:56	04/09/19 18:52	1
Toluene-d8 (Surr)	90		49 - 147	04/09/19 11:56	04/09/19 18:52	1

Lab Sample ID: LCS 240-375537/2-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1000	1030		ug/Kg		103	57 - 139
1,4-Dioxane	20000	19200		ug/Kg		96	51 - 140

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-375537/2-A
Matrix: Solid
Analysis Batch: 375622

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375537

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	1000	911		ug/Kg		91	74 - 123
Tetrachloroethene	1000	939		ug/Kg		94	76 - 120
trans-1,2-Dichloroethene	1000	1050		ug/Kg		105	71 - 133
Trichloroethene	1000	862		ug/Kg		86	73 - 126
Vinyl chloride	1000	1130		ug/Kg		113	52 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	76		53 - 155
4-Bromofluorobenzene (Surr)	89		48 - 151
Dibromofluoromethane (Surr)	76		49 - 138
Toluene-d8 (Surr)	91		49 - 147

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376059/5
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 14:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/11/19 14:21	1

Lab Sample ID: LCS 240-376059/4
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.5		ug/L		115	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		63 - 125

Lab Sample ID: 240-110662-A-3 MS
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.9		ug/L		119	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		63 - 125

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110662-A-3 MSD
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.8		ug/L		118	52 - 129	1	13
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	101		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110529-9 DU
Matrix: Solid
Analysis Batch: 375291

Client Sample ID: HPT-213_4-5_040319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	91.4		91.3		%		0.1	20
Percent Moisture	8.6		8.7		%		1	20



QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

GC/MS VOA

Prep Batch: 375537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-1	HPT-214_26-27_040319	Total/NA	Solid	5030B	
240-110529-2	HPT-214_2-3_040319	Total/NA	Solid	5030B	
240-110529-3	HPT-214_1-2_040319	Total/NA	Solid	5030B	
240-110529-4	DUP-01	Total/NA	Solid	5030B	
240-110529-5	HPT-214_3-4_040319	Total/NA	Solid	5030B	
240-110529-6	HPT-214_4-5_040319	Total/NA	Solid	5030B	
240-110529-7	HPT-213_26-27_040319	Total/NA	Solid	5030B	
240-110529-8	HPT-213_3-4_040319	Total/NA	Solid	5030B	
240-110529-9	HPT-213_4-5_040319	Total/NA	Solid	5030B	
MB 240-375537/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-375537/2-A	Lab Control Sample	Total/NA	Solid	5030B	

Analysis Batch: 375622

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-1	HPT-214_26-27_040319	Total/NA	Solid	8260B MI	375537
240-110529-2	HPT-214_2-3_040319	Total/NA	Solid	8260B MI	375537
240-110529-3	HPT-214_1-2_040319	Total/NA	Solid	8260B MI	375537
240-110529-4	DUP-01	Total/NA	Solid	8260B MI	375537
240-110529-5	HPT-214_3-4_040319	Total/NA	Solid	8260B MI	375537
240-110529-6	HPT-214_4-5_040319	Total/NA	Solid	8260B MI	375537
240-110529-7	HPT-213_26-27_040319	Total/NA	Solid	8260B MI	375537
240-110529-8	HPT-213_3-4_040319	Total/NA	Solid	8260B MI	375537
240-110529-9	HPT-213_4-5_040319	Total/NA	Solid	8260B MI	375537
MB 240-375537/1-A	Method Blank	Total/NA	Solid	8260B MI	375537
LCS 240-375537/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	375537

Analysis Batch: 376059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-11	HPT-214_5-9_040319	Total/NA	Water	8260B SIM	
240-110529-12	HPT-214_10-14_040319	Total/NA	Water	8260B SIM	
240-110529-13	HPT-214_16-20_040319	Total/NA	Water	8260B SIM	
240-110529-14	HPT-213_15-19_040319	Total/NA	Water	8260B SIM	
240-110529-15	HPT-213_10-14_040319	Total/NA	Water	8260B SIM	
240-110529-16	HPT-213_20-24_040319	Total/NA	Water	8260B SIM	
240-110529-17	HPT-213_5-9_040319	Total/NA	Water	8260B SIM	
MB 240-376059/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376059/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110662-A-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110662-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-10	TRIP BLANK	Total/NA	Water	8260B	
240-110529-11	HPT-214_5-9_040319	Total/NA	Water	8260B	
240-110529-12	HPT-214_10-14_040319	Total/NA	Water	8260B	
240-110529-13	HPT-214_16-20_040319	Total/NA	Water	8260B	
240-110529-14	HPT-213_15-19_040319	Total/NA	Water	8260B	
240-110529-15	HPT-213_10-14_040319	Total/NA	Water	8260B	
240-110529-16	HPT-213_20-24_040319	Total/NA	Water	8260B	
240-110529-17	HPT-213_5-9_040319	Total/NA	Water	8260B	
MB 240-376652/6	Method Blank	Total/NA	Water	8260B	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

GC/MS VOA (Continued)

Analysis Batch: 376652 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-376652/4	Lab Control Sample	Total/NA	Water	8260B	
240-110529-12 MS	HPT-214_10-14_040319	Total/NA	Water	8260B	
240-110529-12 MSD	HPT-214_10-14_040319	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 375291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110529-1	HPT-214_26-27_040319	Total/NA	Solid	Moisture	
240-110529-2	HPT-214_2-3_040319	Total/NA	Solid	Moisture	
240-110529-3	HPT-214_1-2_040319	Total/NA	Solid	Moisture	
240-110529-4	DUP-01	Total/NA	Solid	Moisture	
240-110529-5	HPT-214_3-4_040319	Total/NA	Solid	Moisture	
240-110529-6	HPT-214_4-5_040319	Total/NA	Solid	Moisture	
240-110529-7	HPT-213_26-27_040319	Total/NA	Solid	Moisture	
240-110529-8	HPT-213_3-4_040319	Total/NA	Solid	Moisture	
240-110529-9	HPT-213_4-5_040319	Total/NA	Solid	Moisture	
240-110529-9 DU	HPT-213_4-5_040319	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_26-27_040319

Lab Sample ID: 240-110529-1

Date Collected: 04/03/19 14:05

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_26-27_040319

Lab Sample ID: 240-110529-1

Date Collected: 04/03/19 14:05

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 84.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 22:29	TJL1	TAL CAN

Client Sample ID: HPT-214_2-3_040319

Lab Sample ID: 240-110529-2

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_2-3_040319

Lab Sample ID: 240-110529-2

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 22:50	TJL1	TAL CAN

Client Sample ID: HPT-214_1-2_040319

Lab Sample ID: 240-110529-3

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_1-2_040319

Lab Sample ID: 240-110529-3

Date Collected: 04/03/19 11:40

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 90.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 23:12	TJL1	TAL CAN

Client Sample ID: DUP-01

Lab Sample ID: 240-110529-4

Date Collected: 04/03/19 00:00

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: DUP-01

Date Collected: 04/03/19 00:00

Date Received: 04/05/19 08:20

Lab Sample ID: 240-110529-4

Matrix: Solid

Percent Solids: 84.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 23:34	TJL1	TAL CAN

Client Sample ID: HPT-214_3-4_040319

Date Collected: 04/03/19 11:40

Date Received: 04/05/19 08:20

Lab Sample ID: 240-110529-5

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_3-4_040319

Date Collected: 04/03/19 11:40

Date Received: 04/05/19 08:20

Lab Sample ID: 240-110529-5

Matrix: Solid

Percent Solids: 81.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/09/19 23:55	TJL1	TAL CAN

Client Sample ID: HPT-214_4-5_040319

Date Collected: 04/03/19 11:40

Date Received: 04/05/19 08:20

Lab Sample ID: 240-110529-6

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-214_4-5_040319

Date Collected: 04/03/19 11:40

Date Received: 04/05/19 08:20

Lab Sample ID: 240-110529-6

Matrix: Solid

Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/10/19 00:17	TJL1	TAL CAN

Client Sample ID: HPT-213_26-27_040319

Date Collected: 04/03/19 10:00

Date Received: 04/05/19 08:20

Lab Sample ID: 240-110529-7

Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_26-27_040319

Lab Sample ID: 240-110529-7

Date Collected: 04/03/19 10:00

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 83.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/10/19 00:38	TJL1	TAL CAN

Client Sample ID: HPT-213_3-4_040319

Lab Sample ID: 240-110529-8

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-213_3-4_040319

Lab Sample ID: 240-110529-8

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 85.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/10/19 01:00	TJL1	TAL CAN

Client Sample ID: HPT-213_4-5_040319

Lab Sample ID: 240-110529-9

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375291	04/08/19 11:31	JMB	TAL CAN

Client Sample ID: HPT-213_4-5_040319

Lab Sample ID: 240-110529-9

Date Collected: 04/03/19 08:50

Matrix: Solid

Date Received: 04/05/19 08:20

Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375537	04/09/19 11:56	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	375622	04/10/19 01:22	TJL1	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110529-10

Date Collected: 04/03/19 00:00

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 11:34	LEE	TAL CAN

Client Sample ID: HPT-214_5-9_040319

Lab Sample ID: 240-110529-11

Date Collected: 04/03/19 14:42

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 11:56	LEE	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-214_5-9_040319

Lab Sample ID: 240-110529-11

Date Collected: 04/03/19 14:42

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 18:38	SAM	TAL CAN

Client Sample ID: HPT-214_10-14_040319

Lab Sample ID: 240-110529-12

Date Collected: 04/03/19 14:24

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	376652	04/16/19 12:18	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 19:04	SAM	TAL CAN

Client Sample ID: HPT-214_16-20_040319

Lab Sample ID: 240-110529-13

Date Collected: 04/03/19 14:10

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	376652	04/16/19 19:43	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 19:30	SAM	TAL CAN

Client Sample ID: HPT-213_15-19_040319

Lab Sample ID: 240-110529-14

Date Collected: 04/03/19 10:55

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 13:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 19:55	SAM	TAL CAN

Client Sample ID: HPT-213_10-14_040319

Lab Sample ID: 240-110529-15

Date Collected: 04/03/19 11:10

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 13:26	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 20:21	SAM	TAL CAN

Client Sample ID: HPT-213_20-24_040319

Lab Sample ID: 240-110529-16

Date Collected: 04/03/19 10:30

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 13:48	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 20:47	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Client Sample ID: HPT-213_5-9_040319

Lab Sample ID: 240-110529-17

Date Collected: 04/03/19 11:30

Matrix: Water

Date Received: 04/05/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 14:10	LEE	TAL CAN
Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 21:13	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 21:13	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110529-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



2.0/1.8

Client Information Company: ARCADIS U.S. Inc Address: 28550 Cabot Drive Suite 500 City: Novi State, Zip: MI, 48377 Phone: 248-722-2411 Email: Caitlin.ONeill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site:		Lab PM: DelMonico, Michael E-Mail: michael.delmonico@testamericainc.com Carrier Tracking No(s):		COC No: 240-58352-25341.2 Page: 2 of 3 Job #:							
Due Date Requested: TAT Requested (days): 10-DAY (STD.) PO # MI001318 0002.00002 WO # Cadena # E203631 Project # 24015353 SSO#		Analysis Requested									
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=other)	Field Filtered Sample (Yes or No)	Form MS/MSD (Yes or No)	826B, 826B-SIM	826B, MI - VOCs (Short List)	826B - VOCs (Short List)	Total Number of Containers	Special Instructions/Note:
HPT-214-5-9-040319	4/3/19	1442	6	Water						6	
HPT-214-10-14-040319	4/3/19	1424	6	Water						6	
HPT-214-16-20-040319	4/3/19	1410	6	Water						6	
HPT-213-15-19-040319	4/3/19	1055	6	Water						6	
HPT-213-10-14-040319	4/3/19	1110	6	Water						6	
HPT-213-20-24-040319	4/3/19	1030	6	Water						6	
HPT-213-5-9-040319	4/3/19	1130	6	Water						6	
				Water							
				Water							
				Water							
				Water							

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III (V) Other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Special Instructions/OC Requirements: **Submit all results through cadena@arcadis.com**

Relinquished by: <i>[Signature]</i>	Date: 4/3/19	Time: 17:50	Company: Arcadis
Relinquished by: <i>[Signature]</i>	Date: 04/04/19	Time: 14:25	Company: Arcadis
Relinquished by: <i>[Signature]</i>	Date: 4/4/19	Time: 8:20	Company: TH

Custody Seal No: Yes No
 Custody Spills Intact Yes No
 Cooler Temperature(s) °C and Other Remarks:

TestAmerica Canton Sample Receipt Form/Narrative

Login #: 110529

Canton Facility

Client: Aradis

Site Name

Cooler unpacked by:

Cooler Received on: 4-5-19

Opened on: 4-5-19 8:20

Ryan Cribler

FedEx: Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler #: TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. 2.0 °C Corrected Cooler Temp. 1.8 °C
IR GUN# #36 (CF +0.7 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 7 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? total Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC861525

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B834001VB Yes No

16. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM Date by via Verbal Voice Mail Other

Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

RC

18. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC



April 18, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110529-1
Sample date: 2019-04-03
Report received by CADENA: 2019-04-18
Initial Data Verification completed by CADENA: 2019-04-18

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC sample -013 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

SPV - SIM GCMS VOC samples -013 and -014 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

GCMS VOC sample -012 MS or MSD recoveries but not both or RPD only were outliers for TRICHLOROETHENE, TETRACHLOROETHENE, and VINYL CHLORIDE so client sample results were not qualified based on these QC outliers alone.

GCMS VOC Soil QC batch did not include MS/MSD recovery data due to insufficient sample volume available for spiking according to the laboratory submittal case narrative.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

8 Water sample(s) were analyzed for GCMS VOC parameter(s).

9 Soil sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110529-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401105291	HPT-214_26-27_040319	4/3/2019	2:05:00	X		
24011052910	TRIP BLANK	4/3/2019	12:00:00	X		
24011052911	HPT-214_5-9_040319	4/3/2019	2:42:00	X	X	
24011052912	HPT-214_10-14_040319	4/3/2019	2:24:00	X	X	
24011052913	HPT-214_16-20_040319	4/3/2019	2:10:00	X	X	
24011052914	HPT-213_15-19_040319	4/3/2019	10:55:00	X	X	
24011052915	HPT-213_10-14_040319	4/3/2019	11:10:00	X	X	
24011052916	HPT-213_20-24_040319	4/3/2019	10:30:00	X	X	
24011052917	HPT-213_5-9_040319	4/3/2019	11:30:00	X	X	
2401105292	HPT-214_2-3_040319	4/3/2019	11:40:00	X		
2401105293	HPT-214_1-2_040319	4/3/2019	11:40:00	X		
2401105294	DUP-01	4/3/2019	12:00:00	X		
2401105295	HPT-214_3-4_040319	4/3/2019	11:40:00	X		
2401105296	HPT-214_4-5_040319	4/3/2019	11:40:00	X		
2401105297	HPT-213_26-27_040319	4/3/2019	10:00:00	X		
2401105298	HPT-213_3-4_040319	4/3/2019	8:50:00	X		
2401105299	HPT-213_4-5_040319	4/3/2019	8:50:00	X		

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110529-1

Sample Name:	HPT-214_16-20_040319	HPT-213_15-19_040319
Lab Sample ID:	24011052913	24011052914
Sample Date:	4/3/2019	4/3/2019

Analyte	Cas No.	Report		Units	Valid Qualifier	Report		Units	Valid Qualifier
		Result	Limit			Result	Limit		
GC/MS VOC									
<u>OSW-8260B</u>									
1,1-Dichloroethene	75-35-4	ND	10	ug/l	UJ				
cis-1,2-Dichloroethene	156-59-2	200	10	ug/l	J				
Tetrachloroethene	127-18-4	ND	10	ug/l	UJ				
trans-1,2-Dichloroethene	156-60-5	17	10	ug/l	J				
Trichloroethene	79-01-6	ND	10	ug/l	UJ				
Vinyl chloride	75-01-4	ND	10	ug/l	UJ				
<u>OSW-8260BBSim</u>									
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 110529-1

Analyte	Cas No.	HPT-214_26-27_040319			TRIP BLANK			HPT-214_5-9_040319			HPT-214_10-14_040319			HPT-214_16-20_040319			HPT-213_15-19_040319			HPT-213_10-14_040319			HPT-213_20-24_040319										
		Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units	Result	Limit	Units								
GC/MS VOC																																	
<u>OSW-82608</u>																																	
1,1-Dichloroethene	75-35-4	ND	62	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	5.0	ug/l	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dioxane	123-91-1	ND	19000	ug/kg	---																												
cis-1,2-Dichloroethene	156-59-2	ND	62	ug/kg	---	ND	1.0	ug/l	---	17	1.0	ug/l	---	32	5.0	ug/l	---	200	10	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	62	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	5.0	ug/l	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	62	ug/kg	---	ND	1.0	ug/l	---	3.2	1.0	ug/l	---	4.1	5.0	ug/l	J	17	10	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	62	ug/kg	---	ND	1.0	ug/l	---	37	1.0	ug/l	---	120	5.0	ug/l	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	50	ug/kg	---	ND	1.0	ug/l	---	10	1.0	ug/l	---	ND	5.0	ug/l	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
<u>OSW-82608Sim</u>																																	
1,4-Dioxane	123-91-1									ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ	ND	2.0	ug/l	---	ND	2.0	ug/l	---

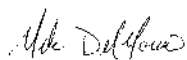
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110662-1
Client Project/Site: Ford LTP Livonia MI - E203631
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/24/2019 9:45:27 AM

Michael DelMonico, Project Manager I
(330)497-9396
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Job ID: 240-110662-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110662-1

Revision

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Report revised 4/24/2019 to update listed Cadena number.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/9/2019 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 2.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-217_4-8_040719 (240-110662-1), HPT-217_16-20_040719 (240-110662-2), HPT-217_9-13_040719 (240-110662-3), HPT-218_15-19_040719 (240-110662-9), HPT-218_10-14_040719 (240-110662-10), HPT-218_5-9_040719 (240-110662-11) and TRIP BLANK (240-110662-13) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/16/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples HPT-217_28-29_040719 (240-110662-4), HPT-218_4-5_040719 (240-110662-5), HPT-218_3-4_040719 (240-110662-6), HPT-218_2-3_040719 (240-110662-7), HPT-218_1-2_040719 (240-110662-8) and HPT-218_28-29_040719 (240-110662-12) were

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Job ID: 240-110662-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/12/2019 and 04/14/2019.

Batch 240-376248 is reported without a matrix spike/matrix spike duplicate (MS/MSD), because the MS/MSD has not been analyzed at this point. The MS/MSD result does not have immediate bearing on any samples except for the actual sample spiked. The associated laboratory control sample (LCS) met acceptance criteria and provides long-term precision and accuracy for this batch: HPT-217_28-29_040719 (240-110662-4), HPT-218_4-5_040719 (240-110662-5), HPT-218_3-4_040719 (240-110662-6), HPT-218_2-3_040719 (240-110662-7) and HPT-218_1-2_040719 (240-110662-8).

Batch 240-376372 is reported without a matrix spike/matrix spike duplicate (MS/MSD), because the MS/MSD has not been analyzed at this point. The MS/MSD result does not have immediate bearing on any samples except for the actual sample spiked. The associated laboratory control sample (LCS) met acceptance criteria and provides long-term precision and accuracy for this batch: HPT-218_28-29_040719 (240-110662-12).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-217_4-8_040719 (240-110662-1), HPT-217_16-20_040719 (240-110662-2), HPT-217_9-13_040719 (240-110662-3), HPT-218_15-19_040719 (240-110662-9), HPT-218_10-14_040719 (240-110662-10) and HPT-218_5-9_040719 (240-110662-11) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/10/2019 and 04/11/2019.

The pH is greater than 2 for the following samples HPT-217_4-8_040719 (240-110662-1), HPT-217_16-20_040719 (240-110662-2) and HPT-218_15-19_040719 (240-110662-9).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-217_28-29_040719 (240-110662-4), HPT-218_4-5_040719 (240-110662-5), HPT-218_3-4_040719 (240-110662-6), HPT-218_2-3_040719 (240-110662-7), HPT-218_1-2_040719 (240-110662-8) and HPT-218_28-29_040719 (240-110662-12) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/09/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110662-1	HPT-217_4-8_040719	Water	04/07/19 10:20	04/09/19 08:30
240-110662-2	HPT-217_16-20_040719	Water	04/07/19 09:35	04/09/19 08:30
240-110662-3	HPT-217_9-13_040719	Water	04/07/19 10:00	04/09/19 08:30
240-110662-4	HPT-217_28-29_040719	Solid	04/07/19 10:30	04/09/19 08:30
240-110662-5	HPT-218_4-5_040719	Solid	04/07/19 10:45	04/09/19 08:30
240-110662-6	HPT-218_3-4_040719	Solid	04/07/19 10:45	04/09/19 08:30
240-110662-7	HPT-218_2-3_040719	Solid	04/07/19 10:45	04/09/19 08:30
240-110662-8	HPT-218_1-2_040719	Solid	04/07/19 10:45	04/09/19 08:30
240-110662-9	HPT-218_15-19_040719	Water	04/07/19 13:25	04/09/19 08:30
240-110662-10	HPT-218_10-14_040719	Water	04/07/19 13:35	04/09/19 08:30
240-110662-11	HPT-218_5-9_040719	Water	04/07/19 13:55	04/09/19 08:30
240-110662-12	HPT-218_28-29_040719	Solid	04/07/19 13:05	04/09/19 08:30
240-110662-13	TRIP BLANK	Water	04/07/19 00:00	04/09/19 08:30

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_4-8_040719

Lab Sample ID: 240-110662-1

No Detections.

Client Sample ID: HPT-217_16-20_040719

Lab Sample ID: 240-110662-2

No Detections.

Client Sample ID: HPT-217_9-13_040719

Lab Sample ID: 240-110662-3

No Detections.

Client Sample ID: HPT-217_28-29_040719

Lab Sample ID: 240-110662-4

No Detections.

Client Sample ID: HPT-218_4-5_040719

Lab Sample ID: 240-110662-5

No Detections.

Client Sample ID: HPT-218_3-4_040719

Lab Sample ID: 240-110662-6

No Detections.

Client Sample ID: HPT-218_2-3_040719

Lab Sample ID: 240-110662-7

No Detections.

Client Sample ID: HPT-218_1-2_040719

Lab Sample ID: 240-110662-8

No Detections.

Client Sample ID: HPT-218_15-19_040719

Lab Sample ID: 240-110662-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.93	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
trans-1,2-Dichloroethene	0.19	J	1.0	0.19	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-218_10-14_040719

Lab Sample ID: 240-110662-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.6		1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-218_5-9_040719

Lab Sample ID: 240-110662-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	28		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.9		1.0	0.19	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-218_28-29_040719

Lab Sample ID: 240-110662-12

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110662-13

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_4-8_040719

Lab Sample ID: 240-110662-1

Date Collected: 04/07/19 10:20

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 21:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		63 - 125		04/10/19 21:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 18:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 18:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 18:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 18:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 18:24	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 18:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 121		04/16/19 18:24	1
4-Bromofluorobenzene (Surr)	68		59 - 120		04/16/19 18:24	1
Toluene-d8 (Surr)	84		70 - 123		04/16/19 18:24	1
Dibromofluoromethane (Surr)	123		75 - 128		04/16/19 18:24	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_16-20_040719

Lab Sample ID: 240-110662-2

Date Collected: 04/07/19 09:35

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 22:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/16/19 18:46	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		04/16/19 18:46	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		04/16/19 18:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/16/19 18:46	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		04/16/19 18:46	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		04/16/19 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		04/16/19 18:46	1
4-Bromofluorobenzene (Surr)	66		59 - 120		04/16/19 18:46	1
Toluene-d8 (Surr)	81		70 - 123		04/16/19 18:46	1
Dibromofluoromethane (Surr)	121		75 - 128		04/16/19 18:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_9-13_040719

Lab Sample ID: 240-110662-3

Date Collected: 04/07/19 10:00

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 16:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		04/11/19 16:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 19:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 19:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 19:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 19:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 19:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 121		04/16/19 19:08	1
4-Bromofluorobenzene (Surr)	64		59 - 120		04/16/19 19:08	1
Toluene-d8 (Surr)	80		70 - 123		04/16/19 19:08	1
Dibromofluoromethane (Surr)	120		75 - 128		04/16/19 19:08	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_28-29_040719

Lab Sample ID: 240-110662-4

Date Collected: 04/07/19 10:30

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 83.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	60	U	60	24	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
1,4-Dioxane	19000	U	19000	1600	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
cis-1,2-Dichloroethene	60	U	60	14	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
Tetrachloroethene	60	U	60	27	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
trans-1,2-Dichloroethene	60	U	60	15	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
Trichloroethene	60	U	60	17	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1
Vinyl chloride	48	U	48	18	ug/Kg	☼	04/11/19 13:35	04/12/19 20:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/11/19 13:35	04/12/19 20:59	1
4-Bromofluorobenzene (Surr)	95		48 - 151	04/11/19 13:35	04/12/19 20:59	1
Dibromofluoromethane (Surr)	97		49 - 138	04/11/19 13:35	04/12/19 20:59	1
Toluene-d8 (Surr)	99		49 - 147	04/11/19 13:35	04/12/19 20:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	16.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_4-5_040719

Lab Sample ID: 240-110662-5

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 95.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
Trichloroethene	55	U	55	15	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1
Vinyl chloride	44	U	44	17	ug/Kg	☼	04/11/19 13:35	04/12/19 21:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		53 - 155	04/11/19 13:35	04/12/19 21:23	1
4-Bromofluorobenzene (Surr)	95		48 - 151	04/11/19 13:35	04/12/19 21:23	1
Dibromofluoromethane (Surr)	93		49 - 138	04/11/19 13:35	04/12/19 21:23	1
Toluene-d8 (Surr)	99		49 - 147	04/11/19 13:35	04/12/19 21:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95.1		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	4.9		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_3-4_040719

Lab Sample ID: 240-110662-6

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	51	U	51	20	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
cis-1,2-Dichloroethene	51	U	51	12	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
Tetrachloroethene	51	U	51	23	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
trans-1,2-Dichloroethene	51	U	51	13	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
Trichloroethene	51	U	51	14	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	04/11/19 13:35	04/12/19 21:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		53 - 155	04/11/19 13:35	04/12/19 21:48	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/11/19 13:35	04/12/19 21:48	1
Dibromofluoromethane (Surr)	92		49 - 138	04/11/19 13:35	04/12/19 21:48	1
Toluene-d8 (Surr)	102		49 - 147	04/11/19 13:35	04/12/19 21:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.2		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	11.8		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_2-3_040719

Lab Sample ID: 240-110662-7

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 85.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	58	U	58	23	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
cis-1,2-Dichloroethene	58	U	58	13	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
Tetrachloroethene	58	U	58	26	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
trans-1,2-Dichloroethene	58	U	58	15	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
Trichloroethene	58	U	58	16	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1
Vinyl chloride	47	U	47	17	ug/Kg	☼	04/11/19 13:35	04/12/19 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/11/19 13:35	04/12/19 22:13	1
4-Bromofluorobenzene (Surr)	97		48 - 151	04/11/19 13:35	04/12/19 22:13	1
Dibromofluoromethane (Surr)	89		49 - 138	04/11/19 13:35	04/12/19 22:13	1
Toluene-d8 (Surr)	99		49 - 147	04/11/19 13:35	04/12/19 22:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.0		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	15.0		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_1-2_040719

Lab Sample ID: 240-110662-8

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 90.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/11/19 13:35	04/12/19 22:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		53 - 155	04/11/19 13:35	04/12/19 22:38	1
4-Bromofluorobenzene (Surr)	95		48 - 151	04/11/19 13:35	04/12/19 22:38	1
Dibromofluoromethane (Surr)	90		49 - 138	04/11/19 13:35	04/12/19 22:38	1
Toluene-d8 (Surr)	98		49 - 147	04/11/19 13:35	04/12/19 22:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	9.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_15-19_040719

Lab Sample ID: 240-110662-9

Date Collected: 04/07/19 13:25

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.93	J	2.0	0.86	ug/L			04/11/19 17:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 125					04/11/19 17:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 20:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 20:13	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 20:13	1
trans-1,2-Dichloroethene	0.19	J	1.0	0.19	ug/L			04/16/19 20:13	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 20:13	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 20:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		70 - 121					04/16/19 20:13	1
4-Bromofluorobenzene (Surr)	72		59 - 120					04/16/19 20:13	1
Toluene-d8 (Surr)	84		70 - 123					04/16/19 20:13	1
Dibromofluoromethane (Surr)	119		75 - 128					04/16/19 20:13	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_10-14_040719

Lab Sample ID: 240-110662-10

Date Collected: 04/07/19 13:35

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/11/19 17:46	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 15:39	1
cis-1,2-Dichloroethene	1.6		1.0	0.16	ug/L			04/16/19 15:39	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 15:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 15:39	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 15:39	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 15:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 121		04/16/19 15:39	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/16/19 15:39	1
Toluene-d8 (Surr)	96		70 - 123		04/16/19 15:39	1
Dibromofluoromethane (Surr)	95		75 - 128		04/16/19 15:39	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_5-9_040719

Lab Sample ID: 240-110662-11

Date Collected: 04/07/19 13:55

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 18:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125		04/11/19 18:12	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:01	1
cis-1,2-Dichloroethene	28		1.0	0.16	ug/L			04/16/19 16:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 16:01	1
trans-1,2-Dichloroethene	3.9		1.0	0.19	ug/L			04/16/19 16:01	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 16:01	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 16:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 121		04/16/19 16:01	1
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 16:01	1
Toluene-d8 (Surr)	104		70 - 123		04/16/19 16:01	1
Dibromofluoromethane (Surr)	103		75 - 128		04/16/19 16:01	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_28-29_040719

Lab Sample ID: 240-110662-12

Date Collected: 04/07/19 13:05

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 79.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	63	U	63	25	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
1,4-Dioxane	20000	U	20000	1700	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
cis-1,2-Dichloroethene	63	U	63	14	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
Tetrachloroethene	63	U	63	28	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
trans-1,2-Dichloroethene	63	U	63	16	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
Trichloroethene	63	U	63	17	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1
Vinyl chloride	50	U	50	19	ug/Kg	☼	04/11/19 13:35	04/14/19 18:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/11/19 13:35	04/14/19 18:35	1
4-Bromofluorobenzene (Surr)	75		48 - 151	04/11/19 13:35	04/14/19 18:35	1
Dibromofluoromethane (Surr)	82		49 - 138	04/11/19 13:35	04/14/19 18:35	1
Toluene-d8 (Surr)	82		49 - 147	04/11/19 13:35	04/14/19 18:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	79.0		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	21.0		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110662-13

Date Collected: 04/07/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 16:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 16:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:23	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 16:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 16:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 121		04/16/19 16:23	1
4-Bromofluorobenzene (Surr)	78		59 - 120		04/16/19 16:23	1
Toluene-d8 (Surr)	97		70 - 123		04/16/19 16:23	1
Dibromofluoromethane (Surr)	93		75 - 128		04/16/19 16:23	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110529-F-12 MS	Matrix Spike	88	94	111	94
240-110529-F-12 MSD	Matrix Spike Duplicate	82	88	101	94
240-110662-1	HPT-217_4-8_040719	108	68	84	123
240-110662-2	HPT-217_16-20_040719	106	66	81	121
240-110662-3	HPT-217_9-13_040719	103	64	80	120
240-110662-3 MS	HPT-217_9-13_040719	88	89	89	108
240-110662-3 MSD	HPT-217_9-13_040719	85	86	88	103
240-110662-9	HPT-218_15-19_040719	105	72	84	119
240-110662-10	HPT-218_10-14_040719	86	75	96	95
240-110662-11	HPT-218_5-9_040719	92	80	104	103
240-110662-13	TRIP BLANK	82	78	97	93
LCS 240-376652/4	Lab Control Sample	83	95	105	94
LCS 240-376654/4	Lab Control Sample	84	88	90	102
MB 240-376652/6	Method Blank	89	84	107	102
MB 240-376654/6	Method Blank	96	69	81	110

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	DBFM (49-138)	TOL (49-147)
240-110662-4	HPT-217_28-29_040719	98	95	97	99
240-110662-5	HPT-218_4-5_040719	99	95	93	99
240-110662-6	HPT-218_3-4_040719	99	98	92	102
240-110662-7	HPT-218_2-3_040719	98	97	89	99
240-110662-8	HPT-218_1-2_040719	100	95	90	98
240-110662-12	HPT-218_28-29_040719	87	75	82	82
LCS 240-376103/2-A	Lab Control Sample	80	81	82	85
LCSD 240-376103/3-A	Lab Control Sample Dup	82	82	84	87
MB 240-376103/1-A	Method Blank	86	85	86	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-110458-C-3 MS	Matrix Spike	122

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110458-C-3 MSD	Matrix Spike Duplicate	117
240-110662-1	HPT-217_4-8_040719	113
240-110662-2	HPT-217_16-20_040719	116
240-110662-3	HPT-217_9-13_040719	100
240-110662-3 MS	HPT-217_9-13_040719	102
240-110662-3 MSD	HPT-217_9-13_040719	101
240-110662-9	HPT-218_15-19_040719	103
240-110662-10	HPT-218_10-14_040719	101
240-110662-11	HPT-218_5-9_040719	99
LCS 240-375762/4	Lab Control Sample	116
LCS 240-376059/4	Lab Control Sample	99
MB 240-375762/5	Method Blank	116
MB 240-376059/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376652/6
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 10:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 10:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 10:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/16/19 10:41	1
4-Bromofluorobenzene (Surr)	84		59 - 120		04/16/19 10:41	1
Toluene-d8 (Surr)	107		70 - 123		04/16/19 10:41	1
Dibromofluoromethane (Surr)	102		75 - 128		04/16/19 10:41	1

Lab Sample ID: LCS 240-376652/4
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.67		ug/L		97	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	8.87		ug/L		89	74 - 130
trans-1,2-Dichloroethene	10.0	9.88		ug/L		99	78 - 133
Trichloroethene	10.0	8.99		ug/L		90	76 - 125
Vinyl chloride	10.0	10.2		ug/L		102	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	105		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-F-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	5.0	U	50.0	34.9		ug/L		70	53 - 140
cis-1,2-Dichloroethene	32		50.0	67.3		ug/L		71	64 - 130
Tetrachloroethene	5.0	U F2	50.0	32.8		ug/L		66	51 - 136
trans-1,2-Dichloroethene	4.1	J	50.0	41.2		ug/L		74	68 - 133
Trichloroethene	120	F1	50.0	134	F1	ug/L		36	55 - 131
Vinyl chloride	5.0	U F2	50.0	34.7		ug/L		69	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	111		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110529-F-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-F-12 MSD
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	5.0	U	50.0	49.1		ug/L		98	53 - 140	34	35
cis-1,2-Dichloroethene	32		50.0	77.8		ug/L		92	64 - 130	14	21
Tetrachloroethene	5.0	U F2	50.0	44.2	F2	ug/L		88	51 - 136	30	23
trans-1,2-Dichloroethene	4.1	J	50.0	52.6		ug/L		97	68 - 133	24	24
Trichloroethene	120	F1	50.0	144		ug/L		57	55 - 131	7	23
Vinyl chloride	5.0	U F2	50.0	47.9	F2	ug/L		96	43 - 154	32	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		70 - 121
4-Bromofluorobenzene (Surr)	88		59 - 120
Toluene-d8 (Surr)	101		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: MB 240-376654/6
Matrix: Water
Analysis Batch: 376654

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 11:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 11:32	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 11:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 11:32	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 11:32	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 11:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 121		04/16/19 11:32	1
4-Bromofluorobenzene (Surr)	69		59 - 120		04/16/19 11:32	1
Toluene-d8 (Surr)	81		70 - 123		04/16/19 11:32	1
Dibromofluoromethane (Surr)	110		75 - 128		04/16/19 11:32	1

Lab Sample ID: LCS 240-376654/4
Matrix: Water
Analysis Batch: 376654

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139
cis-1,2-Dichloroethene	10.0	11.8		ug/L		118	76 - 128
Tetrachloroethene	10.0	11.4		ug/L		114	74 - 130
trans-1,2-Dichloroethene	10.0	13.0		ug/L		130	78 - 133
Trichloroethene	10.0	10.3		ug/L		103	76 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-376654/4

Matrix: Water

Analysis Batch: 376654

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	10.7		ug/L		107	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		70 - 121
4-Bromofluorobenzene (Surr)	88		59 - 120
Toluene-d8 (Surr)	90		70 - 123
Dibromofluoromethane (Surr)	102		75 - 128

Lab Sample ID: 240-110662-3 MS

Matrix: Water

Analysis Batch: 376654

Client Sample ID: HPT-217_9-13_040719

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.25		ug/L		93	53 - 140
cis-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 130
Tetrachloroethene	1.0	U	10.0	9.69		ug/L		97	51 - 136
trans-1,2-Dichloroethene	1.0	U	10.0	11.5		ug/L		115	68 - 133
Trichloroethene	1.0	U	10.0	8.91		ug/L		89	55 - 131
Vinyl chloride	1.0	U	10.0	10.8		ug/L		108	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	89		59 - 120
Toluene-d8 (Surr)	89		70 - 123
Dibromofluoromethane (Surr)	108		75 - 128

Lab Sample ID: 240-110662-3 MSD

Matrix: Water

Analysis Batch: 376654

Client Sample ID: HPT-217_9-13_040719

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	8.55		ug/L		86	53 - 140	8	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.86		ug/L		99	64 - 130	6	21
Tetrachloroethene	1.0	U	10.0	8.86		ug/L		89	51 - 136	9	23
trans-1,2-Dichloroethene	1.0	U	10.0	11.1		ug/L		111	68 - 133	3	24
Trichloroethene	1.0	U	10.0	8.59		ug/L		86	55 - 131	4	23
Vinyl chloride	1.0	U	10.0	11.0		ug/L		110	43 - 154	2	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		70 - 121
4-Bromofluorobenzene (Surr)	86		59 - 120
Toluene-d8 (Surr)	88		70 - 123
Dibromofluoromethane (Surr)	103		75 - 128

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376103/1-A
Matrix: Solid
Analysis Batch: 376248

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 376103

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
Trichloroethene	40	U	40	11	ug/Kg		04/11/19 13:35	04/12/19 19:45	1
Vinyl chloride	32	U	32	12	ug/Kg		04/11/19 13:35	04/12/19 19:45	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/11/19 13:35	04/12/19 19:45	1
4-Bromofluorobenzene (Surr)	85		48 - 151	04/11/19 13:35	04/12/19 19:45	1
Dibromofluoromethane (Surr)	86		49 - 138	04/11/19 13:35	04/12/19 19:45	1
Toluene-d8 (Surr)	90		49 - 147	04/11/19 13:35	04/12/19 19:45	1

Lab Sample ID: LCS 240-376103/2-A
Matrix: Solid
Analysis Batch: 376248

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376103

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	Limits
		Result	Qualifier				
1,1-Dichloroethene	1000	988		ug/Kg		99	57 - 139
1,4-Dioxane	20000	17100		ug/Kg		85	51 - 140
cis-1,2-Dichloroethene	1000	943		ug/Kg		94	74 - 123
Tetrachloroethene	1000	947		ug/Kg		95	76 - 120
trans-1,2-Dichloroethene	1000	1000		ug/Kg		100	71 - 133
Trichloroethene	1000	960		ug/Kg		96	73 - 126
Vinyl chloride	1000	914		ug/Kg		91	52 - 130

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	80		53 - 155
4-Bromofluorobenzene (Surr)	81		48 - 151
Dibromofluoromethane (Surr)	82		49 - 138
Toluene-d8 (Surr)	85		49 - 147

Lab Sample ID: LCSD 240-376103/3-A
Matrix: Solid
Analysis Batch: 376248

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 376103

Analyte	Spike Added	LCSD	LCSD	Unit	D	%Rec	Limits	RPD	Limit
		Result	Qualifier						
1,1-Dichloroethene	1000	1030		ug/Kg		103	57 - 139	4	40
1,4-Dioxane	20000	18200		ug/Kg		91	51 - 140	6	40
cis-1,2-Dichloroethene	1000	982		ug/Kg		98	74 - 123	4	40
Tetrachloroethene	1000	992		ug/Kg		99	76 - 120	5	40
trans-1,2-Dichloroethene	1000	1030		ug/Kg		103	71 - 133	3	40
Trichloroethene	1000	991		ug/Kg		99	73 - 126	3	40
Vinyl chloride	1000	905		ug/Kg		91	52 - 130	1	40

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 240-376103/3-A
Matrix: Solid
Analysis Batch: 376248

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 376103

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		53 - 155
4-Bromofluorobenzene (Surr)	82		48 - 151
Dibromofluoromethane (Surr)	84		49 - 138
Toluene-d8 (Surr)	87		49 - 147

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375762/5
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 12:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 12:22	1

Lab Sample ID: LCS 240-375762/4
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.9		ug/L		119	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		63 - 125

Lab Sample ID: 240-110458-C-3 MS
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	68		10.0	82.4	4	ug/L		142	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	122		63 - 125

Lab Sample ID: 240-110458-C-3 MSD
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	68		10.0	79.6	4	ug/L		113	52 - 129	4	13

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	117		63 - 125

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-376059/5
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/11/19 14:21	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125					04/11/19 14:21	1

Lab Sample ID: LCS 240-376059/4
Matrix: Water
Analysis Batch: 376059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.5		ug/L		115	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		63 - 125				

Lab Sample ID: 240-110662-3 MS
Matrix: Water
Analysis Batch: 376059

Client Sample ID: HPT-217_9-13_040719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.9		ug/L		119	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	102		63 - 125						

Lab Sample ID: 240-110662-3 MSD
Matrix: Water
Analysis Batch: 376059

Client Sample ID: HPT-217_9-13_040719
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.8		ug/L		118	52 - 129	1	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	101		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110665-B-20 DU
Matrix: Solid
Analysis Batch: 375590

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	97.4		97.3		%		0	20
Percent Moisture	2.6		2.7		%		0.8	20

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

GC/MS VOA

Analysis Batch: 375762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-1	HPT-217_4-8_040719	Total/NA	Water	8260B SIM	
240-110662-2	HPT-217_16-20_040719	Total/NA	Water	8260B SIM	
MB 240-375762/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-375762/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110458-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110458-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-3	HPT-217_9-13_040719	Total/NA	Water	8260B SIM	
240-110662-9	HPT-218_15-19_040719	Total/NA	Water	8260B SIM	
240-110662-10	HPT-218_10-14_040719	Total/NA	Water	8260B SIM	
240-110662-11	HPT-218_5-9_040719	Total/NA	Water	8260B SIM	
MB 240-376059/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376059/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110662-3 MS	HPT-217_9-13_040719	Total/NA	Water	8260B SIM	
240-110662-3 MSD	HPT-217_9-13_040719	Total/NA	Water	8260B SIM	

Prep Batch: 376103

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-4	HPT-217_28-29_040719	Total/NA	Solid	5030B	
240-110662-5	HPT-218_4-5_040719	Total/NA	Solid	5030B	
240-110662-6	HPT-218_3-4_040719	Total/NA	Solid	5030B	
240-110662-7	HPT-218_2-3_040719	Total/NA	Solid	5030B	
240-110662-8	HPT-218_1-2_040719	Total/NA	Solid	5030B	
240-110662-12	HPT-218_28-29_040719	Total/NA	Solid	5030B	
MB 240-376103/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-376103/2-A	Lab Control Sample	Total/NA	Solid	5030B	
LCSD 240-376103/3-A	Lab Control Sample Dup	Total/NA	Solid	5030B	

Analysis Batch: 376248

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-4	HPT-217_28-29_040719	Total/NA	Solid	8260B MI	376103
240-110662-5	HPT-218_4-5_040719	Total/NA	Solid	8260B MI	376103
240-110662-6	HPT-218_3-4_040719	Total/NA	Solid	8260B MI	376103
240-110662-7	HPT-218_2-3_040719	Total/NA	Solid	8260B MI	376103
240-110662-8	HPT-218_1-2_040719	Total/NA	Solid	8260B MI	376103
MB 240-376103/1-A	Method Blank	Total/NA	Solid	8260B MI	376103
LCS 240-376103/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	376103
LCSD 240-376103/3-A	Lab Control Sample Dup	Total/NA	Solid	8260B MI	376103

Analysis Batch: 376372

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-12	HPT-218_28-29_040719	Total/NA	Solid	8260B MI	376103

Analysis Batch: 376652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-10	HPT-218_10-14_040719	Total/NA	Water	8260B	
240-110662-11	HPT-218_5-9_040719	Total/NA	Water	8260B	
240-110662-13	TRIP BLANK	Total/NA	Water	8260B	
MB 240-376652/6	Method Blank	Total/NA	Water	8260B	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

GC/MS VOA (Continued)

Analysis Batch: 376652 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-376652/4	Lab Control Sample	Total/NA	Water	8260B	
240-110529-F-12 MS	Matrix Spike	Total/NA	Water	8260B	
240-110529-F-12 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 376654

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-1	HPT-217_4-8_040719	Total/NA	Water	8260B	
240-110662-2	HPT-217_16-20_040719	Total/NA	Water	8260B	
240-110662-3	HPT-217_9-13_040719	Total/NA	Water	8260B	
240-110662-9	HPT-218_15-19_040719	Total/NA	Water	8260B	
MB 240-376654/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376654/4	Lab Control Sample	Total/NA	Water	8260B	
240-110662-3 MS	HPT-217_9-13_040719	Total/NA	Water	8260B	
240-110662-3 MSD	HPT-217_9-13_040719	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 375590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110662-4	HPT-217_28-29_040719	Total/NA	Solid	Moisture	
240-110662-5	HPT-218_4-5_040719	Total/NA	Solid	Moisture	
240-110662-6	HPT-218_3-4_040719	Total/NA	Solid	Moisture	
240-110662-7	HPT-218_2-3_040719	Total/NA	Solid	Moisture	
240-110662-8	HPT-218_1-2_040719	Total/NA	Solid	Moisture	
240-110662-12	HPT-218_28-29_040719	Total/NA	Solid	Moisture	
240-110665-B-20 DU	Duplicate	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-217_4-8_040719

Lab Sample ID: 240-110662-1

Date Collected: 04/07/19 10:20

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376654	04/16/19 18:24	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 21:47	SAM	TAL CAN

Client Sample ID: HPT-217_16-20_040719

Lab Sample ID: 240-110662-2

Date Collected: 04/07/19 09:35

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376654	04/16/19 18:46	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 22:13	SAM	TAL CAN

Client Sample ID: HPT-217_9-13_040719

Lab Sample ID: 240-110662-3

Date Collected: 04/07/19 10:00

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376654	04/16/19 19:08	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 16:04	SAM	TAL CAN

Client Sample ID: HPT-217_28-29_040719

Lab Sample ID: 240-110662-4

Date Collected: 04/07/19 10:30

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-217_28-29_040719

Lab Sample ID: 240-110662-4

Date Collected: 04/07/19 10:30

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 83.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 20:59	HMB	TAL CAN

Client Sample ID: HPT-218_4-5_040719

Lab Sample ID: 240-110662-5

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_4-5_040719

Lab Sample ID: 240-110662-5

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 95.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 21:23	HMB	TAL CAN

Client Sample ID: HPT-218_3-4_040719

Lab Sample ID: 240-110662-6

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-218_3-4_040719

Lab Sample ID: 240-110662-6

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 21:48	HMB	TAL CAN

Client Sample ID: HPT-218_2-3_040719

Lab Sample ID: 240-110662-7

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-218_2-3_040719

Lab Sample ID: 240-110662-7

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 85.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 22:13	HMB	TAL CAN

Client Sample ID: HPT-218_1-2_040719

Lab Sample ID: 240-110662-8

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: HPT-218_1-2_040719

Lab Sample ID: 240-110662-8

Date Collected: 04/07/19 10:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 90.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376248	04/12/19 22:38	HMB	TAL CAN

Client Sample ID: HPT-218_15-19_040719

Lab Sample ID: 240-110662-9

Date Collected: 04/07/19 13:25

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376654	04/16/19 20:13	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 17:21	SAM	TAL CAN

Client Sample ID: HPT-218_10-14_040719

Lab Sample ID: 240-110662-10

Date Collected: 04/07/19 13:35

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 15:39	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 17:46	SAM	TAL CAN

Client Sample ID: HPT-218_5-9_040719

Lab Sample ID: 240-110662-11

Date Collected: 04/07/19 13:55

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 16:01	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376059	04/11/19 18:12	SAM	TAL CAN

Client Sample ID: HPT-218_28-29_040719

Lab Sample ID: 240-110662-12

Date Collected: 04/07/19 13:05

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-218_28-29_040719

Lab Sample ID: 240-110662-12

Date Collected: 04/07/19 13:05

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 79.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			376103	04/11/19 13:35	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376372	04/14/19 18:35	HMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110662-13

Date Collected: 04/07/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 16:23	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110662-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica Canton Sample Receipt Form/Narrative

Login #: 110662

Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: [Signature]
 Cooler Received on 4-9-19 Opened on 4-9-19
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #36 (CF +0.7°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LL Hg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC861525
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B834001VA Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: M5

18. SAMPLE CONDITION
 Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



April 24, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110662-1
Sample date: 2019-04-07
Report received by CADENA: 2019-04-24
Initial Data Verification completed by CADENA: 2019-04-24

Number of Samples:6
Sample Matrices:Soil
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - SIM GCMS VOC samples -001, -002, -009 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

GCMS VOC QC batch MS/MSD issues as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

GCMS VOC QC batch MS/MSD recovery outliers or RPD outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110662-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401106621	HPT-217_4-8_040719	4/7/2019	10:20:00	X	X	
24011066210	HPT-218_10-14_040719	4/7/2019	1:35:00	X	X	
24011066211	HPT-218_5-9_040719	4/7/2019	1:55:00	X	X	
24011066212	HPT-218_28-29_040719	4/7/2019	1:05:00	X		
24011066213	TRIP BLANK	4/7/2019	12:00:00	X		
2401106622	HPT-217_16-20_040719	4/7/2019	9:35:00	X	X	
2401106623	HPT-217_9-13_040719	4/7/2019	10:00:00	X	X	
2401106624	HPT-217_28-29_040719	4/7/2019	10:30:00	X		
2401106625	HPT-218_4-5_040719	4/7/2019	10:45:00	X		
2401106626	HPT-218_3-4_040719	4/7/2019	10:45:00	X		
2401106627	HPT-218_2-3_040719	4/7/2019	10:45:00	X		
2401106628	HPT-218_1-2_040719	4/7/2019	10:45:00	X		
2401106629	HPT-218_15-19_040719	4/7/2019	1:25:00	X	X	

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110662-1

Sample Name:	HPT-217_4-8_040719	HPT-217_16-20_040719	HPT-218_15-19_040719
Lab Sample ID:	2401106621	2401106622	2401106629
Sample Date:	4/7/2019	4/7/2019	4/7/2019

Analyte	Cas No.	HPT-217_4-8_040719				HPT-217_16-20_040719				HPT-218_15-19_040719			
		Report Result	Report Limit	Valid Units	Valid Qualifier	Report Result	Report Limit	Valid Units	Valid Qualifier	Report Result	Report Limit	Valid Units	Valid Qualifier

GC/MS VOC

OSW-8260BBSim

1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ	0.93	2.0	ug/l	J
-------------	----------	----	-----	------	----	----	-----	------	----	------	-----	------	---


ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110665-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/18/2019 4:15:48 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
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The
Expert**

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Job ID: 240-110665-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-110665-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/9/2019 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.6° C and 2.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-110665-11), HPT-216_18-22_040619 (240-110665-12), HPT-216_5-9_040619 (240-110665-13), HPT-215A_4-8_040619 (240-110665-14), DUP-02 (240-110665-15), HPT-215A_9-13_040619 (240-110665-16) and HPT-215A_14-18_040619 (240-110665-17) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/16/2019 and 04/17/2019.

Samples HPT-216_5-9_040619 (240-110665-13)[20X], HPT-215A_4-8_040619 (240-110665-14)[6.67X], DUP-02 (240-110665-15)[20X], HPT-215A_9-13_040619 (240-110665-16)[16.67X] and HPT-215A_14-18_040619 (240-110665-17)[14.28X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The pH of the sample was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if sample is not preserved to a pH of 2: HPT-216_18-22_040619 (240-110665-12).

Method 8260 stipulates a 12 hour sequence for the analysis of samples. Due to an instrument error, the MSD for sample (240-110670-B-9 MSD) exceeded the 12 hour time limit by 3 minutes. The MSD was reported for batch QC.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Job ID: 240-110665-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples HPT-217_1-2_040619 (240-110665-1), HPT-217_2-3_040619 (240-110665-2), HPT-217_3-4_040619 (240-110665-3), HPT-217_4-5_040619 (240-110665-4), HPT-215A_28-29_040619 (240-110665-5), HPT-215A_0-1_040619 (240-110665-6), HPT-215A_3-4_040619 (240-110665-7), HPT-215A_2-3_040619 (240-110665-8), HPT-215A_4-5_040619 (240-110665-9), HPT-215A_1-2_040619 (240-110665-10), HPT-216_27-28_040619 (240-110665-18), HPT-216_3-4_040619 (240-110665-19), HPT-216_1-2_040619 (240-110665-20), HPT-216_2-3_040619 (240-110665-21) and HPT-216_4-5_040619 (240-110665-22) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/11/2019, 04/12/2019 and 04/15/2019.

The continuing calibration verification (CCV) associated with batch 240-376132 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported: HPT-217_1-2_040619 (240-110665-1), HPT-217_2-3_040619 (240-110665-2), HPT-217_3-4_040619 (240-110665-3), HPT-217_4-5_040619 (240-110665-4), HPT-215A_0-1_040619 (240-110665-6), HPT-215A_3-4_040619 (240-110665-7), HPT-215A_2-3_040619 (240-110665-8), HPT-215A_4-5_040619 (240-110665-9), HPT-215A_1-2_040619 (240-110665-10), HPT-216_27-28_040619 (240-110665-18), HPT-216_3-4_040619 (240-110665-19), HPT-216_1-2_040619 (240-110665-20), HPT-216_2-3_040619 (240-110665-21), HPT-216_4-5_040619 (240-110665-22) and (CCV 240-376132/7).

The continuing calibration verification (CCV) associated with batch 240-376569 recovered above the upper control limit for vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: HPT-215A_28-29_040619 (240-110665-5) and (CCVIS 240-376569/4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-216_18-22_040619 (240-110665-12), HPT-216_5-9_040619 (240-110665-13), HPT-215A_4-8_040619 (240-110665-14), DUP-02 (240-110665-15), HPT-215A_9-13_040619 (240-110665-16) and HPT-215A_14-18_040619 (240-110665-17) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/10/2019.

Internal standard responses were outside of acceptance limits for the following samples: HPT-216_5-9_040619 (240-110665-13), DUP-02 (240-110665-15) and HPT-215A_9-13_040619 (240-110665-16). The samples shows evidence of matrix interference.

The pH is greater than 2 for the following samples HPT-216_18-22_040619 (240-110665-12).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples HPT-217_1-2_040619 (240-110665-1), HPT-217_2-3_040619 (240-110665-2), HPT-217_3-4_040619 (240-110665-3), HPT-217_4-5_040619 (240-110665-4), HPT-215A_28-29_040619 (240-110665-5), HPT-215A_0-1_040619 (240-110665-6), HPT-215A_3-4_040619 (240-110665-7), HPT-215A_2-3_040619 (240-110665-8), HPT-215A_4-5_040619 (240-110665-9), HPT-215A_1-2_040619 (240-110665-10), HPT-216_27-28_040619 (240-110665-18), HPT-216_3-4_040619 (240-110665-19), HPT-216_1-2_040619 (240-110665-20), HPT-216_2-3_040619 (240-110665-21) and HPT-216_4-5_040619 (240-110665-22) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/09/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110665-1	HPT-217_1-2_040619	Solid	04/06/19 17:45	04/09/19 08:30
240-110665-2	HPT-217_2-3_040619	Solid	04/06/19 17:45	04/09/19 08:30
240-110665-3	HPT-217_3-4_040619	Solid	04/06/19 17:45	04/09/19 08:30
240-110665-4	HPT-217_4-5_040619	Solid	04/06/19 17:45	04/09/19 08:30
240-110665-5	HPT-215A_28-29_040619	Solid	04/06/19 13:35	04/09/19 08:30
240-110665-6	HPT-215A_0-1_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-7	HPT-215A_3-4_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-8	HPT-215A_2-3_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-9	HPT-215A_4-5_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-10	HPT-215A_1-2_040619	Solid	04/06/19 09:10	04/09/19 08:30
240-110665-11	TRIP BLANK	Water	04/06/19 00:00	04/09/19 08:30
240-110665-12	HPT-216_18-22_040619	Water	04/06/19 17:20	04/09/19 08:30
240-110665-13	HPT-216_5-9_040619	Water	04/06/19 17:50	04/09/19 08:30
240-110665-14	HPT-215A_4-8_040619	Water	04/06/19 14:25	04/09/19 08:30
240-110665-15	DUP-02	Water	04/06/19 00:00	04/09/19 08:30
240-110665-16	HPT-215A_9-13_040619	Water	04/06/19 14:10	04/09/19 08:30
240-110665-17	HPT-215A_14-18_040619	Water	04/06/19 13:50	04/09/19 08:30
240-110665-18	HPT-216_27-28_040619	Solid	04/06/19 17:10	04/09/19 08:30
240-110665-19	HPT-216_3-4_040619	Solid	04/06/19 15:00	04/09/19 08:30
240-110665-20	HPT-216_1-2_040619	Solid	04/06/19 15:00	04/09/19 08:30
240-110665-21	HPT-216_2-3_040619	Solid	04/06/19 15:00	04/09/19 08:30
240-110665-22	HPT-216_4-5_040619	Solid	04/06/19 15:00	04/09/19 08:30

Detection Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_1-2_040619 **Lab Sample ID: 240-110665-1**

No Detections.

Client Sample ID: HPT-217_2-3_040619 **Lab Sample ID: 240-110665-2**

No Detections.

Client Sample ID: HPT-217_3-4_040619 **Lab Sample ID: 240-110665-3**

No Detections.

Client Sample ID: HPT-217_4-5_040619 **Lab Sample ID: 240-110665-4**

No Detections.

Client Sample ID: HPT-215A_28-29_040619 **Lab Sample ID: 240-110665-5**

No Detections.

Client Sample ID: HPT-215A_0-1_040619 **Lab Sample ID: 240-110665-6**

No Detections.

Client Sample ID: HPT-215A_3-4_040619 **Lab Sample ID: 240-110665-7**

No Detections.

Client Sample ID: HPT-215A_2-3_040619 **Lab Sample ID: 240-110665-8**

No Detections.

Client Sample ID: HPT-215A_4-5_040619 **Lab Sample ID: 240-110665-9**

No Detections.

Client Sample ID: HPT-215A_1-2_040619 **Lab Sample ID: 240-110665-10**

No Detections.

Client Sample ID: TRIP BLANK **Lab Sample ID: 240-110665-11**

No Detections.

Client Sample ID: HPT-216_18-22_040619 **Lab Sample ID: 240-110665-12**

No Detections.

Client Sample ID: HPT-216_5-9_040619 **Lab Sample ID: 240-110665-13**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	37		20	3.2	ug/L	20		8260B	Total/NA
trans-1,2-Dichloroethene	26		20	3.8	ug/L	20		8260B	Total/NA
Trichloroethene	450		20	2.0	ug/L	20		8260B	Total/NA

Client Sample ID: HPT-215A_4-8_040619 **Lab Sample ID: 240-110665-14**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	46		6.7	1.1	ug/L	6.67		8260B	Total/NA
trans-1,2-Dichloroethene	3.9	J	6.7	1.3	ug/L	6.67		8260B	Total/NA
Trichloroethene	140		6.7	0.67	ug/L	6.67		8260B	Total/NA
Vinyl chloride	18		6.7	1.3	ug/L	6.67		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: DUP-02

Lab Sample ID: 240-110665-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	210		20	3.2	ug/L	20		8260B	Total/NA
trans-1,2-Dichloroethene	17	J	20	3.8	ug/L	20		8260B	Total/NA
Trichloroethene	440		20	2.0	ug/L	20		8260B	Total/NA
Vinyl chloride	46		20	4.0	ug/L	20		8260B	Total/NA

Client Sample ID: HPT-215A_9-13_040619

Lab Sample ID: 240-110665-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	180		17	2.7	ug/L	16.67		8260B	Total/NA
trans-1,2-Dichloroethene	14	J	17	3.2	ug/L	16.67		8260B	Total/NA
Trichloroethene	410		17	1.7	ug/L	16.67		8260B	Total/NA
Vinyl chloride	48		17	3.3	ug/L	16.67		8260B	Total/NA

Client Sample ID: HPT-215A_14-18_040619

Lab Sample ID: 240-110665-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	320		14	2.3	ug/L	14.28		8260B	Total/NA
trans-1,2-Dichloroethene	3.0	J	14	2.7	ug/L	14.28		8260B	Total/NA
Trichloroethene	1.4	J	14	1.4	ug/L	14.28		8260B	Total/NA
Vinyl chloride	330		14	2.9	ug/L	14.28		8260B	Total/NA

Client Sample ID: HPT-216_27-28_040619

Lab Sample ID: 240-110665-18

No Detections.

Client Sample ID: HPT-216_3-4_040619

Lab Sample ID: 240-110665-19

No Detections.

Client Sample ID: HPT-216_1-2_040619

Lab Sample ID: 240-110665-20

No Detections.

Client Sample ID: HPT-216_2-3_040619

Lab Sample ID: 240-110665-21

No Detections.

Client Sample ID: HPT-216_4-5_040619

Lab Sample ID: 240-110665-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	16	J	68	15	ug/Kg	1	☼	8260B MI	Total/NA
Trichloroethene	30	J	68	19	ug/Kg	1	☼	8260B MI	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_1-2_040619

Lab Sample ID: 240-110665-1

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 82.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	61	U	61	24	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
cis-1,2-Dichloroethene	61	U	61	14	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
Tetrachloroethene	61	U	61	27	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
trans-1,2-Dichloroethene	61	U	61	15	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
Trichloroethene	61	U	61	17	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1
Vinyl chloride	49	U	49	18	ug/Kg	☼	04/09/19 21:13	04/11/19 23:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/09/19 21:13	04/11/19 23:37	1
4-Bromofluorobenzene (Surr)	105		48 - 151	04/09/19 21:13	04/11/19 23:37	1
Dibromofluoromethane (Surr)	93		49 - 138	04/09/19 21:13	04/11/19 23:37	1
Toluene-d8 (Surr)	112		49 - 147	04/09/19 21:13	04/11/19 23:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	17.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_2-3_040619

Lab Sample ID: 240-110665-2

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
Trichloroethene	53	U	53	14	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	04/09/19 21:13	04/11/19 23:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/09/19 21:13	04/11/19 23:59	1
4-Bromofluorobenzene (Surr)	96		48 - 151	04/09/19 21:13	04/11/19 23:59	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 21:13	04/11/19 23:59	1
Toluene-d8 (Surr)	99		49 - 147	04/09/19 21:13	04/11/19 23:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	11.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_3-4_040619

Lab Sample ID: 240-110665-3

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 84.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
1,4-Dioxane	19000	U	19000	1600	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
Tetrachloroethene	59	U	59	27	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 21:13	04/12/19 00:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	57		53 - 155	04/09/19 21:13	04/12/19 00:21	1
4-Bromofluorobenzene (Surr)	65		48 - 151	04/09/19 21:13	04/12/19 00:21	1
Dibromofluoromethane (Surr)	56		49 - 138	04/09/19 21:13	04/12/19 00:21	1
Toluene-d8 (Surr)	67		49 - 147	04/09/19 21:13	04/12/19 00:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.9		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	15.1		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_4-5_040619

Lab Sample ID: 240-110665-4

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 81.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	80	U	80	32	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
1,4-Dioxane	25000	U	25000	2200	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
cis-1,2-Dichloroethene	80	U	80	18	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
Tetrachloroethene	80	U	80	36	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
trans-1,2-Dichloroethene	80	U	80	20	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
Trichloroethene	80	U	80	22	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1
Vinyl chloride	64	U	64	24	ug/Kg	☼	04/09/19 21:13	04/12/19 00:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		53 - 155	04/09/19 21:13	04/12/19 00:43	1
4-Bromofluorobenzene (Surr)	109		48 - 151	04/09/19 21:13	04/12/19 00:43	1
Dibromofluoromethane (Surr)	95		49 - 138	04/09/19 21:13	04/12/19 00:43	1
Toluene-d8 (Surr)	114		49 - 147	04/09/19 21:13	04/12/19 00:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	81.8		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	18.2		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_28-29_040619

Lab Sample ID: 240-110665-5

Date Collected: 04/06/19 13:35

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 84.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
Tetrachloroethene	59	U	59	26	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 21:13	04/15/19 18:52	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/09/19 21:13	04/15/19 18:52	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 21:13	04/15/19 18:52	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 21:13	04/15/19 18:52	1
Toluene-d8 (Surr)	99		49 - 147	04/09/19 21:13	04/15/19 18:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.8		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	15.2		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_0-1_040619

Lab Sample ID: 240-110665-6

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 94.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	47	U	47	19	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
cis-1,2-Dichloroethene	47	U	47	11	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
Tetrachloroethene	47	U	47	21	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
trans-1,2-Dichloroethene	47	U	47	12	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
Trichloroethene	47	U	47	13	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	04/09/19 21:13	04/12/19 01:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		53 - 155	04/09/19 21:13	04/12/19 01:26	1
4-Bromofluorobenzene (Surr)	82		48 - 151	04/09/19 21:13	04/12/19 01:26	1
Dibromofluoromethane (Surr)	73		49 - 138	04/09/19 21:13	04/12/19 01:26	1
Toluene-d8 (Surr)	93		49 - 147	04/09/19 21:13	04/12/19 01:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	94.5		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	5.5		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_3-4_040619

Lab Sample ID: 240-110665-7

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/09/19 21:13	04/12/19 01:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		53 - 155	04/09/19 21:13	04/12/19 01:48	1
4-Bromofluorobenzene (Surr)	99		48 - 151	04/09/19 21:13	04/12/19 01:48	1
Dibromofluoromethane (Surr)	85		49 - 138	04/09/19 21:13	04/12/19 01:48	1
Toluene-d8 (Surr)	104		49 - 147	04/09/19 21:13	04/12/19 01:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.7		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	11.3		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_2-3_040619

Lab Sample ID: 240-110665-8

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 89.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
1,4-Dioxane	17000	U	17000	1500	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
Trichloroethene	55	U	55	15	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1
Vinyl chloride	44	U	44	17	ug/Kg	☼	04/09/19 21:13	04/12/19 02:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/09/19 21:13	04/12/19 02:10	1
4-Bromofluorobenzene (Surr)	92		48 - 151	04/09/19 21:13	04/12/19 02:10	1
Dibromofluoromethane (Surr)	80		49 - 138	04/09/19 21:13	04/12/19 02:10	1
Toluene-d8 (Surr)	94		49 - 147	04/09/19 21:13	04/12/19 02:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.6		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	10.4		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_4-5_040619

Lab Sample ID: 240-110665-9

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 82.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	23	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
Tetrachloroethene	59	U	59	26	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 21:13	04/12/19 02:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		53 - 155	04/09/19 21:13	04/12/19 02:32	1
4-Bromofluorobenzene (Surr)	102		48 - 151	04/09/19 21:13	04/12/19 02:32	1
Dibromofluoromethane (Surr)	86		49 - 138	04/09/19 21:13	04/12/19 02:32	1
Toluene-d8 (Surr)	105		49 - 147	04/09/19 21:13	04/12/19 02:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.6		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	17.4		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_1-2_040619

Lab Sample ID: 240-110665-10

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 91.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	52	U	52	21	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
cis-1,2-Dichloroethene	52	U	52	12	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
Tetrachloroethene	52	U	52	24	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
trans-1,2-Dichloroethene	52	U	52	13	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
Trichloroethene	52	U	52	14	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	04/09/19 21:13	04/12/19 02:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		53 - 155	04/09/19 21:13	04/12/19 02:54	1
4-Bromofluorobenzene (Surr)	93		48 - 151	04/09/19 21:13	04/12/19 02:54	1
Dibromofluoromethane (Surr)	78		49 - 138	04/09/19 21:13	04/12/19 02:54	1
Toluene-d8 (Surr)	96		49 - 147	04/09/19 21:13	04/12/19 02:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.0		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	9.0		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110665-11

Date Collected: 04/06/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 16:45	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 16:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 16:45	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 16:45	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 16:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/16/19 16:45	1
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 16:45	1
Toluene-d8 (Surr)	102		70 - 123		04/16/19 16:45	1
Dibromofluoromethane (Surr)	102		75 - 128		04/16/19 16:45	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_18-22_040619

Lab Sample ID: 240-110665-12

Date Collected: 04/06/19 17:20

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 19:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		63 - 125		04/10/19 19:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 17:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 17:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 17:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 17:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 17:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 17:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/16/19 17:08	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/16/19 17:08	1
Toluene-d8 (Surr)	97		70 - 123		04/16/19 17:08	1
Dibromofluoromethane (Surr)	96		75 - 128		04/16/19 17:08	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_5-9_040619

Lab Sample ID: 240-110665-13

Date Collected: 04/06/19 17:50

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U *	2.0	0.86	ug/L			04/10/19 19:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		63 - 125		04/10/19 19:39	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	20	U	20	3.8	ug/L			04/17/19 15:01	20
cis-1,2-Dichloroethene	37		20	3.2	ug/L			04/17/19 15:01	20
Tetrachloroethene	20	U	20	3.0	ug/L			04/17/19 15:01	20
trans-1,2-Dichloroethene	26		20	3.8	ug/L			04/17/19 15:01	20
Trichloroethene	450		20	2.0	ug/L			04/17/19 15:01	20
Vinyl chloride	20	U	20	4.0	ug/L			04/17/19 15:01	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/17/19 15:01	20
4-Bromofluorobenzene (Surr)	90		59 - 120		04/17/19 15:01	20
Toluene-d8 (Surr)	105		70 - 123		04/17/19 15:01	20
Dibromofluoromethane (Surr)	98		75 - 128		04/17/19 15:01	20

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_4-8_040619

Lab Sample ID: 240-110665-14

Date Collected: 04/06/19 14:25

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/10/19 20:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		63 - 125		04/10/19 20:05	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	6.7	U	6.7	1.3	ug/L	-		04/16/19 17:53	6.67
cis-1,2-Dichloroethene	46		6.7	1.1	ug/L			04/16/19 17:53	6.67
Tetrachloroethene	6.7	U	6.7	1.0	ug/L	-		04/16/19 17:53	6.67
trans-1,2-Dichloroethene	3.9	J	6.7	1.3	ug/L			04/16/19 17:53	6.67
Trichloroethene	140		6.7	0.67	ug/L			04/16/19 17:53	6.67
Vinyl chloride	18		6.7	1.3	ug/L			04/16/19 17:53	6.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/16/19 17:53	6.67
4-Bromofluorobenzene (Surr)	83		59 - 120		04/16/19 17:53	6.67
Toluene-d8 (Surr)	105		70 - 123		04/16/19 17:53	6.67
Dibromofluoromethane (Surr)	93		75 - 128		04/16/19 17:53	6.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: DUP-02

Lab Sample ID: 240-110665-15

Date Collected: 04/06/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U *	2.0	0.86	ug/L			04/10/19 20:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		63 - 125		04/10/19 20:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	20	U	20	3.8	ug/L			04/16/19 18:15	20
cis-1,2-Dichloroethene	210		20	3.2	ug/L			04/16/19 18:15	20
Tetrachloroethene	20	U	20	3.0	ug/L			04/16/19 18:15	20
trans-1,2-Dichloroethene	17	J	20	3.8	ug/L			04/16/19 18:15	20
Trichloroethene	440		20	2.0	ug/L			04/16/19 18:15	20
Vinyl chloride	46		20	4.0	ug/L			04/16/19 18:15	20

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		70 - 121		04/16/19 18:15	20
4-Bromofluorobenzene (Surr)	75		59 - 120		04/16/19 18:15	20
Toluene-d8 (Surr)	93		70 - 123		04/16/19 18:15	20
Dibromofluoromethane (Surr)	95		75 - 128		04/16/19 18:15	20

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_9-13_040619

Lab Sample ID: 240-110665-16

Date Collected: 04/06/19 14:10

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U *	2.0	0.86	ug/L			04/10/19 20:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		63 - 125		04/10/19 20:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	17	U	17	3.2	ug/L			04/16/19 18:37	16.67
cis-1,2-Dichloroethene	180		17	2.7	ug/L			04/16/19 18:37	16.67
Tetrachloroethene	17	U	17	2.5	ug/L			04/16/19 18:37	16.67
trans-1,2-Dichloroethene	14	J	17	3.2	ug/L			04/16/19 18:37	16.67
Trichloroethene	410		17	1.7	ug/L			04/16/19 18:37	16.67
Vinyl chloride	48		17	3.3	ug/L			04/16/19 18:37	16.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 121		04/16/19 18:37	16.67
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 18:37	16.67
Toluene-d8 (Surr)	99		70 - 123		04/16/19 18:37	16.67
Dibromofluoromethane (Surr)	95		75 - 128		04/16/19 18:37	16.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_14-18_040619

Lab Sample ID: 240-110665-17

Date Collected: 04/06/19 13:50

Matrix: Water

Date Received: 04/09/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 21:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 21:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	14	U	14	2.7	ug/L			04/16/19 20:53	14.28
cis-1,2-Dichloroethene	320		14	2.3	ug/L			04/16/19 20:53	14.28
Tetrachloroethene	14	U	14	2.1	ug/L			04/16/19 20:53	14.28
trans-1,2-Dichloroethene	3.0	J	14	2.7	ug/L			04/16/19 20:53	14.28
Trichloroethene	1.4	J	14	1.4	ug/L			04/16/19 20:53	14.28
Vinyl chloride	330		14	2.9	ug/L			04/16/19 20:53	14.28

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		04/16/19 20:53	14.28
4-Bromofluorobenzene (Surr)	80		59 - 120		04/16/19 20:53	14.28
Toluene-d8 (Surr)	93		70 - 123		04/16/19 20:53	14.28
Dibromofluoromethane (Surr)	109		75 - 128		04/16/19 20:53	14.28

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_27-28_040619

Lab Sample ID: 240-110665-18

Date Collected: 04/06/19 17:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 80.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	62	U	62	25	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
1,4-Dioxane	19000	U	19000	1700	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
cis-1,2-Dichloroethene	62	U	62	14	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
Tetrachloroethene	62	U	62	28	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
trans-1,2-Dichloroethene	62	U	62	16	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
Trichloroethene	62	U	62	17	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1
Vinyl chloride	50	U	50	19	ug/Kg	☼	04/09/19 21:13	04/12/19 04:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		53 - 155	04/09/19 21:13	04/12/19 04:42	1
4-Bromofluorobenzene (Surr)	99		48 - 151	04/09/19 21:13	04/12/19 04:42	1
Dibromofluoromethane (Surr)	90		49 - 138	04/09/19 21:13	04/12/19 04:42	1
Toluene-d8 (Surr)	106		49 - 147	04/09/19 21:13	04/12/19 04:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	80.7		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	19.3		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_3-4_040619

Lab Sample ID: 240-110665-19

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 92.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	59	U	59	24	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
1,4-Dioxane	18000	U	18000	1600	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
cis-1,2-Dichloroethene	59	U	59	13	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
Tetrachloroethene	59	U	59	27	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
trans-1,2-Dichloroethene	59	U	59	15	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
Trichloroethene	59	U	59	16	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1
Vinyl chloride	47	U	47	18	ug/Kg	☼	04/09/19 21:13	04/12/19 03:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		53 - 155	04/09/19 21:13	04/12/19 03:15	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 21:13	04/12/19 03:15	1
Dibromofluoromethane (Surr)	87		49 - 138	04/09/19 21:13	04/12/19 03:15	1
Toluene-d8 (Surr)	102		49 - 147	04/09/19 21:13	04/12/19 03:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.9		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	7.1		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_1-2_040619

Lab Sample ID: 240-110665-20

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 97.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
1,4-Dioxane	16000	U	16000	1400	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/09/19 21:13	04/12/19 03:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		53 - 155	04/09/19 21:13	04/12/19 03:37	1
4-Bromofluorobenzene (Surr)	101		48 - 151	04/09/19 21:13	04/12/19 03:37	1
Dibromofluoromethane (Surr)	82		49 - 138	04/09/19 21:13	04/12/19 03:37	1
Toluene-d8 (Surr)	107		49 - 147	04/09/19 21:13	04/12/19 03:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	97.4		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	2.6		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_2-3_040619

Lab Sample ID: 240-110665-21

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 93.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
1,4-Dioxane	15000	U	15000	1300	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
cis-1,2-Dichloroethene	48	U	48	11	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
Tetrachloroethene	48	U	48	21	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
Trichloroethene	48	U	48	13	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	04/09/19 21:13	04/12/19 03:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/09/19 21:13	04/12/19 03:59	1
4-Bromofluorobenzene (Surr)	92		48 - 151	04/09/19 21:13	04/12/19 03:59	1
Dibromofluoromethane (Surr)	63		49 - 138	04/09/19 21:13	04/12/19 03:59	1
Toluene-d8 (Surr)	99		49 - 147	04/09/19 21:13	04/12/19 03:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.9		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	6.1		0.1	0.1	%			04/09/19 17:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_4-5_040619

Lab Sample ID: 240-110665-22

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 96.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	68	U	68	27	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
1,4-Dioxane	21000	U	21000	1800	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
cis-1,2-Dichloroethene	16	J	68	15	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
Tetrachloroethene	68	U	68	30	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
trans-1,2-Dichloroethene	68	U	68	17	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
Trichloroethene	30	J	68	19	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1
Vinyl chloride	54	U	54	20	ug/Kg	☼	04/09/19 21:13	04/12/19 04:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		53 - 155	04/09/19 21:13	04/12/19 04:20	1
4-Bromofluorobenzene (Surr)	89		48 - 151	04/09/19 21:13	04/12/19 04:20	1
Dibromofluoromethane (Surr)	86		49 - 138	04/09/19 21:13	04/12/19 04:20	1
Toluene-d8 (Surr)	94		49 - 147	04/09/19 21:13	04/12/19 04:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	96.4		0.1	0.1	%			04/09/19 17:09	1
Percent Moisture	3.6		0.1	0.1	%			04/09/19 17:09	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110529-F-12 MS	Matrix Spike	88	94	111	94
240-110529-F-12 MSD	Matrix Spike Duplicate	82	88	101	94
240-110665-11	TRIP BLANK	88	80	102	102
240-110665-12	HPT-216_18-22_040619	88	75	97	96
240-110665-13	HPT-216_5-9_040619	89	90	105	98
240-110665-14	HPT-215A_4-8_040619	87	83	105	93
240-110665-15	DUP-02	82	75	93	95
240-110665-16	HPT-215A_9-13_040619	86	80	99	95
240-110665-17	HPT-215A_14-18_040619	107	80	93	109
240-110670-B-9 MS	Matrix Spike	94	107	102	98
240-110670-B-9 MSD	Matrix Spike Duplicate	93	105	103	99
LCS 240-376652/4	Lab Control Sample	83	95	105	94
LCS 240-376671/4	Lab Control Sample	93	106	101	98
LCS 240-376934/4	Lab Control Sample	88	103	111	96
MB 240-376652/6	Method Blank	89	84	107	102
MB 240-376671/6	Method Blank	111	83	94	113
MB 240-376934/6	Method Blank	87	89	105	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	DBFM (49-138)	TOL (49-147)
240-110665-1	HPT-217_1-2_040619	98	105	93	112
240-110665-2	HPT-217_2-3_040619	88	96	85	99
240-110665-3	HPT-217_3-4_040619	57	65	56	67
240-110665-4	HPT-217_4-5_040619	98	109	95	114
240-110665-5	HPT-215A_28-29_040619	88	98	85	99
240-110665-6	HPT-215A_0-1_040619	78	82	73	93
240-110665-7	HPT-215A_3-4_040619	89	99	85	104
240-110665-8	HPT-215A_2-3_040619	86	92	80	94
240-110665-9	HPT-215A_4-5_040619	92	102	86	105
240-110665-10	HPT-215A_1-2_040619	85	93	78	96
240-110665-18	HPT-216_27-28_040619	93	99	90	106
240-110665-18 MS	HPT-216_27-28_040619	91	95	87	102
240-110665-18 MSD	HPT-216_27-28_040619	84	89	82	95
240-110665-19	HPT-216_3-4_040619	93	98	87	102
240-110665-20	HPT-216_1-2_040619	94	101	82	107
240-110665-21	HPT-216_2-3_040619	86	92	63	99
240-110665-22	HPT-216_4-5_040619	90	89	86	94
LCS 240-375550/2-A	Lab Control Sample	83	92	81	96
MB 240-375550/1-A	Method Blank	87	98	82	102

Surrogate Legend

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.

Job ID: 240-110665-1

Project/Site: Ford LTP Livonia MI - E203631

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110458-C-3 MS	Matrix Spike	122
240-110458-C-3 MSD	Matrix Spike Duplicate	117
240-110665-12	HPT-216_18-22_040619	119
240-110665-13	HPT-216_5-9_040619	125
240-110665-14	HPT-215A_4-8_040619	120
240-110665-15	DUP-02	124
240-110665-16	HPT-215A_9-13_040619	121
240-110665-17	HPT-215A_14-18_040619	116
LCS 240-375762/4	Lab Control Sample	116
MB 240-375762/5	Method Blank	116

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376652/6
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 10:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 10:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 10:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 10:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 10:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		70 - 121		04/16/19 10:41	1
4-Bromofluorobenzene (Surr)	84		59 - 120		04/16/19 10:41	1
Toluene-d8 (Surr)	107		70 - 123		04/16/19 10:41	1
Dibromofluoromethane (Surr)	102		75 - 128		04/16/19 10:41	1

Lab Sample ID: LCS 240-376652/4
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.67		ug/L		97	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	8.87		ug/L		89	74 - 130
trans-1,2-Dichloroethene	10.0	9.88		ug/L		99	78 - 133
Trichloroethene	10.0	8.99		ug/L		90	76 - 125
Vinyl chloride	10.0	10.2		ug/L		102	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	105		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-F-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	5.0	U	50.0	34.9		ug/L		70	53 - 140
cis-1,2-Dichloroethene	32		50.0	67.3		ug/L		71	64 - 130
Tetrachloroethene	5.0	U F2	50.0	32.8		ug/L		66	51 - 136
trans-1,2-Dichloroethene	4.1	J	50.0	41.2		ug/L		74	68 - 133
Trichloroethene	120	F1	50.0	134	F1	ug/L		36	55 - 131
Vinyl chloride	5.0	U F2	50.0	34.7		ug/L		69	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	111		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110529-F-12 MS
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 240-110529-F-12 MSD
Matrix: Water
Analysis Batch: 376652

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	5.0	U	50.0	49.1		ug/L		98	53 - 140	34	35
cis-1,2-Dichloroethene	32		50.0	77.8		ug/L		92	64 - 130	14	21
Tetrachloroethene	5.0	U F2	50.0	44.2	F2	ug/L		88	51 - 136	30	23
trans-1,2-Dichloroethene	4.1	J	50.0	52.6		ug/L		97	68 - 133	24	24
Trichloroethene	120	F1	50.0	144		ug/L		57	55 - 131	7	23
Vinyl chloride	5.0	U F2	50.0	47.9	F2	ug/L		96	43 - 154	32	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		70 - 121
4-Bromofluorobenzene (Surr)	88		59 - 120
Toluene-d8 (Surr)	101		70 - 123
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: MB 240-376671/6
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 14:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/16/19 14:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/16/19 14:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/16/19 14:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/16/19 14:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/16/19 14:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 121		04/16/19 14:17	1
4-Bromofluorobenzene (Surr)	83		59 - 120		04/16/19 14:17	1
Toluene-d8 (Surr)	94		70 - 123		04/16/19 14:17	1
Dibromofluoromethane (Surr)	113		75 - 128		04/16/19 14:17	1

Lab Sample ID: LCS 240-376671/4
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.33		ug/L		93	65 - 139
cis-1,2-Dichloroethene	10.0	9.16		ug/L		92	76 - 128
Tetrachloroethene	10.0	9.77		ug/L		98	74 - 130
trans-1,2-Dichloroethene	10.0	9.64		ug/L		96	78 - 133
Trichloroethene	10.0	9.21		ug/L		92	76 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-376671/4
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	8.73		ug/L		87	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 121
4-Bromofluorobenzene (Surr)	106		59 - 120
Toluene-d8 (Surr)	101		70 - 123
Dibromofluoromethane (Surr)	98		75 - 128

Lab Sample ID: 240-110670-B-9 MS
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	25	U	250	234		ug/L		94	53 - 140
cis-1,2-Dichloroethene	17	J	250	241		ug/L		90	64 - 130
Tetrachloroethene	370		250	628		ug/L		105	51 - 136
trans-1,2-Dichloroethene	25	U	250	245		ug/L		98	68 - 133
Trichloroethene	39		250	261		ug/L		89	55 - 131
Vinyl chloride	25	U	250	238		ug/L		95	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		70 - 121
4-Bromofluorobenzene (Surr)	107		59 - 120
Toluene-d8 (Surr)	102		70 - 123
Dibromofluoromethane (Surr)	98		75 - 128

Lab Sample ID: 240-110670-B-9 MSD
Matrix: Water
Analysis Batch: 376671

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	25	U	250	247		ug/L		99	53 - 140	5	35
cis-1,2-Dichloroethene	17	J	250	255		ug/L		95	64 - 130	6	21
Tetrachloroethene	370		250	627		ug/L		104	51 - 136	0	23
trans-1,2-Dichloroethene	25	U	250	257		ug/L		103	68 - 133	5	24
Trichloroethene	39		250	278		ug/L		96	55 - 131	7	23
Vinyl chloride	25	U	250	237		ug/L		95	43 - 154	0	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		70 - 121
4-Bromofluorobenzene (Surr)	105		59 - 120
Toluene-d8 (Surr)	103		70 - 123
Dibromofluoromethane (Surr)	99		75 - 128

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-376934/6
Matrix: Water
Analysis Batch: 376934

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/17/19 14:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/17/19 14:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/17/19 14:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/17/19 14:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/17/19 14:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/17/19 14:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/17/19 14:16	1
4-Bromofluorobenzene (Surr)	89		59 - 120		04/17/19 14:16	1
Toluene-d8 (Surr)	105		70 - 123		04/17/19 14:16	1
Dibromofluoromethane (Surr)	98		75 - 128		04/17/19 14:16	1

Lab Sample ID: LCS 240-376934/4
Matrix: Water
Analysis Batch: 376934

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.8		ug/L		108	65 - 139
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	76 - 128
Tetrachloroethene	10.0	9.47		ug/L		95	74 - 130
trans-1,2-Dichloroethene	10.0	10.4		ug/L		104	78 - 133
Trichloroethene	10.0	9.15		ug/L		92	76 - 125
Vinyl chloride	10.0	9.76		ug/L		98	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	88		70 - 121
4-Bromofluorobenzene (Surr)	103		59 - 120
Toluene-d8 (Surr)	111		70 - 123
Dibromofluoromethane (Surr)	96		75 - 128

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375550/1-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375550

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
1,4-Dioxane	13000	U	13000	1100	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Trichloroethene	40	U	40	11	ug/Kg		04/09/19 12:37	04/11/19 21:05	1
Vinyl chloride	32	U	32	12	ug/Kg		04/09/19 12:37	04/11/19 21:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/09/19 12:37	04/11/19 21:05	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-375550/1-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 375550

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	98		48 - 151	04/09/19 12:37	04/11/19 21:05	1
Dibromofluoromethane (Surr)	82		49 - 138	04/09/19 12:37	04/11/19 21:05	1
Toluene-d8 (Surr)	102		49 - 147	04/09/19 12:37	04/11/19 21:05	1

Lab Sample ID: LCS 240-375550/2-A
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1000	1080		ug/Kg		108	57 - 139
1,4-Dioxane	20000	19700		ug/Kg		98	51 - 140
cis-1,2-Dichloroethene	1000	969		ug/Kg		97	74 - 123
Tetrachloroethene	1000	958		ug/Kg		96	76 - 120
trans-1,2-Dichloroethene	1000	1090		ug/Kg		109	71 - 133
Trichloroethene	1000	915		ug/Kg		91	73 - 126
Vinyl chloride	1000	1140		ug/Kg		114	52 - 130

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	83		53 - 155
4-Bromofluorobenzene (Surr)	92		48 - 151
Dibromofluoromethane (Surr)	81		49 - 138
Toluene-d8 (Surr)	96		49 - 147

Lab Sample ID: 240-110665-18 MS
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: HPT-216_27-28_040619
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	62	U	1380	1480		ug/Kg	☼	107	36 - 150
1,4-Dioxane	19000	U	27600	29800		ug/Kg	☼	108	62 - 158
cis-1,2-Dichloroethene	62	U	1380	1370		ug/Kg	☼	100	50 - 128
Tetrachloroethene	62	U	1380	1270		ug/Kg	☼	92	20 - 151
trans-1,2-Dichloroethene	62	U	1380	1540		ug/Kg	☼	111	44 - 141
Trichloroethene	62	U	1380	1270		ug/Kg	☼	92	25 - 148
Vinyl chloride	50	U	1380	1510		ug/Kg	☼	110	31 - 148

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	91		53 - 155
4-Bromofluorobenzene (Surr)	95		48 - 151
Dibromofluoromethane (Surr)	87		49 - 138
Toluene-d8 (Surr)	102		49 - 147

Lab Sample ID: 240-110665-18 MSD
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: HPT-216_27-28_040619
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	
										Limit	Limit
1,1-Dichloroethene	62	U	1340	1370		ug/Kg	☼	102	36 - 150	8	40

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110665-18 MSD
Matrix: Solid
Analysis Batch: 376132

Client Sample ID: HPT-216_27-28_040619
Prep Type: Total/NA
Prep Batch: 375550

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	19000	U	26700	28200		ug/Kg	☼	106	62 - 158	5	40
cis-1,2-Dichloroethene	62	U	1340	1290		ug/Kg	☼	97	50 - 128	6	40
Tetrachloroethene	62	U	1340	1170		ug/Kg	☼	87	20 - 151	9	40
trans-1,2-Dichloroethene	62	U	1340	1400		ug/Kg	☼	105	44 - 141	9	40
Trichloroethene	62	U	1340	1150		ug/Kg	☼	86	25 - 148	10	40
Vinyl chloride	50	U	1340	1420		ug/Kg	☼	106	31 - 148	7	37

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		53 - 155
4-Bromofluorobenzene (Surr)	89		48 - 151
Dibromofluoromethane (Surr)	82		49 - 138
Toluene-d8 (Surr)	95		49 - 147

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-375762/5
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/10/19 12:22	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125		04/10/19 12:22	1

Lab Sample ID: LCS 240-375762/4
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.9		ug/L		119	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	116		63 - 125

Lab Sample ID: 240-110458-C-3 MS
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	68		10.0	82.4	4	ug/L		142	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	122		63 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110458-C-3 MSD
Matrix: Water
Analysis Batch: 375762

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	68		10.0	79.6	4	ug/L		113	52 - 129	4	13
Surrogate	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	117		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110665-4 DU
Matrix: Solid
Analysis Batch: 375590

Client Sample ID: HPT-217_4-5_040619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	81.8		81.6		%		0.3	20
Percent Moisture	18.2		18.4		%		1	20

Lab Sample ID: 240-110665-18 DU
Matrix: Solid
Analysis Batch: 375590

Client Sample ID: HPT-216_27-28_040619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	80.7		80.8		%		0	20
Percent Moisture	19.3		19.2		%		0.1	20

Lab Sample ID: 240-110665-20 DU
Matrix: Solid
Analysis Batch: 375590

Client Sample ID: HPT-216_1-2_040619
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	97.4		97.3		%		0	20
Percent Moisture	2.6		2.7		%		0.8	20

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

GC/MS VOA

Prep Batch: 375550

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-1	HPT-217_1-2_040619	Total/NA	Solid	5030B	
240-110665-2	HPT-217_2-3_040619	Total/NA	Solid	5030B	
240-110665-3	HPT-217_3-4_040619	Total/NA	Solid	5030B	
240-110665-4	HPT-217_4-5_040619	Total/NA	Solid	5030B	
240-110665-5	HPT-215A_28-29_040619	Total/NA	Solid	5030B	
240-110665-6	HPT-215A_0-1_040619	Total/NA	Solid	5030B	
240-110665-7	HPT-215A_3-4_040619	Total/NA	Solid	5030B	
240-110665-8	HPT-215A_2-3_040619	Total/NA	Solid	5030B	
240-110665-9	HPT-215A_4-5_040619	Total/NA	Solid	5030B	
240-110665-10	HPT-215A_1-2_040619	Total/NA	Solid	5030B	
240-110665-18	HPT-216_27-28_040619	Total/NA	Solid	5030B	
240-110665-19	HPT-216_3-4_040619	Total/NA	Solid	5030B	
240-110665-20	HPT-216_1-2_040619	Total/NA	Solid	5030B	
240-110665-21	HPT-216_2-3_040619	Total/NA	Solid	5030B	
240-110665-22	HPT-216_4-5_040619	Total/NA	Solid	5030B	
MB 240-375550/1-A	Method Blank	Total/NA	Solid	5030B	
LCS 240-375550/2-A	Lab Control Sample	Total/NA	Solid	5030B	
240-110665-18 MS	HPT-216_27-28_040619	Total/NA	Solid	5030B	
240-110665-18 MSD	HPT-216_27-28_040619	Total/NA	Solid	5030B	

Analysis Batch: 375762

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-12	HPT-216_18-22_040619	Total/NA	Water	8260B SIM	
240-110665-13	HPT-216_5-9_040619	Total/NA	Water	8260B SIM	
240-110665-14	HPT-215A_4-8_040619	Total/NA	Water	8260B SIM	
240-110665-15	DUP-02	Total/NA	Water	8260B SIM	
240-110665-16	HPT-215A_9-13_040619	Total/NA	Water	8260B SIM	
240-110665-17	HPT-215A_14-18_040619	Total/NA	Water	8260B SIM	
MB 240-375762/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-375762/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110458-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110458-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 376132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-1	HPT-217_1-2_040619	Total/NA	Solid	8260B MI	375550
240-110665-2	HPT-217_2-3_040619	Total/NA	Solid	8260B MI	375550
240-110665-3	HPT-217_3-4_040619	Total/NA	Solid	8260B MI	375550
240-110665-4	HPT-217_4-5_040619	Total/NA	Solid	8260B MI	375550
240-110665-6	HPT-215A_0-1_040619	Total/NA	Solid	8260B MI	375550
240-110665-7	HPT-215A_3-4_040619	Total/NA	Solid	8260B MI	375550
240-110665-8	HPT-215A_2-3_040619	Total/NA	Solid	8260B MI	375550
240-110665-9	HPT-215A_4-5_040619	Total/NA	Solid	8260B MI	375550
240-110665-10	HPT-215A_1-2_040619	Total/NA	Solid	8260B MI	375550
240-110665-18	HPT-216_27-28_040619	Total/NA	Solid	8260B MI	375550
240-110665-19	HPT-216_3-4_040619	Total/NA	Solid	8260B MI	375550
240-110665-20	HPT-216_1-2_040619	Total/NA	Solid	8260B MI	375550
240-110665-21	HPT-216_2-3_040619	Total/NA	Solid	8260B MI	375550
240-110665-22	HPT-216_4-5_040619	Total/NA	Solid	8260B MI	375550
MB 240-375550/1-A	Method Blank	Total/NA	Solid	8260B MI	375550
LCS 240-375550/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	375550

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

GC/MS VOA (Continued)

Analysis Batch: 376132 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-18 MS	HPT-216_27-28_040619	Total/NA	Solid	8260B MI	375550
240-110665-18 MSD	HPT-216_27-28_040619	Total/NA	Solid	8260B MI	375550

Analysis Batch: 376569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-5	HPT-215A_28-29_040619	Total/NA	Solid	8260B MI	375550

Analysis Batch: 376652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-11	TRIP BLANK	Total/NA	Water	8260B	
240-110665-12	HPT-216_18-22_040619	Total/NA	Water	8260B	
240-110665-14	HPT-215A_4-8_040619	Total/NA	Water	8260B	
240-110665-15	DUP-02	Total/NA	Water	8260B	
240-110665-16	HPT-215A_9-13_040619	Total/NA	Water	8260B	
MB 240-376652/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376652/4	Lab Control Sample	Total/NA	Water	8260B	
240-110529-F-12 MS	Matrix Spike	Total/NA	Water	8260B	
240-110529-F-12 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 376671

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-17	HPT-215A_14-18_040619	Total/NA	Water	8260B	
MB 240-376671/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376671/4	Lab Control Sample	Total/NA	Water	8260B	
240-110670-B-9 MS	Matrix Spike	Total/NA	Water	8260B	
240-110670-B-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 376934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-13	HPT-216_5-9_040619	Total/NA	Water	8260B	
MB 240-376934/6	Method Blank	Total/NA	Water	8260B	
LCS 240-376934/4	Lab Control Sample	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 375590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-1	HPT-217_1-2_040619	Total/NA	Solid	Moisture	
240-110665-2	HPT-217_2-3_040619	Total/NA	Solid	Moisture	
240-110665-3	HPT-217_3-4_040619	Total/NA	Solid	Moisture	
240-110665-4	HPT-217_4-5_040619	Total/NA	Solid	Moisture	
240-110665-5	HPT-215A_28-29_040619	Total/NA	Solid	Moisture	
240-110665-6	HPT-215A_0-1_040619	Total/NA	Solid	Moisture	
240-110665-7	HPT-215A_3-4_040619	Total/NA	Solid	Moisture	
240-110665-8	HPT-215A_2-3_040619	Total/NA	Solid	Moisture	
240-110665-9	HPT-215A_4-5_040619	Total/NA	Solid	Moisture	
240-110665-10	HPT-215A_1-2_040619	Total/NA	Solid	Moisture	
240-110665-18	HPT-216_27-28_040619	Total/NA	Solid	Moisture	
240-110665-19	HPT-216_3-4_040619	Total/NA	Solid	Moisture	
240-110665-20	HPT-216_1-2_040619	Total/NA	Solid	Moisture	
240-110665-21	HPT-216_2-3_040619	Total/NA	Solid	Moisture	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

General Chemistry (Continued)

Analysis Batch: 375590 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110665-22	HPT-216_4-5_040619	Total/NA	Solid	Moisture	
240-110665-4 DU	HPT-217_4-5_040619	Total/NA	Solid	Moisture	
240-110665-18 DU	HPT-216_27-28_040619	Total/NA	Solid	Moisture	
240-110665-20 DU	HPT-216_1-2_040619	Total/NA	Solid	Moisture	

- 1
- 2
- 3
- 4
- 5
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- 10
- 11
- 12
- 13
- 14

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_1-2_040619

Lab Sample ID: 240-110665-1

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-217_1-2_040619

Lab Sample ID: 240-110665-1

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 82.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 23:37	TJL1	TAL CAN

Client Sample ID: HPT-217_2-3_040619

Lab Sample ID: 240-110665-2

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-217_2-3_040619

Lab Sample ID: 240-110665-2

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/11/19 23:59	TJL1	TAL CAN

Client Sample ID: HPT-217_3-4_040619

Lab Sample ID: 240-110665-3

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-217_3-4_040619

Lab Sample ID: 240-110665-3

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 00:21	TJL1	TAL CAN

Client Sample ID: HPT-217_4-5_040619

Lab Sample ID: 240-110665-4

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-217_4-5_040619

Lab Sample ID: 240-110665-4

Date Collected: 04/06/19 17:45

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 81.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 00:43	TJL1	TAL CAN

Client Sample ID: HPT-215A_28-29_040619

Lab Sample ID: 240-110665-5

Date Collected: 04/06/19 13:35

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-215A_28-29_040619

Lab Sample ID: 240-110665-5

Date Collected: 04/06/19 13:35

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 84.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376569	04/15/19 18:52	TJL1	TAL CAN

Client Sample ID: HPT-215A_0-1_040619

Lab Sample ID: 240-110665-6

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-215A_0-1_040619

Lab Sample ID: 240-110665-6

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 94.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 01:26	TJL1	TAL CAN

Client Sample ID: HPT-215A_3-4_040619

Lab Sample ID: 240-110665-7

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_3-4_040619

Lab Sample ID: 240-110665-7

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 88.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 01:48	TJL1	TAL CAN

Client Sample ID: HPT-215A_2-3_040619

Lab Sample ID: 240-110665-8

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-215A_2-3_040619

Lab Sample ID: 240-110665-8

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 89.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 02:10	TJL1	TAL CAN

Client Sample ID: HPT-215A_4-5_040619

Lab Sample ID: 240-110665-9

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-215A_4-5_040619

Lab Sample ID: 240-110665-9

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 82.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 02:32	TJL1	TAL CAN

Client Sample ID: HPT-215A_1-2_040619

Lab Sample ID: 240-110665-10

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_1-2_040619

Lab Sample ID: 240-110665-10

Date Collected: 04/06/19 09:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 91.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 02:54	TJL1	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110665-11

Date Collected: 04/06/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 16:45	LEE	TAL CAN

Client Sample ID: HPT-216_18-22_040619

Lab Sample ID: 240-110665-12

Date Collected: 04/06/19 17:20

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	376652	04/16/19 17:08	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 19:13	SAM	TAL CAN

Client Sample ID: HPT-216_5-9_040619

Lab Sample ID: 240-110665-13

Date Collected: 04/06/19 17:50

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	376934	04/17/19 15:01	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 19:39	SAM	TAL CAN

Client Sample ID: HPT-215A_4-8_040619

Lab Sample ID: 240-110665-14

Date Collected: 04/06/19 14:25

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		6.67	376652	04/16/19 17:53	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 20:05	SAM	TAL CAN

Client Sample ID: DUP-02

Lab Sample ID: 240-110665-15

Date Collected: 04/06/19 00:00

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		20	376652	04/16/19 18:15	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 20:30	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-215A_9-13_040619

Lab Sample ID: 240-110665-16

Date Collected: 04/06/19 14:10

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		16.67	376652	04/16/19 18:37	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 20:56	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 20:56	SAM	TAL CAN

Client Sample ID: HPT-215A_14-18_040619

Lab Sample ID: 240-110665-17

Date Collected: 04/06/19 13:50

Matrix: Water

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		14.28	376671	04/16/19 20:53	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	375762	04/10/19 21:21	SAM	TAL CAN

Client Sample ID: HPT-216_27-28_040619

Lab Sample ID: 240-110665-18

Date Collected: 04/06/19 17:10

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_27-28_040619

Lab Sample ID: 240-110665-18

Date Collected: 04/06/19 17:10

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 80.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 04:42	TJL1	TAL CAN

Client Sample ID: HPT-216_3-4_040619

Lab Sample ID: 240-110665-19

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_3-4_040619

Lab Sample ID: 240-110665-19

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 92.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 03:15	TJL1	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Client Sample ID: HPT-216_1-2_040619

Lab Sample ID: 240-110665-20

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_1-2_040619

Lab Sample ID: 240-110665-20

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 97.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 03:37	TJL1	TAL CAN

Client Sample ID: HPT-216_2-3_040619

Lab Sample ID: 240-110665-21

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_2-3_040619

Lab Sample ID: 240-110665-21

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 93.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 03:59	TJL1	TAL CAN

Client Sample ID: HPT-216_4-5_040619

Lab Sample ID: 240-110665-22

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	375590	04/09/19 17:09	ACR	TAL CAN

Client Sample ID: HPT-216_4-5_040619

Lab Sample ID: 240-110665-22

Date Collected: 04/06/19 15:00

Matrix: Solid

Date Received: 04/09/19 08:30

Percent Solids: 96.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			375550	04/09/19 21:13	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	376132	04/12/19 04:20	TJL1	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-110665-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton
4101 Shafter Street NW
North Canton, OH 44720
Phone (330) 457-9395 Fax (330) 487-0772

MICHIGAN
190

Chain of Custody Record

2-4/022 1.5/C1.6

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information

Client Name: Christina Weaver
Client Contact: Caitlin O'Neill
Company: ARCADIS U.S. Inc.
Address: 29550 Cabot Drive Suite 500
City: Novi
State: MI
Zip: 48377
Phone: 248-722-2411

Lab Pk: Christina Weaver
DelMonico, Michael
E-Mail: michael.delmonico@testamericainc.com
Phone: (988)-619-5009

Carrier Tracking Sheet:

CEC No: 240-69411-25360.1

Page 1 of 2

Job #:

Due Date Requested: 4/11/19

TAT Requested (days): 10

PO #: MI001318.0002.00002

WO #: E203631

Project #: 24015353

SECURE

Analysis Requested

Barcode: 240-110665 Chain of Custody

Preservation Codes:

A - HCl
B - HNO3
C - 2N Acetate
D - Nitric Acid
E - H2SO4
F - HNO3
G - Acetate
H - Acetate/Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
Other:

M - Heptane
N - Toluene
O - NACMS2
P - NACMS
Q - NACMS
R - NACMS
S - H2SO4
T - 75% Dioxane/25% HCl
U - Acetone
V - MCAA
W - pH 4.5
X - EDA (possibly)

Total Number of Containers

Special Instructions/Notes:

Day weight included

Day weight included

Day weight included

Day weight included

Day weight included

Day weight included

Day weight included

Day weight included

Day weight included

Day weight included

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Sample Identification

HPT-27 1-2-040619

HPT-27 2-3-040619

HPT-27 3-4-040619

HPT-27 4-5-040619

HPT-25A 28-29-040619

HPT-25A 0-1-040619

HPT-25A 3-4-040619

HPT-25A 2-3-040619

HPT-25A 4-5-040619

HPT-25A 1-2-040619

Tip Blank

Sample Date

4/6/19

1745

6

Sample Type

(C-Comb, G-Grab)

6

Matrix

(W-Water, S-Solid, O-Oil, D-Dioxane)

6

Field Filtered (Yes or No)

6

Field Filtered (Yes or No)

6

Field Filtered (Yes or No)

6

Field Filtered (Yes or No)

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Field Filtered (Yes or No)

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Field Filtered (Yes or No)

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Field Filtered (Yes or No)

6

Possible Hazard Identification

Non-Hazardous

Flammable

Corrosive

Other (specify)

Deliverable Requested: 1, 11, 111, 1111

Empty Kit Requisitioned by:

Signature: Christina Weaver

Date: 4/6/19

Time: 11:00

Company: ARCADIS

Signature: Caitlin O'Neill

Date: 4/18/19

Time: 11:00

Company: ARCADIS

Signature: [Signature]

Date: 4/18/19

Time: 11:00

Company: ARCADIS

Signature: [Signature]

Date: 4/18/19

Time: 11:00

Company: ARCADIS

Signature: [Signature]

Date: 4/18/19

Time: 11:00

Company: ARCADIS

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Date: 4/18/19

Time: 11:00

Company: ARCADIS

Signature: [Signature]

Date: 4/18/19

Time: 11:00

Company: ARCADIS

Signature: [Signature]

Date: 4/18/19

Time: 11:00

Company: ARCADIS

Body Seals Intact:

Yes

No

Other

Custody Seal No.:

3

4

5

6

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9

10

11

12

13

14

Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: [Signature]
Cooler Received on 4-9-19 Opened on 4-9-19

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1A Foam Box Client-Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-8 (CF: -0.2 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN #36 (CF: +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC861525
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B139002VB Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: MS

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____



April 18, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 110665-1
Sample date: 2019-04-06
Report received by CADENA: 2019-04-18
Initial Data Verification completed by CADENA: 2019-04-18

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC sample -012 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

SPV - SIM GCMS VOC samples -012 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

GCMS VOC QC batch MS/MSD recovery outliers, RPD outliers or time clock issues were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS VOC QC batch CCV response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

SIM GCMS VOC QC batch INTERNAL STANDARD response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

7 Water sample(s) were analyzed for GCMS VOC parameter(s).

15 Soil sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110665-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401106651	HPT-217_1-2_040619	4/6/2019	5:45:00	X		
24011066510	HPT-215A_1-2_040619	4/6/2019	9:10:00	X		
24011066511	TRIP BLANK	4/6/2019	12:00:00	X		
24011066512	HPT-216_18-22_040619	4/6/2019	5:20:00	X	X	
24011066513	HPT-216_5-9_040619	4/6/2019	5:50:00	X	X	
24011066514	HPT-215A_4-8_040619	4/6/2019	2:25:00	X	X	
24011066515	DUP-02	4/6/2019	12:00:00	X	X	
24011066516	HPT-215A_9-13_040619	4/6/2019	2:10:00	X	X	
24011066517	HPT-215A_14-18_040619	4/6/2019	1:50:00	X	X	
24011066518	HPT-216_27-28_040619	4/6/2019	5:10:00	X		
24011066519	HPT-216_3-4_040619	4/6/2019	3:00:00	X		
2401106652	HPT-217_2-3_040619	4/6/2019	5:45:00	X		
24011066520	HPT-216_1-2_040619	4/6/2019	3:00:00	X		
24011066521	HPT-216_2-3_040619	4/6/2019	3:00:00	X		
24011066522	HPT-216_4-5_040619	4/6/2019	3:00:00	X		
2401106653	HPT-217_3-4_040619	4/6/2019	5:45:00	X		
2401106654	HPT-217_4-5_040619	4/6/2019	5:45:00	X		
2401106655	HPT-215A_28-29_040619	4/6/2019	1:35:00	X		
2401106656	HPT-215A_0-1_040619	4/6/2019	9:10:00	X		
2401106657	HPT-215A_3-4_040619	4/6/2019	9:10:00	X		
2401106658	HPT-215A_2-3_040619	4/6/2019	9:10:00	X		
2401106659	HPT-215A_4-5_040619	4/6/2019	9:10:00	X		

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110665-1

Sample Name: HPT-216_18-22_040619

Lab Sample ID: 24011066512

Sample Date: 4/6/2019

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units	Qualifier	
GC/MS VOC						
<u>OSW-8260B</u>						
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	UJ	
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	UJ	
Tetrachloroethene	127-18-4	ND	1.0	ug/l	UJ	
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	
Vinyl chloride	75-01-4	ND	1.0	ug/l	UJ	
<u>OSW-8260BBSim</u>						
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 110665-1

Analyte	Cas No.	HPT-217_1-2_040619				HPT-215A_1-2_040619				TRP BLANK				HPT-216_18-22_040619				HPT-216_5-9_040619				HPT-215A_4-8_040619				DUP-02				HPT-215A_9-13_040619				HPT-215A_14-18_040619				HPT-216_17-28_040619						
		Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid	Report	Valid											
Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier					
GC/MS VOC																																												
<u>OSW-82608</u>																																												
1,2-Dichloroethene	75-35-4	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UI	ND	20	ug/l	---	ND	6.7	ug/l	---	ND	20	ug/l	---	ND	17	ug/l	---	ND	14	ug/l	---	ND	62	ug/kg	---			
1,4-Dioxane	123-91-1	ND	19000	ug/kg	---	ND	16000	ug/kg	---																																			
cis-1,2-Dichloroethene	156-59-2	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UI	37	20	ug/l	---	46	6.7	ug/l	---	210	20	ug/l	---	180	17	ug/l	---	320	14	ug/l	---	ND	62	ug/kg	---			
Tetrachloroethene	127-18-4	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UI	ND	20	ug/l	---	ND	6.7	ug/l	---	ND	20	ug/l	---	ND	17	ug/l	---	ND	14	ug/l	---	ND	62	ug/kg	---			
trans-1,2-Dichloroethene	156-60-5	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UI	26	20	ug/l	---	3.9	6.7	ug/l	J	17	20	ug/l	J	14	17	ug/l	J	3.0	14	ug/l	J	ND	62	ug/kg	---			
Trichloroethene	79-01-6	ND	61	ug/kg	---	ND	52	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UI	450	20	ug/l	---	140	6.7	ug/l	---	440	20	ug/l	---	410	17	ug/l	---	1.4	14	ug/l	J	ND	62	ug/kg	---			
Vinyl Chloride	75-01-4	ND	49	ug/kg	---	ND	42	ug/kg	---	ND	1.0	ug/l	---	ND	1.0	ug/l	UI	ND	20	ug/l	---	18	6.7	ug/l	---	46	20	ug/l	---	48	17	ug/l	---	330	14	ug/l	---	ND	50	ug/kg	---			
<u>OSW-82608Sim</u>																																												
1,4-Dioxane	123-91-1													ND	2.0	ug/l	UI	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---			

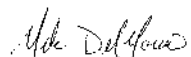
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-123747-1
Client Project/Site: Ford LTP

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
12/17/2019 8:02:35 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?

 **Ask
The
Expert**

Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Job ID: 240-123747-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP

Report Number: 240-123747-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Edison attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 12/13/2019 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples VAP-38_16-20_121019 (240-123747-1), VAP-38_11-15_121019 (240-123747-2), VAP-38_5-9_121019 (240-123747-3), VAP-39_18.5-22.5_121019 (240-123747-4), VAP-39_14-18_121019 (240-123747-5), VAP-39_9-13_121019 (240-123747-6), VAP-39_4.5-8.5_121019 (240-123747-7), VAP-40_16-20_121019 (240-123747-8), VAP-40_11-15_121019 (240-123747-9), VAP-40_5-9_121019 (240-123747-10) and TRIP BLANK (240-123747-11) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 12/15/2019.

Samples VAP-39_14-18_121019 (240-123747-5)[2X] and VAP-40_11-15_121019 (240-123747-9)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The following samples were diluted to bring the concentration of target analytes within the calibration range: VAP-39_14-18_121019 (240-123747-5) and VAP-40_11-15_121019 (240-123747-9). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

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Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-123747-1	VAP-38_16-20_121019	Water	12/10/19 09:16	12/13/19 08:00	
240-123747-2	VAP-38_11-15_121019	Water	12/10/19 09:52	12/13/19 08:00	
240-123747-3	VAP-38_5-9_121019	Water	12/10/19 10:18	12/13/19 08:00	
240-123747-4	VAP-39_18.5-22.5_121019	Water	12/10/19 11:10	12/13/19 08:00	
240-123747-5	VAP-39_14-18_121019	Water	12/10/19 11:39	12/13/19 08:00	
240-123747-6	VAP-39_9-13_121019	Water	12/10/19 12:03	12/13/19 08:00	
240-123747-7	VAP-39_4.5-8.5_121019	Water	12/10/19 12:24	12/13/19 08:00	
240-123747-8	VAP-40_16-20_121019	Water	12/10/19 13:40	12/13/19 08:00	
240-123747-9	VAP-40_11-15_121019	Water	12/10/19 14:10	12/13/19 08:00	
240-123747-10	VAP-40_5-9_121019	Water	12/10/19 14:33	12/13/19 08:00	
240-123747-11	TRIP BLANK	Water	12/10/19 00:00	12/13/19 08:00	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-38_16-20_121019

Lab Sample ID: 240-123747-1

No Detections.

Client Sample ID: VAP-38_11-15_121019

Lab Sample ID: 240-123747-2

No Detections.

Client Sample ID: VAP-38_5-9_121019

Lab Sample ID: 240-123747-3

No Detections.

Client Sample ID: VAP-39_18.5-22.5_121019

Lab Sample ID: 240-123747-4

No Detections.

Client Sample ID: VAP-39_14-18_121019

Lab Sample ID: 240-123747-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	18		2.0	0.44	ug/L	2		8260C	Total/NA
trans-1,2-Dichloroethene	28		2.0	0.47	ug/L	2		8260C	Total/NA
Trichloroethene	780		2.0	0.63	ug/L	2		8260C	Total/NA

Client Sample ID: VAP-39_9-13_121019

Lab Sample ID: 240-123747-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.0		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	6.8		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	240		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-39_4.5-8.5_121019

Lab Sample ID: 240-123747-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	6.9		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-40_16-20_121019

Lab Sample ID: 240-123747-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	190		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	330		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	310		1.0	0.31	ug/L	1		8260C	Total/NA
Vinyl chloride	2.0		1.0	0.17	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-40_11-15_121019

Lab Sample ID: 240-123747-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	210		2.0	0.44	ug/L	2		8260C	Total/NA
trans-1,2-Dichloroethene	360		2.0	0.47	ug/L	2		8260C	Total/NA
Trichloroethene	620		2.0	0.63	ug/L	2		8260C	Total/NA
Vinyl chloride	0.77	J	2.0	0.34	ug/L	2		8260C	Total/NA

Client Sample ID: VAP-40_5-9_121019

Lab Sample ID: 240-123747-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9.2		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	17		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	180		1.0	0.31	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-123747-11

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-38_16-20_121019

Lab Sample ID: 240-123747-1

Date Collected: 12/10/19 09:16

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/15/19 13:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/15/19 13:14	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/15/19 13:14	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/15/19 13:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		74 - 132		12/15/19 13:14	1
Toluene-d8 (Surr)	99		80 - 120		12/15/19 13:14	1
Dibromofluoromethane (Surr)	103		72 - 131		12/15/19 13:14	1
4-Bromofluorobenzene	104		77 - 124		12/15/19 13:14	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-38_11-15_121019

Lab Sample ID: 240-123747-2

Date Collected: 12/10/19 09:52

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/15/19 13:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/15/19 13:33	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/15/19 13:33	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/15/19 13:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		74 - 132		12/15/19 13:33	1
Toluene-d8 (Surr)	101		80 - 120		12/15/19 13:33	1
Dibromofluoromethane (Surr)	103		72 - 131		12/15/19 13:33	1
4-Bromofluorobenzene	104		77 - 124		12/15/19 13:33	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-38_5-9_121019

Lab Sample ID: 240-123747-3

Date Collected: 12/10/19 10:18

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/15/19 13:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/15/19 13:51	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/15/19 13:51	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/15/19 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		74 - 132		12/15/19 13:51	1
Toluene-d8 (Surr)	101		80 - 120		12/15/19 13:51	1
Dibromofluoromethane (Surr)	103		72 - 131		12/15/19 13:51	1
4-Bromofluorobenzene	105		77 - 124		12/15/19 13:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-39_18.5-22.5_121019

Lab Sample ID: 240-123747-4

Date Collected: 12/10/19 11:10

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/15/19 14:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/15/19 14:10	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/15/19 14:10	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/15/19 14:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		74 - 132		12/15/19 14:10	1
Toluene-d8 (Surr)	101		80 - 120		12/15/19 14:10	1
Dibromofluoromethane (Surr)	102		72 - 131		12/15/19 14:10	1
4-Bromofluorobenzene	106		77 - 124		12/15/19 14:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-39_14-18_121019

Lab Sample ID: 240-123747-5

Date Collected: 12/10/19 11:39

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	18		2.0	0.44	ug/L			12/15/19 16:01	2
trans-1,2-Dichloroethene	28		2.0	0.47	ug/L			12/15/19 16:01	2
Trichloroethene	780		2.0	0.63	ug/L			12/15/19 16:01	2
Vinyl chloride	2.0	U	2.0	0.34	ug/L			12/15/19 16:01	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		74 - 132		12/15/19 16:01	2
Toluene-d8 (Surr)	100		80 - 120		12/15/19 16:01	2
Dibromofluoromethane (Surr)	104		72 - 131		12/15/19 16:01	2
4-Bromofluorobenzene	104		77 - 124		12/15/19 16:01	2

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-39_9-13_121019

Lab Sample ID: 240-123747-6

Date Collected: 12/10/19 12:03

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	3.0		1.0	0.22	ug/L			12/15/19 15:05	1
trans-1,2-Dichloroethene	6.8		1.0	0.24	ug/L			12/15/19 15:05	1
Trichloroethene	240		1.0	0.31	ug/L			12/15/19 15:05	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/15/19 15:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		74 - 132		12/15/19 15:05	1
Toluene-d8 (Surr)	105		80 - 120		12/15/19 15:05	1
Dibromofluoromethane (Surr)	98		72 - 131		12/15/19 15:05	1
4-Bromofluorobenzene	103		77 - 124		12/15/19 15:05	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-39_4.5-8.5_121019

Lab Sample ID: 240-123747-7

Date Collected: 12/10/19 12:24

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/15/19 14:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/15/19 14:29	1
Trichloroethene	6.9		1.0	0.31	ug/L			12/15/19 14:29	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/15/19 14:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		74 - 132		12/15/19 14:29	1
Toluene-d8 (Surr)	101		80 - 120		12/15/19 14:29	1
Dibromofluoromethane (Surr)	104		72 - 131		12/15/19 14:29	1
4-Bromofluorobenzene	105		77 - 124		12/15/19 14:29	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-40_16-20_121019

Lab Sample ID: 240-123747-8

Date Collected: 12/10/19 13:40

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	190		1.0	0.22	ug/L			12/15/19 15:24	1
trans-1,2-Dichloroethene	330		1.0	0.24	ug/L			12/15/19 15:24	1
Trichloroethene	310		1.0	0.31	ug/L			12/15/19 15:24	1
Vinyl chloride	2.0		1.0	0.17	ug/L			12/15/19 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		74 - 132		12/15/19 15:24	1
Toluene-d8 (Surr)	100		80 - 120		12/15/19 15:24	1
Dibromofluoromethane (Surr)	105		72 - 131		12/15/19 15:24	1
4-Bromofluorobenzene	106		77 - 124		12/15/19 15:24	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-40_11-15_121019

Lab Sample ID: 240-123747-9

Date Collected: 12/10/19 14:10

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	210		2.0	0.44	ug/L			12/15/19 15:42	2
trans-1,2-Dichloroethene	360		2.0	0.47	ug/L			12/15/19 15:42	2
Trichloroethene	620		2.0	0.63	ug/L			12/15/19 15:42	2
Vinyl chloride	0.77	J	2.0	0.34	ug/L			12/15/19 15:42	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/15/19 15:42	2
Toluene-d8 (Surr)	101		80 - 120		12/15/19 15:42	2
Dibromofluoromethane (Surr)	106		72 - 131		12/15/19 15:42	2
4-Bromofluorobenzene	101		77 - 124		12/15/19 15:42	2

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-40_5-9_121019

Lab Sample ID: 240-123747-10

Date Collected: 12/10/19 14:33

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	9.2		1.0	0.22	ug/L			12/15/19 14:47	1
trans-1,2-Dichloroethene	17		1.0	0.24	ug/L			12/15/19 14:47	1
Trichloroethene	180		1.0	0.31	ug/L			12/15/19 14:47	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/15/19 14:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		74 - 132		12/15/19 14:47	1
Toluene-d8 (Surr)	99		80 - 120		12/15/19 14:47	1
Dibromofluoromethane (Surr)	105		72 - 131		12/15/19 14:47	1
4-Bromofluorobenzene	104		77 - 124		12/15/19 14:47	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-123747-11

Date Collected: 12/10/19 00:00

Matrix: Water

Date Received: 12/13/19 08:00

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/15/19 09:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/15/19 09:32	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/15/19 09:32	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/15/19 09:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		12/15/19 09:32	1
Toluene-d8 (Surr)	101		80 - 120		12/15/19 09:32	1
Dibromofluoromethane (Surr)	102		72 - 131		12/15/19 09:32	1
4-Bromofluorobenzene	104		77 - 124		12/15/19 09:32	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (74-132)	TOL (80-120)	DBFM (72-131)	BFB (77-124)
240-123747-1	VAP-38_16-20_121019	98	99	103	104
240-123747-2	VAP-38_11-15_121019	99	101	103	104
240-123747-3	VAP-38_5-9_121019	98	101	103	105
240-123747-4	VAP-39_18.5-22.5_121019	100	101	102	106
240-123747-5	VAP-39_14-18_121019	100	100	104	104
240-123747-6	VAP-39_9-13_121019	79	105	98	103
240-123747-7	VAP-39_4.5-8.5_121019	100	101	104	105
240-123747-8	VAP-40_16-20_121019	98	100	105	106
240-123747-9	VAP-40_11-15_121019	97	101	106	101
240-123747-10	VAP-40_5-9_121019	99	99	105	104
240-123747-11	TRIP BLANK	96	101	102	104
460-198285-B-2 MS	Matrix Spike	99	102	102	104
460-198285-B-2 MSD	Matrix Spike Duplicate	97	100	102	106
LCS 460-662473/5	Lab Control Sample	98	100	102	107
MB 460-662473/8	Method Blank	98	101	102	106

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 460-662473/8
Matrix: Water
Analysis Batch: 662473

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/15/19 08:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/15/19 08:36	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/15/19 08:36	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/15/19 08:36	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	98		74 - 132		12/15/19 08:36	1
Toluene-d8 (Surr)	101		80 - 120		12/15/19 08:36	1
Dibromofluoromethane (Surr)	102		72 - 131		12/15/19 08:36	1
4-Bromofluorobenzene	106		77 - 124		12/15/19 08:36	1

Lab Sample ID: LCS 460-662473/5
Matrix: Water
Analysis Batch: 662473

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
cis-1,2-Dichloroethene	20.0	20.1		ug/L		100	80 - 120
trans-1,2-Dichloroethene	20.0	20.0		ug/L		100	79 - 120
Trichloroethene	20.0	19.7		ug/L		98	77 - 120
Vinyl chloride	20.0	25.9		ug/L		129	62 - 138

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	98		74 - 132
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	102		72 - 131
4-Bromofluorobenzene	107		77 - 124

Lab Sample ID: 460-198285-B-2 MS
Matrix: Water
Analysis Batch: 662473

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
cis-1,2-Dichloroethene	1.0	U	200	192		ug/L		96	80 - 120
trans-1,2-Dichloroethene	1.0	U	200	196		ug/L		98	79 - 120
Trichloroethene	1.0	U	200	188		ug/L		94	77 - 120
Vinyl chloride	1.0	U F1	200	268		ug/L		134	62 - 138

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	99		74 - 132
Toluene-d8 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	102		72 - 131
4-Bromofluorobenzene	104		77 - 124

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 460-198285-B-2 MSD

Matrix: Water

Analysis Batch: 662473

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	1.0	U	200	196		ug/L		98	80 - 120	2	30
trans-1,2-Dichloroethene	1.0	U	200	202		ug/L		101	79 - 120	3	30
Trichloroethene	1.0	U	200	195		ug/L		97	77 - 120	4	30
Vinyl chloride	1.0	U F1	200	281	F1	ug/L		140	62 - 138	5	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	97		74 - 132
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	102		72 - 131
4-Bromofluorobenzene	106		77 - 124



QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

GC/MS VOA

Analysis Batch: 662473

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-123747-1	VAP-38_16-20_121019	Total/NA	Water	8260C	
240-123747-2	VAP-38_11-15_121019	Total/NA	Water	8260C	
240-123747-3	VAP-38_5-9_121019	Total/NA	Water	8260C	
240-123747-4	VAP-39_18.5-22.5_121019	Total/NA	Water	8260C	
240-123747-5	VAP-39_14-18_121019	Total/NA	Water	8260C	
240-123747-6	VAP-39_9-13_121019	Total/NA	Water	8260C	
240-123747-7	VAP-39_4.5-8.5_121019	Total/NA	Water	8260C	
240-123747-8	VAP-40_16-20_121019	Total/NA	Water	8260C	
240-123747-9	VAP-40_11-15_121019	Total/NA	Water	8260C	
240-123747-10	VAP-40_5-9_121019	Total/NA	Water	8260C	
240-123747-11	TRIP BLANK	Total/NA	Water	8260C	
MB 460-662473/8	Method Blank	Total/NA	Water	8260C	
LCS 460-662473/5	Lab Control Sample	Total/NA	Water	8260C	
460-198285-B-2 MS	Matrix Spike	Total/NA	Water	8260C	
460-198285-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-38_16-20_121019

Date Collected: 12/10/19 09:16

Date Received: 12/13/19 08:00

Lab Sample ID: 240-123747-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	662473	12/15/19 13:14	SZD	TAL EDI

Client Sample ID: VAP-38_11-15_121019

Date Collected: 12/10/19 09:52

Date Received: 12/13/19 08:00

Lab Sample ID: 240-123747-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	662473	12/15/19 13:33	SZD	TAL EDI

Client Sample ID: VAP-38_5-9_121019

Date Collected: 12/10/19 10:18

Date Received: 12/13/19 08:00

Lab Sample ID: 240-123747-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	662473	12/15/19 13:51	SZD	TAL EDI

Client Sample ID: VAP-39_18.5-22.5_121019

Date Collected: 12/10/19 11:10

Date Received: 12/13/19 08:00

Lab Sample ID: 240-123747-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	662473	12/15/19 14:10	SZD	TAL EDI

Client Sample ID: VAP-39_14-18_121019

Date Collected: 12/10/19 11:39

Date Received: 12/13/19 08:00

Lab Sample ID: 240-123747-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	662473	12/15/19 16:01	SZD	TAL EDI

Client Sample ID: VAP-39_9-13_121019

Date Collected: 12/10/19 12:03

Date Received: 12/13/19 08:00

Lab Sample ID: 240-123747-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	662473	12/15/19 15:05	SZD	TAL EDI

Client Sample ID: VAP-39_4.5-8.5_121019

Date Collected: 12/10/19 12:24

Date Received: 12/13/19 08:00

Lab Sample ID: 240-123747-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	662473	12/15/19 14:29	SZD	TAL EDI

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Client Sample ID: VAP-40_16-20_121019

Lab Sample ID: 240-123747-8

Date Collected: 12/10/19 13:40

Matrix: Water

Date Received: 12/13/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	662473	12/15/19 15:24	SZD	TAL EDI

Client Sample ID: VAP-40_11-15_121019

Lab Sample ID: 240-123747-9

Date Collected: 12/10/19 14:10

Matrix: Water

Date Received: 12/13/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	662473	12/15/19 15:42	SZD	TAL EDI

Client Sample ID: VAP-40_5-9_121019

Lab Sample ID: 240-123747-10

Date Collected: 12/10/19 14:33

Matrix: Water

Date Received: 12/13/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	662473	12/15/19 14:47	SZD	TAL EDI

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-123747-11

Date Collected: 12/10/19 00:00

Matrix: Water

Date Received: 12/13/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	662473	12/15/19 09:32	SZD	TAL EDI

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-123747-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Laboratory: Eurofins TestAmerica, Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0200	09-30-20
DE Haz. Subst. Cleanup Act (HSCA)	State	<cert No.>	12-31-21
Georgia	State	12028 (NJ)	06-30-20
Massachusetts	State	M-NJ312	06-30-20
Massachusetts	State Program	M-NJ312	06-30-20
New Jersey	NELAP	12028	06-30-20
New York	NELAP	11452	04-01-20
Pennsylvania	NELAP	68-00522	02-28-20
Rhode Island	State	LAO00132	12-30-19
USDA	US Federal Programs	P330-18-00135	05-03-21

MICHIGAN
190

Chain of Custody Record

374080

eurofins

Environment Testing
Test Methods

Address:

Regulatory Program: RCRA MCLB MDES RCMA Other

TAL-0210

Client Contact Company Name: ARCADIS US Address: 28550 CAGE DR., STE 50 City/State/Zip: NOVI MI 48247 Phone: 248-574-5402 Fax:		Project Manager: KRIS HAJEK Tel: 248-574-5402 Analysis Turnaround Time:		Site Contact: Lab Contact: MIKE POLONIKO Date: 12/10/2019 Carrier:		COC No. 1 of 1 COCs			
Project Name: FORD LCP Site: FORD LCP P.O.#: 3016342-0201		Calendar Days: <input checked="" type="checkbox"/> WORKING DAYS <input type="checkbox"/> 30 if different from below Weeks: <input checked="" type="checkbox"/> 2 weeks <input type="checkbox"/> 3 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Lab Contact: MIKE POLONIKO Date: 12/10/2019 Carrier:		Sampler: For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:		Sample Specific Notes:	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, S=Spot)	Matrix	# of Cont.	Filtered Sample (Y/N)		
VAF-38-6-20-121019		12/10/19	9:16	G	GW	6	Y	Y	
VAF-38-11-15-121019			9:52			6	Y	Y	
VAF-38-5-9-121019			10:18			6	Y	Y	
VAF-38-18-5-22-5-121019			11:10			6	Y	Y	
VAF-38-19-18-121019			11:59			6	Y	Y	
VAF-38-9-13-121019			12:03			6	Y	Y	
VAF-38-4-5-8-5-121019			12:24			6	Y	Y	
VAF-40-16-20-121019			13:40			6	Y	Y	
VAF-40-11-15-121019			14:10			6	Y	Y	
VAF-40-5-9-121019			14:33			6	Y	Y	
TRIP BLANK						2			
Preservation Used: 1=Ice (C=NO) 3=H2SO4 4=HNO3 5=WASH 6=Other		Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.		Return to Client: <input type="checkbox"/> <input checked="" type="checkbox"/> Disposed by Lab <input type="checkbox"/> Archived for: _____ Months		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		240-129747 Chain of Custody	
Special Instructions/QC Requirements & Comments: LEVEL II AND IV REQUESTED.		Custody Seal No.: <input type="checkbox"/> Yes <input type="checkbox"/> No		Received by: ARCADIS Date/Time: 12/11/19 13:00		Received by: ARCADIS Date/Time: 12/11/19 13:00		Company: ARCADIS	
Relinquished by: CAROLAN CASCO / Carolee Casco		Company: ARCADIS		Received by: ARCADIS Date/Time: 12/11/19 14:00		Received by: ARCADIS Date/Time: 12/11/19 14:00		Company: ARCADIS	
Relinquished by: RACHEL FINELAN / Rachel Finekan		Company: TAL		Received by: TAL Date/Time: 12/11/19 14:00		Received by: TAL Date/Time: 12/11/19 14:00		Company: TAL	
Relinquished by: J.P. Cox		Company: TAL		Received by: TAL Date/Time: 12/11/19 14:00		Received by: TAL Date/Time: 12/11/19 14:00		Company: TAL	

Canton Facility _____
 Client Accadis Site Name Ford LTP Cooler unpacked by: Ryan Crocker
 Cooler Received on 12-13-19 Opened on 12-13-19 8:00
 FedEx: Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7°C) Observed Cooler Temp. 2.8 °C Corrected Cooler Temp. 3.5 °C
 IR GUN# IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this:
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 57072 Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:

 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: _____

18. SAMPLE CONDITION

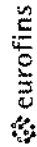
Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

Eurofins TestAmerica, Canton
 4101 Sheffield Street NW
 North Canton, OH 44720
 Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record



Environment Testing
 TestAmerica

Client Information (Sub Contract Lab)		Lab P/M: DelMonico, Michael		Carrier Tracking No(s): 240-119233.1	
Client Contact: Shipping/Receiving		E-Mail: michael.delmonico@testamericainc.com		Page: Page 1 of 2	
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-123747-1	
Address: 777 New Durham Road,		Date Requested: 12/17/2019		Preservation Codes:	
City: Edison		TAT Requested (days):		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NH4SO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
State, Zip: NJ, 08817		PO #:		M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2S2O3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)	
Phone: 732-549-3900(Tel) 732-549-3679(Fax)		WO #:			
Email:		Project #:			
Project Name: Ford LTP		SEON#:			
Site:					
Sample Identification - Client ID (Lab ID)					
Sample ID	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (Water, Soil, Concrete, etc.)	Special Instructions/Note:
VAP-38_16-20_121019 (240-123747-1)	12/6/19	09:16 Eastern	Water	Water	
VAP-38_11-15_121019 (240-123747-2)	12/6/19	09:52 Eastern	Water	Water	
VAP-38_5-9_121019 (240-123747-3)	12/6/19	10:18 Eastern	Water	Water	
VAP-39_18-5-22.5_121019 (240-123747-4)	12/6/19	11:10 Eastern	Water	Water	
VAP-39_14-18_121019 (240-123747-5)	12/6/19	11:39 Eastern	Water	Water	
VAP-39_9-13_121019 (240-123747-6)	12/6/19	12:03 Eastern	Water	Water	
VAP-39_4-5-8.5_121019 (240-123747-7)	12/6/19	12:24 Eastern	Water	Water	
VAP-40_16-20_121019 (240-123747-8)	12/6/19	13:40 Eastern	Water	Water	
VAP-40_11-15_121019 (240-123747-9)	12/6/19	14:10 Eastern	Water	Water	
<p>Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis of the matrix being analyzed, the samples must be shipped back to the TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to TestAmerica Laboratories, Inc. attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to TestAmerica Laboratories, Inc.</p>					
Possible Hazard Identification					
Unconfirmed					
Deliverable Requested: I, II, III, IV, Other (specify)					
Primary Deliverable Rank: 2					
Date: 12/17/2019					
Reinquired by: [Signature]					
Reinquired by: [Signature]					
Reinquired by: [Signature]					
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No					
Custody Seal No.:					

Ver: 01/16/2019

14 13 12 11 10 9 8 7 6 5 4 3 2 1

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 240-123747-1

Login Number: 123747

List Number: 2

Creator: Armbruster, Chris

List Source: Eurofins TestAmerica, Edison

List Creation: 12/14/19 02:09 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.3/2.6°C IR11
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



DATA VERIFICATION REPORT



December 17, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30016346.0002B
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 123747-1
Sample date: 2019-12-10
Report received by CADENA: 2019-12-17
Initial Data Verification completed by CADENA: 2019-12-17
Number of Samples:11
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

GCMS VOC QC batch MS/MSD recovery outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 123747-1

Analyte	Cas No.	VAP-38_16-20_121019				VAP-40_5-9_121019				TRIP BLANK				VAP-38_11-15_121019				VAP-38_5-9_121019				VAP-39_18.5-22.5_121019				VAP-39_14-18_121019				VAP-39_9-13_121019				VAP-39_4.5-8.5_121019				VAP-40_16-20_121019				VAP-40_11-15_121019			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier								
GC/MS VOC																																													
OSW-8260C																																													
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	9.2	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	18	2.0	ug/l	---	3.0	1.0	ug/l	---	ND	1.0	ug/l	---	190	1.0	ug/l	---	210	2.0	ug/l	---				
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	17	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	28	2.0	ug/l	---	6.8	1.0	ug/l	---	ND	1.0	ug/l	---	330	1.0	ug/l	---	360	2.0	ug/l	---				
Trichloroethene	79-01-6	ND	1.0	ug/l	---	180	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	780	2.0	ug/l	---	240	1.0	ug/l	---	6.9	1.0	ug/l	---	310	1.0	ug/l	---	620	2.0	ug/l	---				
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	2.0	1.0	ug/l	---	0.77	2.0	ug/l	J				

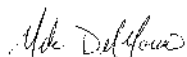
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-123855-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
12/18/2019 4:48:32 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
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 **Ask
The
Expert**

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Job ID: 240-123855-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-123855-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Edison attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 12/14/2019 8:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.7° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples VAP-47_20-24_121119 (240-123855-1), VAP-47_15-19_121119 (240-123855-2), VAP-47_10-14_121119 (240-123855-3), VAP-47_5-9_121119 (240-123855-4), VAP-46_20-24_121119 (240-123855-5), VAP-46_15-19_121119 (240-123855-6), VAP-46_10-14_121119 (240-123855-7), VAP-46_5--9_121119 (240-123855-8), DUP-01_121119 (240-123855-9) and TRIP BLANK (240-123855-10) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 12/18/2019.

Toluene-d8 (Surr) failed the surrogate recovery criteria high for VAP-46_5--9_121119 (240-123855-8). Refer to the QC report for details.

Trichloroethene failed the recovery criteria low for the MSD of sample VAP-47_10-14_121119MSD (240-123855-3) in batch 460-663228. Refer to the QC report for details.

Samples VAP-46_15-19_121119 (240-123855-6)[5X] and VAP-46_10-14_121119 (240-123855-7)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Four surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Job ID: 240-123855-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

performing re-extraction/re-analysis. The following sample contained an allowable number of surrogate compounds outside limits: VAP-46_5--9_121119 (240-123855-8). These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-123855-1	VAP-47_20-24_121119	Water	12/11/19 13:20	12/14/19 08:20	
240-123855-2	VAP-47_15-19_121119	Water	12/11/19 13:55	12/14/19 08:20	
240-123855-3	VAP-47_10-14_121119	Water	12/11/19 14:15	12/14/19 08:20	
240-123855-4	VAP-47_5-9_121119	Water	12/11/19 14:37	12/14/19 08:20	
240-123855-5	VAP-46_20-24_121119	Water	12/11/19 15:20	12/14/19 08:20	
240-123855-6	VAP-46_15-19_121119	Water	12/11/19 15:48	12/14/19 08:20	
240-123855-7	VAP-46_10-14_121119	Water	12/11/19 16:09	12/14/19 08:20	
240-123855-8	VAP-46_5-9_121119	Water	12/11/19 16:30	12/14/19 08:20	
240-123855-9	DUP-01_121119	Water	12/11/19 00:00	12/14/19 08:20	
240-123855-10	TRIP BLANK	Water	12/11/19 00:00	12/14/19 08:20	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-47_20-24_121119

Lab Sample ID: 240-123855-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.39	J	1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-47_15-19_121119

Lab Sample ID: 240-123855-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.4		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	1.8		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	6.6		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-47_10-14_121119

Lab Sample ID: 240-123855-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.27	J	1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	0.26	J	1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	32	F1	1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-47_5-9_121119

Lab Sample ID: 240-123855-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.0		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-46_20-24_121119

Lab Sample ID: 240-123855-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	10		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	21		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	4.5		1.0	0.31	ug/L	1		8260C	Total/NA
Vinyl chloride	0.56	J	1.0	0.17	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-46_15-19_121119

Lab Sample ID: 240-123855-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	62		5.0	1.1	ug/L	5		8260C	Total/NA
trans-1,2-Dichloroethene	120		5.0	1.2	ug/L	5		8260C	Total/NA
Trichloroethene	1900		5.0	1.6	ug/L	5		8260C	Total/NA

Client Sample ID: VAP-46_10-14_121119

Lab Sample ID: 240-123855-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.9		2.0	0.44	ug/L	2		8260C	Total/NA
trans-1,2-Dichloroethene	8.2		2.0	0.47	ug/L	2		8260C	Total/NA
Trichloroethene	690		2.0	0.63	ug/L	2		8260C	Total/NA

Client Sample ID: VAP-46_5--9_121119

Lab Sample ID: 240-123855-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	0.49	J	1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	23		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: DUP-01_121119

Lab Sample ID: 240-123855-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	0.70	J	1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	27		1.0	0.31	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-123855-10

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-47_20-24_121119

Lab Sample ID: 240-123855-1

Date Collected: 12/11/19 13:20

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 13:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 13:20	1
Trichloroethene	0.39	J	1.0	0.31	ug/L			12/18/19 13:20	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 13:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		74 - 132		12/18/19 13:20	1
Toluene-d8 (Surr)	88		80 - 120		12/18/19 13:20	1
Dibromofluoromethane (Surr)	92		72 - 131		12/18/19 13:20	1
4-Bromofluorobenzene	92		77 - 124		12/18/19 13:20	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-47_15-19_121119

Lab Sample ID: 240-123855-2

Date Collected: 12/11/19 13:55

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	2.4		1.0	0.22	ug/L			12/18/19 12:53	1
trans-1,2-Dichloroethene	1.8		1.0	0.24	ug/L			12/18/19 12:53	1
Trichloroethene	6.6		1.0	0.31	ug/L			12/18/19 12:53	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 12:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		74 - 132		12/18/19 12:53	1
Toluene-d8 (Surr)	103		80 - 120		12/18/19 12:53	1
Dibromofluoromethane (Surr)	112		72 - 131		12/18/19 12:53	1
4-Bromofluorobenzene	104		77 - 124		12/18/19 12:53	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-47_10-14_121119

Lab Sample ID: 240-123855-3

Date Collected: 12/11/19 14:15

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.27	J	1.0	0.22	ug/L			12/18/19 10:38	1
trans-1,2-Dichloroethene	0.26	J	1.0	0.24	ug/L			12/18/19 10:38	1
Trichloroethene	32	F1	1.0	0.31	ug/L			12/18/19 10:38	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 10:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/18/19 10:38	1
Toluene-d8 (Surr)	97		80 - 120		12/18/19 10:38	1
Dibromofluoromethane (Surr)	104		72 - 131		12/18/19 10:38	1
4-Bromofluorobenzene	98		77 - 124		12/18/19 10:38	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-47_5-9_121119

Lab Sample ID: 240-123855-4

Date Collected: 12/11/19 14:37

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 12:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 12:26	1
Trichloroethene	2.0		1.0	0.31	ug/L			12/18/19 12:26	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 12:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		74 - 132		12/18/19 12:26	1
Toluene-d8 (Surr)	102		80 - 120		12/18/19 12:26	1
Dibromofluoromethane (Surr)	112		72 - 131		12/18/19 12:26	1
4-Bromofluorobenzene	103		77 - 124		12/18/19 12:26	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-46_20-24_121119

Lab Sample ID: 240-123855-5

Date Collected: 12/11/19 15:20

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	10		1.0	0.22	ug/L			12/18/19 11:59	1
trans-1,2-Dichloroethene	21		1.0	0.24	ug/L			12/18/19 11:59	1
Trichloroethene	4.5		1.0	0.31	ug/L			12/18/19 11:59	1
Vinyl chloride	0.56	J	1.0	0.17	ug/L			12/18/19 11:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/18/19 11:59	1
Toluene-d8 (Surr)	95		80 - 120		12/18/19 11:59	1
Dibromofluoromethane (Surr)	105		72 - 131		12/18/19 11:59	1
4-Bromofluorobenzene	96		77 - 124		12/18/19 11:59	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-46_15-19_121119

Lab Sample ID: 240-123855-6

Date Collected: 12/11/19 15:48

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	62		5.0	1.1	ug/L			12/18/19 13:47	5
trans-1,2-Dichloroethene	120		5.0	1.2	ug/L			12/18/19 13:47	5
Trichloroethene	1900		5.0	1.6	ug/L			12/18/19 13:47	5
Vinyl chloride	5.0	U	5.0	0.86	ug/L			12/18/19 13:47	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		74 - 132		12/18/19 13:47	5
Toluene-d8 (Surr)	98		80 - 120		12/18/19 13:47	5
Dibromofluoromethane (Surr)	98		72 - 131		12/18/19 13:47	5
4-Bromofluorobenzene	98		77 - 124		12/18/19 13:47	5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-46_10-14_121119

Lab Sample ID: 240-123855-7

Date Collected: 12/11/19 16:09

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	5.9		2.0	0.44	ug/L			12/18/19 14:14	2
trans-1,2-Dichloroethene	8.2		2.0	0.47	ug/L			12/18/19 14:14	2
Trichloroethene	690		2.0	0.63	ug/L			12/18/19 14:14	2
Vinyl chloride	2.0	U	2.0	0.34	ug/L			12/18/19 14:14	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/18/19 14:14	2
Toluene-d8 (Surr)	98		80 - 120		12/18/19 14:14	2
Dibromofluoromethane (Surr)	105		72 - 131		12/18/19 14:14	2
4-Bromofluorobenzene	99		77 - 124		12/18/19 14:14	2

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-46_5--9_121119

Lab Sample ID: 240-123855-8

Date Collected: 12/11/19 16:30

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 11:32	1
trans-1,2-Dichloroethene	0.49	J	1.0	0.24	ug/L			12/18/19 11:32	1
Trichloroethene	23		1.0	0.31	ug/L			12/18/19 11:32	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 11:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		74 - 132		12/18/19 11:32	1
Toluene-d8 (Surr)	121	X	80 - 120		12/18/19 11:32	1
Dibromofluoromethane (Surr)	119		72 - 131		12/18/19 11:32	1
4-Bromofluorobenzene	120		77 - 124		12/18/19 11:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: DUP-01_121119

Lab Sample ID: 240-123855-9

Date Collected: 12/11/19 00:00

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 11:05	1
trans-1,2-Dichloroethene	0.70	J	1.0	0.24	ug/L			12/18/19 11:05	1
Trichloroethene	27		1.0	0.31	ug/L			12/18/19 11:05	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 11:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		74 - 132		12/18/19 11:05	1
Toluene-d8 (Surr)	92		80 - 120		12/18/19 11:05	1
Dibromofluoromethane (Surr)	90		72 - 131		12/18/19 11:05	1
4-Bromofluorobenzene	93		77 - 124		12/18/19 11:05	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-123855-10

Date Collected: 12/11/19 00:00

Matrix: Water

Date Received: 12/14/19 08:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 10:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 10:11	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/18/19 10:11	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 10:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		74 - 132		12/18/19 10:11	1
Toluene-d8 (Surr)	101		80 - 120		12/18/19 10:11	1
Dibromofluoromethane (Surr)	112		72 - 131		12/18/19 10:11	1
4-Bromofluorobenzene	105		77 - 124		12/18/19 10:11	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (74-132)	TOL (80-120)	DBFM (72-131)	BFB (77-124)
240-123855-1	VAP-47_20-24_121119	85	88	92	92
240-123855-2	VAP-47_15-19_121119	105	103	112	104
240-123855-3	VAP-47_10-14_121119	97	97	104	98
240-123855-3 MS	VAP-47_10-14_121119	103	104	114	106
240-123855-3 MSD	VAP-47_10-14_121119	95	104	106	106
240-123855-4	VAP-47_5-9_121119	102	102	112	103
240-123855-5	VAP-46_20-24_121119	97	95	105	96
240-123855-6	VAP-46_15-19_121119	91	98	98	98
240-123855-7	VAP-46_10-14_121119	97	98	105	99
240-123855-8	VAP-46_5-9_121119	108	121 X	119	120
240-123855-9	DUP-01_121119	84	92	90	93
240-123855-10	TRIP BLANK	104	101	112	105
LCS 460-663228/4	Lab Control Sample	94	98	98	101
MB 460-663228/8	Method Blank	96	97	106	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 460-663228/8
Matrix: Water
Analysis Batch: 663228

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 09:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 09:17	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/18/19 09:17	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 09:17	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		12/18/19 09:17	1
Toluene-d8 (Surr)	97		80 - 120		12/18/19 09:17	1
Dibromofluoromethane (Surr)	106		72 - 131		12/18/19 09:17	1
4-Bromofluorobenzene	98		77 - 124		12/18/19 09:17	1

Lab Sample ID: LCS 460-663228/4
Matrix: Water
Analysis Batch: 663228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
cis-1,2-Dichloroethene	20.0	18.6		ug/L		93	80 - 120
trans-1,2-Dichloroethene	20.0	18.0		ug/L		90	79 - 120
Trichloroethene	20.0	19.0		ug/L		95	77 - 120
Vinyl chloride	20.0	15.3		ug/L		77	62 - 138

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		74 - 132
Toluene-d8 (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	98		72 - 131
4-Bromofluorobenzene	101		77 - 124

Lab Sample ID: 240-123855-3 MS
Matrix: Water
Analysis Batch: 663228

Client Sample ID: VAP-47_10-14_121119
Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
cis-1,2-Dichloroethene	0.27	J	20.0	22.1		ug/L		109	80 - 120
trans-1,2-Dichloroethene	0.26	J	20.0	21.9		ug/L		108	79 - 120
Trichloroethene	32	F1	20.0	49.0		ug/L		85	77 - 120
Vinyl chloride	1.0	U	20.0	22.4		ug/L		112	62 - 138

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	103		74 - 132
Toluene-d8 (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	114		72 - 131
4-Bromofluorobenzene	106		77 - 124

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-123855-3 MSD

Client Sample ID: VAP-47_10-14_121119

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 663228

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	0.27	J	20.0	20.3		ug/L		100	80 - 120	9	30
trans-1,2-Dichloroethene	0.26	J	20.0	20.7		ug/L		102	79 - 120	6	30
Trichloroethene	32	F1	20.0	44.8	F1	ug/L		63	77 - 120	9	30
Vinyl chloride	1.0	U	20.0	21.0		ug/L		105	62 - 138	6	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		74 - 132
Toluene-d8 (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	106		72 - 131
4-Bromofluorobenzene	106		77 - 124

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

GC/MS VOA

Analysis Batch: 663228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-123855-1	VAP-47_20-24_121119	Total/NA	Water	8260C	
240-123855-2	VAP-47_15-19_121119	Total/NA	Water	8260C	
240-123855-3	VAP-47_10-14_121119	Total/NA	Water	8260C	
240-123855-4	VAP-47_5-9_121119	Total/NA	Water	8260C	
240-123855-5	VAP-46_20-24_121119	Total/NA	Water	8260C	
240-123855-6	VAP-46_15-19_121119	Total/NA	Water	8260C	
240-123855-7	VAP-46_10-14_121119	Total/NA	Water	8260C	
240-123855-8	VAP-46_5-9_121119	Total/NA	Water	8260C	
240-123855-9	DUP-01_121119	Total/NA	Water	8260C	
240-123855-10	TRIP BLANK	Total/NA	Water	8260C	
MB 460-663228/8	Method Blank	Total/NA	Water	8260C	
LCS 460-663228/4	Lab Control Sample	Total/NA	Water	8260C	
240-123855-3 MS	VAP-47_10-14_121119	Total/NA	Water	8260C	
240-123855-3 MSD	VAP-47_10-14_121119	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-47_20-24_121119

Lab Sample ID: 240-123855-1

Date Collected: 12/11/19 13:20

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663228	12/18/19 13:20	CJM	TAL EDI

Client Sample ID: VAP-47_15-19_121119

Lab Sample ID: 240-123855-2

Date Collected: 12/11/19 13:55

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663228	12/18/19 12:53	CJM	TAL EDI

Client Sample ID: VAP-47_10-14_121119

Lab Sample ID: 240-123855-3

Date Collected: 12/11/19 14:15

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663228	12/18/19 10:38	CJM	TAL EDI

Client Sample ID: VAP-47_5-9_121119

Lab Sample ID: 240-123855-4

Date Collected: 12/11/19 14:37

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663228	12/18/19 12:26	CJM	TAL EDI

Client Sample ID: VAP-46_20-24_121119

Lab Sample ID: 240-123855-5

Date Collected: 12/11/19 15:20

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663228	12/18/19 11:59	CJM	TAL EDI

Client Sample ID: VAP-46_15-19_121119

Lab Sample ID: 240-123855-6

Date Collected: 12/11/19 15:48

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		5	663228	12/18/19 13:47	CJM	TAL EDI

Client Sample ID: VAP-46_10-14_121119

Lab Sample ID: 240-123855-7

Date Collected: 12/11/19 16:09

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	663228	12/18/19 14:14	CJM	TAL EDI

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Client Sample ID: VAP-46_5--9_121119

Lab Sample ID: 240-123855-8

Date Collected: 12/11/19 16:30

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663228	12/18/19 11:32	CJM	TAL EDI

Client Sample ID: DUP-01_121119

Lab Sample ID: 240-123855-9

Date Collected: 12/11/19 00:00

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663228	12/18/19 11:05	CJM	TAL EDI

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-123855-10

Date Collected: 12/11/19 00:00

Matrix: Water

Date Received: 12/14/19 08:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663228	12/18/19 10:11	CJM	TAL EDI

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123855-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Laboratory: Eurofins TestAmerica, Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0200	09-30-20
DE Haz. Subst. Cleanup Act (HSCA)	State	<cert No.>	12-31-21
Georgia	State	12028 (NJ)	06-30-20
Massachusetts	State	M-NJ312	06-30-20
Massachusetts	State Program	M-NJ312	06-30-20
New Jersey	NELAP	12028	06-30-20
New York	NELAP	11452	04-01-20
Pennsylvania	NELAP	68-00522	02-28-20
Rhode Island	State	LAO00132	12-30-19
USDA	US Federal Programs	P330-18-00135	05-03-21

MICHIGAN 190

Chain of Custody Record 374061

30/C37

Environment Test
TestAmerica

Address: _____

Regulatory Program: Air Water Other

Client Contact: _____

Company Name: ALCADIS 28 BAYHIGAN LLC
 Address: 22550 CAROL DR-100 STG 500
 City/State/Zip: NORT MI / 48317
 Phone: 264-574-5462
 Fax: _____
 Project Name: FWD LTP
 Site: FWD LTP
 P.O.#: 30016342-0001C

Project Manager: KAYS HINSEY
 Toll Email: 264-574-5462

Site Contact: _____
 Lab Contact: WPC DOCUMENTS
 Date: 12/11/2014

COG No. _____ of _____ COCs

Sampler: _____
 For Lab Use Only:
 Walk-in Client: _____
 Lab Sampling: _____
 Job / SDG No.: _____
 Sample Specific Notes: _____

Sample Identification	Sample Date	Sample Time	Sample Type (C=Cont, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Carrier
VAP-47-24-24-12119	12/11/14	13:20	G	GW	3	N	N	
VAP-47-15-19-12119		13:55			3	N	N	
VAP-47-10-19-12119		14:15			9	N	N	
VAP-47-05-09-12119		14:57			3	N	N	
VAP-46-20-24-12119		15:20			3	N	N	
VAP-46-15-19-12119		15:48			3	N	N	
VAP-46-10-19-12119		16:09			3	N	N	
VAP-46-05-09-12119		16:30			3	N	N	
DUP-01-12119	12/11/14		G	GW	3	N	N	
Trip BLANK					2			



Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other

Possible Hazard Identification:
 Are any samples from a listed EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Sun Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:
 LEVEL 11 AND 14 PERMITS REQUESTED

Return to Client Disposed by Lab Archived by _____

Custody Seal No.	Company	Date/Time	Received by	Cooler Temp (C)	Obs'd	Cor'd	Item ID No.
CAITLIN GIBSON / Custody Chain	ARCADIS	12/11/14 13:20	NOVI SOLID STORAGE				
Relinquished by: Kelly Musrow	ARCADIS	12/12/14 12:50	NOVI SOLID STORAGE				
Relinquished by: Kelly Musrow	ARCADIS	12/12/14 12:50	NOVI SOLID STORAGE				
Relinquished by: Kelly Musrow	ARCADIS	12/14/14 08:20	NOVI SOLID STORAGE				

Canton Facility

Client Accordis Site Name _____
Cooler Received on 12-14-19 Opened on 12-14-19
FedEx: 1st (Grd) Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Cooler unpacked by:
Adam Garnett

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box _____ Client Cooler _____ Box _____ Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt. See Multiple Cooler Form


IR GUN# IR-10 (CF +0.7°C) Observed Cooler Temp. 3.0 °C Corrected Cooler Temp. 3.7 °C
IR GUN# IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA  Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0117701E Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:
AG

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Chain of Custody Record

Client Information (Sub Contract Lab)		Lab P/N: DeftMonico, Michael	Carrier Tracking Not's:	COC No: 240-115381-2							
Client Contact: Shipping/Receiving		E-Mail: michael.deftmonico@testamerica.com	State of Origin: Michigan	Page: Page 2 of 2							
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): 240-123855-1									
Address: 777 New Durham Road,		Due Date Requested: 12/18/2019									
City: Edison		TAT Requested (days):									
State: Zm: NJ, 08817		PO #:									
Phone: 732-549-3900(Tel) 732-549-3679(Fax)		WO #:									
Email:		Project #: 24015353									
Project Name: Ford LTP Livonia MI - E203631		SSOW#:									
Site:		Preservation Code:									
Sample Identification - Client ID (Lab ID)		Sample Type (C=Comp, G=grab)	Sample Time	Sample Date	Matrix (W=Water, S=Solid, O=Water/Oil, B=Blood, AA=)	Field Filtered Sample (Yes or No)	8260C_SM/5038C (MOD) Local Method	8260C/5038C (MOD) VOCs (Short List)	Analysis Requested	Total Number of Containers	Special Instructions/Note:
TRIP BLANK (240-123855-10)			12/11/19	Eastern	Water	X	X	X		2	
<p>Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. 1</p> <p>Possible Hazard Identification Unconfirmed Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2</p> <p>Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/QC Requirements:</p>											
Empty Kit Relinquished by:		Date:		Method of Shipment:							
Relinquished by: <i>Chak B</i>		Date/time: 12-16-19 1529		Company: 240		Received by: <i>[Signature]</i>					
Relinquished by:		Date/time:		Company:		Received by:					
Relinquished by:		Date/time:		Company:		Received by:					
Custody Seals Intact: A. Yes Δ No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:							

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 240-123855-1

Login Number: 123855

List Number: 2

Creator: Armbruster, Chris

List Source: Eurofins TestAmerica, Edison

List Creation: 12/17/19 12:34 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	5.1/5.4°C IR11
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 240-123855-1

Login Number: 123855

List Number: 3

Creator: Armbruster, Chris

List Source: Eurofins TestAmerica, Edison

List Creation: 12/18/19 11:00 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

DATA VERIFICATION REPORT



December 18, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30016346.0002B
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 123855-1
Sample date: 2019-12-11
Report received by CADENA: 2019-12-18
Initial Data Verification completed by CADENA: 2019-12-18
Number of Samples:10
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

GCMS VOC - sample -008 surrogate recoveries were outliers biased high for 1 out of 4 surrogates. These client sample results should be considered to be estimated and qualified with J flags if detected. Non-detect results do not require qualification.

GCMS VOC sample -003 MS or MSD recoveries but not both or RPD only were outliers for TRICHLOROETHENE so client sample results were not qualified based on this QC outlier alone.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 123855-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	GCMS VOC Volatiles	Comment
2401238551	VAP-47_20-24_121119	12/11/2019	1:20:00	X	
24012385510	TRIP BLANK	12/11/2019	12:00:00	X	
2401238552	VAP-47_15-19_121119	12/11/2019	1:55:00	X	
2401238553	VAP-47_10-14_121119	12/11/2019	2:15:00	X	
2401238554	VAP-47_5-9_121119	12/11/2019	2:37:00	X	
2401238555	VAP-46_20-24_121119	12/11/2019	3:20:00	X	
2401238556	VAP-46_15-19_121119	12/11/2019	3:48:00	X	
2401238557	VAP-46_10-14_121119	12/11/2019	4:09:00	X	
2401238558	VAP-46_5--9_121119	12/11/2019	4:30:00	X	
2401238559	DUP-01_121119	12/11/2019	12:00:00	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 123855-1

Analyte	Cas No.	VAP-47_20-24_121119				TRIP BLANK				VAP-47_15-19_121119				VAP-47_10-14_121119				VAP-47_5-9_121119				VAP-46_20-24_121119				VAP-46_15-19_121119				VAP-46_10-14_121119				VAP-46_5-9_121119				DUP-01_121119			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier				
GC/MS VOC																																									
OSW-8260C																																									
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	2.4	1.0	ug/l	---	0.27	1.0	ug/l	J	ND	1.0	ug/l	---	10	1.0	ug/l	---	62	5.0	ug/l	---	5.9	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	1.8	1.0	ug/l	---	0.26	1.0	ug/l	J	ND	1.0	ug/l	---	21	1.0	ug/l	---	120	5.0	ug/l	---	8.2	2.0	ug/l	---	0.49	1.0	ug/l	J	0.70	1.0	ug/l	J
Trichloroethene	79-01-6	0.39	1.0	ug/l	J	ND	1.0	ug/l	---	6.6	1.0	ug/l	---	32	1.0	ug/l	---	2.0	1.0	ug/l	---	4.5	1.0	ug/l	---	1900	5.0	ug/l	---	690	2.0	ug/l	---	23	1.0	ug/l	J	27	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.56	1.0	ug/l	J	ND	5.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 123855-1

Sample Name: VAP-46_5--9_121119

Lab Sample ID: 2401238558

Sample Date: 12/11/2019

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units	Qualifier	
GC/MS VOC						
<u>OSW-8260C</u>						
trans-1,2-Dichloroethene	156-60-5	0.49	1.0	ug/l	J	
Trichloroethene	79-01-6	23	1.0	ug/l	J	

DATA VERIFICATION REPORT



December 20, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30016346.0002B
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 123868-1
Sample date: 2019-12-12
Report received by CADENA: 2019-12-19
Initial Data Verification completed by CADENA: 2019-12-20
Number of Samples: 22
Sample Matrices: Water
Test Categories: GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

MS/MSD spike concentrations were less than 4X the original sample concentration for the following analytes in the client sample noted so MS/MSD percent recoveries are not considered to be statistically reliable and were not used to qualify client sample results:
GCMS VOC sample -019 - TRICHLOROETHYLENE.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with a approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 123868-1

Sample Name:	VAP-41_14-18_121219	VAP-41_9.5-13.5_121219	VAP-41_5-9_121219	VAP-43_19-23_121219	VAP-43_14-18_121219
Lab Sample ID:	24012386814	24012386815	24012386816	24012386817	24012386818
Sample Date:	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019

Analyte	Cas No.	Sample 1				Sample 2				Sample 3				Sample 4				Sample 5			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
GC/MS VOC																					
<u>OSW-8260C</u>																					
cis-1,2-Dichloroethene	156-59-2	19	1.0	ug/l	---	0.65	1.0	ug/l	J	16	1.0	ug/l	---	0.31	1.0	ug/l	J	26	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	17	1.0	ug/l	---	0.45	1.0	ug/l	J	3.7	1.0	ug/l	---	ND	1.0	ug/l	---	27	1.0	ug/l	---
Trichloroethene	79-01-6	35	1.0	ug/l	---	88	1.0	ug/l	---	89	1.0	ug/l	---	ND	1.0	ug/l	---	310	1.0	ug/l	---
Vinyl chloride	75-01-4	0.39	1.0	ug/l	J	ND	1.0	ug/l	---	0.54	1.0	ug/l	J	ND	1.0	ug/l	---	0.37	1.0	ug/l	J

Analytical Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 123868-1

Sample Name:	VAP-43_9.5-13.5_121219	VAP-44_15-19_121219	VAP-43_5-9_121219	DUP-02_121219	TRIP BLANK
Lab Sample ID:	24012386819	2401238682	24012386820	24012386821	24012386822
Sample Date:	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019

Analyte	Cas No.	Report		Valid		Report		Valid		Report		Valid		Report		Valid		Report		Valid	
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																					
<u>OSW-8260C</u>																					
cis-1,2-Dichloroethene	156-59-2	3.6	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	3.2	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	280	1.0	ug/l	---	ND	1.0	ug/l	---	22	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---

Analytical Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 123868-1

Sample Name:	VAP-44_10-14_121219	VAP-44_5-9_121219	VAP-45_20-24_121219	VAP-45_15-19_121219	VAP-45_10-14_121219
Lab Sample ID:	2401238683	2401238684	2401238685	2401238686	2401238687
Sample Date:	12/12/2019	12/12/2019	12/12/2019	12/12/2019	12/12/2019

Analyte	Cas No.	VAP-44_10-14_121219				VAP-44_5-9_121219				VAP-45_20-24_121219				VAP-45_15-19_121219				VAP-45_10-14_121219			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
GC/MS VOC																					
<u>OSW-8260C</u>																					
cis-1,2-Dichloroethene	156-59-2	0.74	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	14	2.0	ug/l	---	0.49	1.0	ug/l	J
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	16	2.0	ug/l	---	0.49	1.0	ug/l	J
Trichloroethene	79-01-6	64	1.0	ug/l	---	4.7	1.0	ug/l	---	0.70	1.0	ug/l	J	500	2.0	ug/l	---	29	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.39	2.0	ug/l	J	ND	1.0	ug/l	---

Analytical Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 123868-1

Sample Name: VAP-45_5-9_121219 VAP-42_20-24_121219

Lab Sample ID: 2401238688 2401238689

Sample Date: 12/12/2019 12/12/2019

Analyte	Cas No.	Report			Valid		Report			Valid	
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier		
GC/MS VOC											
<u>OSW-8260C</u>											
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---		
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---		
Trichloroethene	79-01-6	3.4	1.0	ug/l	---	ND	1.0	ug/l	---		
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---		


ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-123868-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
12/19/2019 4:09:15 PM

Michael DelMonico, Project Manager I
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Job ID: 240-123868-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-123868-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Edison attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 12/14/2019 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.7° C and 4.1° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples VAP-44_20-24_121219 (240-123868-1), VAP-44_15-19_121219 (240-123868-2), VAP-44_10-14_121219 (240-123868-3), VAP-44_5-9_121219 (240-123868-4), VAP-45_20-24_121219 (240-123868-5), VAP-45_15-19_121219 (240-123868-6), VAP-45_10-14_121219 (240-123868-7), VAP-45_5-9_121219 (240-123868-8), VAP-42_20-24_121219 (240-123868-9), VAP-42_15-19_121219 (240-123868-10), VAP-42_10-14_121219 (240-123868-11), VAP-42_5-9_121219 (240-123868-12), VAP-41_19-23_121219 (240-123868-13), VAP-41_14-18_121219 (240-123868-14), VAP-41_9.5-13.5_121219 (240-123868-15), VAP-41_5-9_121219 (240-123868-16), VAP-43_19-23_121219 (240-123868-17), VAP-43_14-18_121219 (240-123868-18), VAP-43_9.5-13.5_121219 (240-123868-19), VAP-43_5-9_121219 (240-123868-20), DUP-02_121219 (240-123868-21) and TRIP BLANK (240-123868-22) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 12/18/2019 and 12/19/2019.

Trichloroethene failed the recovery criteria low for the MS/MSD of sample VAP-43_9.5-13.5_121219MS/MSD (240-123868-19) in batch 460-663408.

Method 8260C: The following sample was diluted to bring the concentration of target analytes within the calibration range: VAP-45_15-19_121219 (240-123868-6). Elevated reporting limits (RLs) are provided.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Job ID: 240-123868-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

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Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-123868-1	VAP-44_20-24_121219	Water	12/12/19 08:35	12/14/19 10:20	
240-123868-2	VAP-44_15-19_121219	Water	12/12/19 09:02	12/14/19 10:20	
240-123868-3	VAP-44_10-14_121219	Water	12/12/19 09:24	12/14/19 10:20	
240-123868-4	VAP-44_5-9_121219	Water	12/12/19 09:41	12/14/19 10:20	
240-123868-5	VAP-45_20-24_121219	Water	12/12/19 10:30	12/14/19 10:20	
240-123868-6	VAP-45_15-19_121219	Water	12/12/19 10:51	12/14/19 10:20	
240-123868-7	VAP-45_10-14_121219	Water	12/12/19 11:12	12/14/19 10:20	
240-123868-8	VAP-45_5-9_121219	Water	12/12/19 11:32	12/14/19 10:20	
240-123868-9	VAP-42_20-24_121219	Water	12/12/19 12:35	12/14/19 10:20	
240-123868-10	VAP-42_15-19_121219	Water	12/12/19 12:59	12/14/19 10:20	
240-123868-11	VAP-42_10-14_121219	Water	12/12/19 13:15	12/14/19 10:20	
240-123868-12	VAP-42_5-9_121219	Water	12/12/19 13:35	12/14/19 10:20	
240-123868-13	VAP-41_19-23_121219	Water	12/12/19 00:00	12/14/19 10:20	
240-123868-14	VAP-41_14-18_121219	Water	12/12/19 00:00	12/14/19 10:20	
240-123868-15	VAP-41_9.5-13.5_121219	Water	12/12/19 00:00	12/14/19 10:20	
240-123868-16	VAP-41_5-9_121219	Water	12/12/19 00:00	12/14/19 10:20	
240-123868-17	VAP-43_19-23_121219	Water	12/12/19 00:00	12/14/19 10:20	
240-123868-18	VAP-43_14-18_121219	Water	12/12/19 00:00	12/14/19 10:20	
240-123868-19	VAP-43_9.5-13.5_121219	Water	12/12/19 00:00	12/14/19 10:20	
240-123868-20	VAP-43_5-9_121219	Water	12/12/19 00:00	12/14/19 10:20	
240-123868-21	DUP-02_121219	Water	12/12/19 00:00	12/14/19 10:20	
240-123868-22	TRIP BLANK	Water	12/12/19 00:00	12/14/19 10:20	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-44_20-24_121219

Lab Sample ID: 240-123868-1

No Detections.

Client Sample ID: VAP-44_15-19_121219

Lab Sample ID: 240-123868-2

No Detections.

Client Sample ID: VAP-44_10-14_121219

Lab Sample ID: 240-123868-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.74	J	1.0	0.22	ug/L	1		8260C	Total/NA
Trichloroethene	64		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-44_5-9_121219

Lab Sample ID: 240-123868-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	4.7		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-45_20-24_121219

Lab Sample ID: 240-123868-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.70	J	1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-45_15-19_121219

Lab Sample ID: 240-123868-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	14		2.0	0.44	ug/L	2		8260C	Total/NA
trans-1,2-Dichloroethene	16		2.0	0.47	ug/L	2		8260C	Total/NA
Trichloroethene	500		2.0	0.63	ug/L	2		8260C	Total/NA
Vinyl chloride	0.39	J	2.0	0.34	ug/L	2		8260C	Total/NA

Client Sample ID: VAP-45_10-14_121219

Lab Sample ID: 240-123868-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.49	J	1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	0.49	J	1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	29		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-45_5-9_121219

Lab Sample ID: 240-123868-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	3.4		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-42_20-24_121219

Lab Sample ID: 240-123868-9

No Detections.

Client Sample ID: VAP-42_15-19_121219

Lab Sample ID: 240-123868-10

No Detections.

Client Sample ID: VAP-42_10-14_121219

Lab Sample ID: 240-123868-11

No Detections.

Client Sample ID: VAP-42_5-9_121219

Lab Sample ID: 240-123868-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-41_19-23_121219

Lab Sample ID: 240-123868-13

No Detections.

Client Sample ID: VAP-41_14-18_121219

Lab Sample ID: 240-123868-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	19		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	17		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	35		1.0	0.31	ug/L	1		8260C	Total/NA
Vinyl chloride	0.39	J	1.0	0.17	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-41_9.5-13.5_121219

Lab Sample ID: 240-123868-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.65	J	1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	0.45	J	1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	88		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-41_5-9_121219

Lab Sample ID: 240-123868-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	16		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	3.7		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	89		1.0	0.31	ug/L	1		8260C	Total/NA
Vinyl chloride	0.54	J	1.0	0.17	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-43_19-23_121219

Lab Sample ID: 240-123868-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.31	J	1.0	0.22	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-43_14-18_121219

Lab Sample ID: 240-123868-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	26		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	27		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	310		1.0	0.31	ug/L	1		8260C	Total/NA
Vinyl chloride	0.37	J	1.0	0.17	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-43_9.5-13.5_121219

Lab Sample ID: 240-123868-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.6		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	3.2		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	280		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: VAP-43_5-9_121219

Lab Sample ID: 240-123868-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	22		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: DUP-02_121219

Lab Sample ID: 240-123868-21

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-123868-22

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-44_20-24_121219

Lab Sample ID: 240-123868-1

Date Collected: 12/12/19 08:35

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 21:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 21:55	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/18/19 21:55	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 21:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		74 - 132		12/18/19 21:55	1
Toluene-d8 (Surr)	102		80 - 120		12/18/19 21:55	1
Dibromofluoromethane (Surr)	100		72 - 131		12/18/19 21:55	1
4-Bromofluorobenzene	106		77 - 124		12/18/19 21:55	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-44_15-19_121219

Lab Sample ID: 240-123868-2

Date Collected: 12/12/19 09:02

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 22:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 22:13	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/18/19 22:13	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 22:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		74 - 132		12/18/19 22:13	1
Toluene-d8 (Surr)	101		80 - 120		12/18/19 22:13	1
Dibromofluoromethane (Surr)	100		72 - 131		12/18/19 22:13	1
4-Bromofluorobenzene	105		77 - 124		12/18/19 22:13	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-44_10-14_121219

Lab Sample ID: 240-123868-3

Date Collected: 12/12/19 09:24

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.74	J	1.0	0.22	ug/L			12/18/19 23:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 23:46	1
Trichloroethene	64		1.0	0.31	ug/L			12/18/19 23:46	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 23:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		12/18/19 23:46	1
Toluene-d8 (Surr)	101		80 - 120		12/18/19 23:46	1
Dibromofluoromethane (Surr)	99		72 - 131		12/18/19 23:46	1
4-Bromofluorobenzene	107		77 - 124		12/18/19 23:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-44_5-9_121219

Lab Sample ID: 240-123868-4

Date Collected: 12/12/19 09:41

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 22:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 22:50	1
Trichloroethene	4.7		1.0	0.31	ug/L			12/18/19 22:50	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 22:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		74 - 132		12/18/19 22:50	1
Toluene-d8 (Surr)	119		80 - 120		12/18/19 22:50	1
Dibromofluoromethane (Surr)	98		72 - 131		12/18/19 22:50	1
4-Bromofluorobenzene	105		77 - 124		12/18/19 22:50	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-45_20-24_121219

Lab Sample ID: 240-123868-5

Date Collected: 12/12/19 10:30

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 22:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 22:32	1
Trichloroethene	0.70	J	1.0	0.31	ug/L			12/18/19 22:32	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 22:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		74 - 132		12/18/19 22:32	1
Toluene-d8 (Surr)	100		80 - 120		12/18/19 22:32	1
Dibromofluoromethane (Surr)	115		72 - 131		12/18/19 22:32	1
4-Bromofluorobenzene	106		77 - 124		12/18/19 22:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-45_15-19_121219

Lab Sample ID: 240-123868-6

Date Collected: 12/12/19 10:51

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	14		2.0	0.44	ug/L			12/19/19 12:11	2
trans-1,2-Dichloroethene	16		2.0	0.47	ug/L			12/19/19 12:11	2
Trichloroethene	500		2.0	0.63	ug/L			12/19/19 12:11	2
Vinyl chloride	0.39	J	2.0	0.34	ug/L			12/19/19 12:11	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		74 - 132		12/19/19 12:11	2
Toluene-d8 (Surr)	103		80 - 120		12/19/19 12:11	2
Dibromofluoromethane (Surr)	97		72 - 131		12/19/19 12:11	2
4-Bromofluorobenzene	100		77 - 124		12/19/19 12:11	2

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-45_10-14_121219

Lab Sample ID: 240-123868-7

Date Collected: 12/12/19 11:12

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.49	J	1.0	0.22	ug/L			12/19/19 00:41	1
trans-1,2-Dichloroethene	0.49	J	1.0	0.24	ug/L			12/19/19 00:41	1
Trichloroethene	29		1.0	0.31	ug/L			12/19/19 00:41	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 00:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		12/19/19 00:41	1
Toluene-d8 (Surr)	103		80 - 120		12/19/19 00:41	1
Dibromofluoromethane (Surr)	98		72 - 131		12/19/19 00:41	1
4-Bromofluorobenzene	101		77 - 124		12/19/19 00:41	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-45_5-9_121219

Lab Sample ID: 240-123868-8

Date Collected: 12/12/19 11:32

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 01:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 01:00	1
Trichloroethene	3.4		1.0	0.31	ug/L			12/19/19 01:00	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 01:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		74 - 132		12/19/19 01:00	1
Toluene-d8 (Surr)	93		80 - 120		12/19/19 01:00	1
Dibromofluoromethane (Surr)	100		72 - 131		12/19/19 01:00	1
4-Bromofluorobenzene	97		77 - 124		12/19/19 01:00	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-42_20-24_121219

Lab Sample ID: 240-123868-9

Date Collected: 12/12/19 12:35

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 01:18	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 01:18	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/19/19 01:18	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 01:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		12/19/19 01:18	1
Toluene-d8 (Surr)	101		80 - 120		12/19/19 01:18	1
Dibromofluoromethane (Surr)	100		72 - 131		12/19/19 01:18	1
4-Bromofluorobenzene	106		77 - 124		12/19/19 01:18	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-42_15-19_121219

Lab Sample ID: 240-123868-10

Date Collected: 12/12/19 12:59

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 01:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 01:36	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/19/19 01:36	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 01:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		12/19/19 01:36	1
Toluene-d8 (Surr)	99		80 - 120		12/19/19 01:36	1
Dibromofluoromethane (Surr)	98		72 - 131		12/19/19 01:36	1
4-Bromofluorobenzene	106		77 - 124		12/19/19 01:36	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-42_10-14_121219

Lab Sample ID: 240-123868-11

Date Collected: 12/12/19 13:15

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 01:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 01:55	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/19/19 01:55	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 01:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		12/19/19 01:55	1
Toluene-d8 (Surr)	101		80 - 120		12/19/19 01:55	1
Dibromofluoromethane (Surr)	99		72 - 131		12/19/19 01:55	1
4-Bromofluorobenzene	107		77 - 124		12/19/19 01:55	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-42_5-9_121219

Lab Sample ID: 240-123868-12

Date Collected: 12/12/19 13:35

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 02:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 02:14	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/19/19 02:14	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 02:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		74 - 132		12/19/19 02:14	1
Toluene-d8 (Surr)	101		80 - 120		12/19/19 02:14	1
Dibromofluoromethane (Surr)	99		72 - 131		12/19/19 02:14	1
4-Bromofluorobenzene	106		77 - 124		12/19/19 02:14	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-41_19-23_121219

Lab Sample ID: 240-123868-13

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 02:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 02:32	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/19/19 02:32	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 02:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		12/19/19 02:32	1
Toluene-d8 (Surr)	101		80 - 120		12/19/19 02:32	1
Dibromofluoromethane (Surr)	99		72 - 131		12/19/19 02:32	1
4-Bromofluorobenzene	108		77 - 124		12/19/19 02:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-41_14-18_121219

Lab Sample ID: 240-123868-14

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	19		1.0	0.22	ug/L			12/19/19 02:51	1
trans-1,2-Dichloroethene	17		1.0	0.24	ug/L			12/19/19 02:51	1
Trichloroethene	35		1.0	0.31	ug/L			12/19/19 02:51	1
Vinyl chloride	0.39	J	1.0	0.17	ug/L			12/19/19 02:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		12/19/19 02:51	1
Toluene-d8 (Surr)	100		80 - 120		12/19/19 02:51	1
Dibromofluoromethane (Surr)	100		72 - 131		12/19/19 02:51	1
4-Bromofluorobenzene	105		77 - 124		12/19/19 02:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-41_9.5-13.5_121219

Lab Sample ID: 240-123868-15

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.65	J	1.0	0.22	ug/L			12/19/19 03:09	1
trans-1,2-Dichloroethene	0.45	J	1.0	0.24	ug/L			12/19/19 03:09	1
Trichloroethene	88		1.0	0.31	ug/L			12/19/19 03:09	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 03:09	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		12/19/19 03:09	1
Toluene-d8 (Surr)	100		80 - 120		12/19/19 03:09	1
Dibromofluoromethane (Surr)	99		72 - 131		12/19/19 03:09	1
4-Bromofluorobenzene	106		77 - 124		12/19/19 03:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-41_5-9_121219

Lab Sample ID: 240-123868-16

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	16		1.0	0.22	ug/L			12/19/19 03:28	1
trans-1,2-Dichloroethene	3.7		1.0	0.24	ug/L			12/19/19 03:28	1
Trichloroethene	89		1.0	0.31	ug/L			12/19/19 03:28	1
Vinyl chloride	0.54	J	1.0	0.17	ug/L			12/19/19 03:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		12/19/19 03:28	1
Toluene-d8 (Surr)	101		80 - 120		12/19/19 03:28	1
Dibromofluoromethane (Surr)	99		72 - 131		12/19/19 03:28	1
4-Bromofluorobenzene	105		77 - 124		12/19/19 03:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-43_19-23_121219

Lab Sample ID: 240-123868-17

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.31	J	1.0	0.22	ug/L			12/19/19 03:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 03:46	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/19/19 03:46	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 03:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		12/19/19 03:46	1
Toluene-d8 (Surr)	101		80 - 120		12/19/19 03:46	1
Dibromofluoromethane (Surr)	100		72 - 131		12/19/19 03:46	1
4-Bromofluorobenzene	106		77 - 124		12/19/19 03:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-43_14-18_121219

Lab Sample ID: 240-123868-18

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	26		1.0	0.22	ug/L			12/19/19 04:04	1
trans-1,2-Dichloroethene	27		1.0	0.24	ug/L			12/19/19 04:04	1
Trichloroethene	310		1.0	0.31	ug/L			12/19/19 04:04	1
Vinyl chloride	0.37	J	1.0	0.17	ug/L			12/19/19 04:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		74 - 132		12/19/19 04:04	1
Toluene-d8 (Surr)	99		80 - 120		12/19/19 04:04	1
Dibromofluoromethane (Surr)	99		72 - 131		12/19/19 04:04	1
4-Bromofluorobenzene	105		77 - 124		12/19/19 04:04	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-43_9.5-13.5_121219

Lab Sample ID: 240-123868-19

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	3.6		1.0	0.22	ug/L			12/19/19 04:23	1
trans-1,2-Dichloroethene	3.2		1.0	0.24	ug/L			12/19/19 04:23	1
Trichloroethene	280		1.0	0.31	ug/L			12/19/19 04:23	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 04:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		12/19/19 04:23	1
Toluene-d8 (Surr)	99		80 - 120		12/19/19 04:23	1
Dibromofluoromethane (Surr)	100		72 - 131		12/19/19 04:23	1
4-Bromofluorobenzene	108		77 - 124		12/19/19 04:23	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-43_5-9_121219

Lab Sample ID: 240-123868-20

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 04:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 04:41	1
Trichloroethene	22		1.0	0.31	ug/L			12/19/19 04:41	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 04:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/19/19 04:41	1
Toluene-d8 (Surr)	101		80 - 120		12/19/19 04:41	1
Dibromofluoromethane (Surr)	102		72 - 131		12/19/19 04:41	1
4-Bromofluorobenzene	106		77 - 124		12/19/19 04:41	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: DUP-02_121219

Lab Sample ID: 240-123868-21

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 11:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 11:48	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/19/19 11:48	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 11:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		74 - 132		12/19/19 11:48	1
Toluene-d8 (Surr)	103		80 - 120		12/19/19 11:48	1
Dibromofluoromethane (Surr)	98		72 - 131		12/19/19 11:48	1
4-Bromofluorobenzene	100		77 - 124		12/19/19 11:48	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-123868-22

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 10:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 10:42	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/19/19 10:42	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 10:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		74 - 132		12/19/19 10:42	1
Toluene-d8 (Surr)	104		80 - 120		12/19/19 10:42	1
Dibromofluoromethane (Surr)	98		72 - 131		12/19/19 10:42	1
4-Bromofluorobenzene	99		77 - 124		12/19/19 10:42	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (74-132)	TOL (80-120)	DBFM (72-131)	BFB (77-124)
240-123868-1	VAP-44_20-24_121219	94	102	100	106
240-123868-2	VAP-44_15-19_121219	94	101	100	105
240-123868-3	VAP-44_10-14_121219	96	101	99	107
240-123868-4	VAP-44_5-9_121219	94	119	98	105
240-123868-5	VAP-45_20-24_121219	94	100	115	106
240-123868-6	VAP-45_15-19_121219	99	103	97	100
240-123868-7	VAP-45_10-14_121219	95	103	98	101
240-123868-8	VAP-45_5-9_121219	94	93	100	97
240-123868-9	VAP-42_20-24_121219	95	101	100	106
240-123868-10	VAP-42_15-19_121219	95	99	98	106
240-123868-11	VAP-42_10-14_121219	96	101	99	107
240-123868-12	VAP-42_5-9_121219	94	101	99	106
240-123868-13	VAP-41_19-23_121219	96	101	99	108
240-123868-14	VAP-41_14-18_121219	95	100	100	105
240-123868-15	VAP-41_9.5-13.5_121219	95	100	99	106
240-123868-16	VAP-41_5-9_121219	96	101	99	105
240-123868-17	VAP-43_19-23_121219	95	101	100	106
240-123868-18	VAP-43_14-18_121219	94	99	99	105
240-123868-19	VAP-43_9.5-13.5_121219	95	99	100	108
240-123868-19 MS	VAP-43_9.5-13.5_121219	96	99	101	107
240-123868-19 MSD	VAP-43_9.5-13.5_121219	96	99	100	106
240-123868-20	VAP-43_5-9_121219	97	101	102	106
240-123868-21	DUP-02_121219	100	103	98	100
240-123868-22	TRIP BLANK	99	104	98	99
LCS 460-663408/5	Lab Control Sample	95	102	99	106
LCS 460-663531/4	Lab Control Sample	98	103	97	101
LCSD 460-663531/5	Lab Control Sample Dup	98	104	98	101
MB 460-663408/9	Method Blank	96	103	99	101
MB 460-663531/8	Method Blank	98	104	98	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 460-663408/9
Matrix: Water
Analysis Batch: 663408

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/18/19 21:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/18/19 21:36	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/18/19 21:36	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/18/19 21:36	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		12/18/19 21:36	1
Toluene-d8 (Surr)	103		80 - 120		12/18/19 21:36	1
Dibromofluoromethane (Surr)	99		72 - 131		12/18/19 21:36	1
4-Bromofluorobenzene	101		77 - 124		12/18/19 21:36	1

Lab Sample ID: LCS 460-663408/5
Matrix: Water
Analysis Batch: 663408

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
cis-1,2-Dichloroethene	20.0	22.0		ug/L		110	80 - 120
trans-1,2-Dichloroethene	20.0	22.5		ug/L		113	79 - 120
Trichloroethene	20.0	22.0		ug/L		110	77 - 120
Vinyl chloride	20.0	24.8		ug/L		124	62 - 138

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	95		74 - 132
Toluene-d8 (Surr)	102		80 - 120
Dibromofluoromethane (Surr)	99		72 - 131
4-Bromofluorobenzene	106		77 - 124

Lab Sample ID: 240-123868-19 MS
Matrix: Water
Analysis Batch: 663408

Client Sample ID: VAP-43_9.5-13.5_121219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
cis-1,2-Dichloroethene	3.6		20.0	23.9		ug/L		101	80 - 120
trans-1,2-Dichloroethene	3.2		20.0	23.8		ug/L		103	79 - 120
Trichloroethene	280		20.0	275	4	ug/L		-27	77 - 120
Vinyl chloride	1.0	U	20.0	24.1		ug/L		120	62 - 138

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		74 - 132
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	101		72 - 131
4-Bromofluorobenzene	107		77 - 124

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 240-123868-19 MSD
Matrix: Water
Analysis Batch: 663408

Client Sample ID: VAP-43_9.5-13.5_121219
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	3.6		20.0	22.6		ug/L		95	80 - 120	5	30
trans-1,2-Dichloroethene	3.2		20.0	22.1		ug/L		94	79 - 120	8	30
Trichloroethene	280		20.0	265	4	ug/L		-75	77 - 120	4	30
Vinyl chloride	1.0	U	20.0	22.7		ug/L		114	62 - 138	6	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		74 - 132
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	100		72 - 131
4-Bromofluorobenzene	106		77 - 124

Lab Sample ID: MB 460-663531/8
Matrix: Water
Analysis Batch: 663531

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/19/19 09:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/19/19 09:21	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/19/19 09:21	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/19/19 09:21	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		74 - 132		12/19/19 09:21	1
Toluene-d8 (Surr)	104		80 - 120		12/19/19 09:21	1
Dibromofluoromethane (Surr)	98		72 - 131		12/19/19 09:21	1
4-Bromofluorobenzene	100		77 - 124		12/19/19 09:21	1

Lab Sample ID: LCS 460-663531/4
Matrix: Water
Analysis Batch: 663531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	20.0	20.1		ug/L		101	80 - 120
trans-1,2-Dichloroethene	20.0	19.8		ug/L		99	79 - 120
Trichloroethene	20.0	18.4		ug/L		92	77 - 120
Vinyl chloride	20.0	20.9		ug/L		104	62 - 138

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		74 - 132
Toluene-d8 (Surr)	103		80 - 120
Dibromofluoromethane (Surr)	97		72 - 131
4-Bromofluorobenzene	101		77 - 124

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 460-663531/5
Matrix: Water
Analysis Batch: 663531

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	20.0	19.0		ug/L		95	80 - 120	6	30
trans-1,2-Dichloroethene	20.0	18.8		ug/L		94	79 - 120	5	30
Trichloroethene	20.0	17.3		ug/L		86	77 - 120	6	30
Vinyl chloride	20.0	19.4		ug/L		97	62 - 138	8	30

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	98		74 - 132
Toluene-d8 (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	98		72 - 131
4-Bromofluorobenzene	101		77 - 124



QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

GC/MS VOA

Analysis Batch: 663408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-123868-1	VAP-44_20-24_121219	Total/NA	Water	8260C	
240-123868-2	VAP-44_15-19_121219	Total/NA	Water	8260C	
240-123868-3	VAP-44_10-14_121219	Total/NA	Water	8260C	
240-123868-4	VAP-44_5-9_121219	Total/NA	Water	8260C	
240-123868-5	VAP-45_20-24_121219	Total/NA	Water	8260C	
240-123868-7	VAP-45_10-14_121219	Total/NA	Water	8260C	
240-123868-8	VAP-45_5-9_121219	Total/NA	Water	8260C	
240-123868-9	VAP-42_20-24_121219	Total/NA	Water	8260C	
240-123868-10	VAP-42_15-19_121219	Total/NA	Water	8260C	
240-123868-11	VAP-42_10-14_121219	Total/NA	Water	8260C	
240-123868-12	VAP-42_5-9_121219	Total/NA	Water	8260C	
240-123868-13	VAP-41_19-23_121219	Total/NA	Water	8260C	
240-123868-14	VAP-41_14-18_121219	Total/NA	Water	8260C	
240-123868-15	VAP-41_9.5-13.5_121219	Total/NA	Water	8260C	
240-123868-16	VAP-41_5-9_121219	Total/NA	Water	8260C	
240-123868-17	VAP-43_19-23_121219	Total/NA	Water	8260C	
240-123868-18	VAP-43_14-18_121219	Total/NA	Water	8260C	
240-123868-19	VAP-43_9.5-13.5_121219	Total/NA	Water	8260C	
240-123868-20	VAP-43_5-9_121219	Total/NA	Water	8260C	
MB 460-663408/9	Method Blank	Total/NA	Water	8260C	
LCS 460-663408/5	Lab Control Sample	Total/NA	Water	8260C	
240-123868-19 MS	VAP-43_9.5-13.5_121219	Total/NA	Water	8260C	
240-123868-19 MSD	VAP-43_9.5-13.5_121219	Total/NA	Water	8260C	

Analysis Batch: 663531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-123868-6	VAP-45_15-19_121219	Total/NA	Water	8260C	
240-123868-21	DUP-02_121219	Total/NA	Water	8260C	
240-123868-22	TRIP BLANK	Total/NA	Water	8260C	
MB 460-663531/8	Method Blank	Total/NA	Water	8260C	
LCS 460-663531/4	Lab Control Sample	Total/NA	Water	8260C	
LCS 460-663531/5	Lab Control Sample Dup	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-44_20-24_121219

Lab Sample ID: 240-123868-1

Date Collected: 12/12/19 08:35

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/18/19 21:55	VBP	TAL EDI

Client Sample ID: VAP-44_15-19_121219

Lab Sample ID: 240-123868-2

Date Collected: 12/12/19 09:02

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/18/19 22:13	VBP	TAL EDI

Client Sample ID: VAP-44_10-14_121219

Lab Sample ID: 240-123868-3

Date Collected: 12/12/19 09:24

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/18/19 23:46	VBP	TAL EDI

Client Sample ID: VAP-44_5-9_121219

Lab Sample ID: 240-123868-4

Date Collected: 12/12/19 09:41

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/18/19 22:50	VBP	TAL EDI

Client Sample ID: VAP-45_20-24_121219

Lab Sample ID: 240-123868-5

Date Collected: 12/12/19 10:30

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/18/19 22:32	VBP	TAL EDI

Client Sample ID: VAP-45_15-19_121219

Lab Sample ID: 240-123868-6

Date Collected: 12/12/19 10:51

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	663531	12/19/19 12:11	SZD	TAL EDI

Client Sample ID: VAP-45_10-14_121219

Lab Sample ID: 240-123868-7

Date Collected: 12/12/19 11:12

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 00:41	VBP	TAL EDI

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-45_5-9_121219

Lab Sample ID: 240-123868-8

Date Collected: 12/12/19 11:32

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 01:00	VBP	TAL EDI

Client Sample ID: VAP-42_20-24_121219

Lab Sample ID: 240-123868-9

Date Collected: 12/12/19 12:35

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 01:18	VBP	TAL EDI

Client Sample ID: VAP-42_15-19_121219

Lab Sample ID: 240-123868-10

Date Collected: 12/12/19 12:59

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 01:36	VBP	TAL EDI

Client Sample ID: VAP-42_10-14_121219

Lab Sample ID: 240-123868-11

Date Collected: 12/12/19 13:15

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 01:55	VBP	TAL EDI

Client Sample ID: VAP-42_5-9_121219

Lab Sample ID: 240-123868-12

Date Collected: 12/12/19 13:35

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 02:14	VBP	TAL EDI

Client Sample ID: VAP-41_19-23_121219

Lab Sample ID: 240-123868-13

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 02:32	VBP	TAL EDI

Client Sample ID: VAP-41_14-18_121219

Lab Sample ID: 240-123868-14

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 02:51	VBP	TAL EDI

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: VAP-41_9.5-13.5_121219

Lab Sample ID: 240-123868-15

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 03:09	VBP	TAL EDI

Client Sample ID: VAP-41_5-9_121219

Lab Sample ID: 240-123868-16

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 03:28	VBP	TAL EDI

Client Sample ID: VAP-43_19-23_121219

Lab Sample ID: 240-123868-17

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 03:46	VBP	TAL EDI

Client Sample ID: VAP-43_14-18_121219

Lab Sample ID: 240-123868-18

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 04:04	VBP	TAL EDI

Client Sample ID: VAP-43_9.5-13.5_121219

Lab Sample ID: 240-123868-19

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 04:23	VBP	TAL EDI

Client Sample ID: VAP-43_5-9_121219

Lab Sample ID: 240-123868-20

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663408	12/19/19 04:41	VBP	TAL EDI

Client Sample ID: DUP-02_121219

Lab Sample ID: 240-123868-21

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663531	12/19/19 11:48	SZD	TAL EDI

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-123868-22

Date Collected: 12/12/19 00:00

Matrix: Water

Date Received: 12/14/19 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	663531	12/19/19 10:42	SZD	TAL EDI

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-123868-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Laboratory: Eurofins TestAmerica, Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0200	09-30-20
DE Haz. Subst. Cleanup Act (HSCA)	State	<cert No.>	12-31-21
Georgia	State	12028 (NJ)	06-30-20
Massachusetts	State	M-NJ312	06-30-20
Massachusetts	State Program	M-NJ312	06-30-20
New Jersey	NELAP	12028	06-30-20
New York	NELAP	11452	04-01-20
Pennsylvania	NELAP	68-00522	02-28-20
Rhode Island	State	LAO00132	12-30-19
USDA	US Federal Programs	P330-18-00135	05-03-21

Regulatory Program: PAV NDES RCRA CERCLA

Project Manager: LINDSAY HUNTER
 Tel: 269-579-3482
 Email: lhunter@eurofins.com

Client Contact: ACADES INC. / 141 / 445713
 Address: 3850 CAMDEN AVE, STE 500
 City/State/Zip: NASHVILLE, TN 37217
 Phone: 615-579-5400
 Fax: _____

Project Name: F&O LFP
 Site: F&O LFP
 P.O. #: 3016342-0031C

Site Contact: WILCO DELAWARE
 Date: 12/17/2019
 Lab Contact: (For VC, TC, CS/AC, KC, WCHR, etc.)
 (For VC, TC, CS/AC, KC, WCHR, etc.)
 Perform MS/MSD Y/N

COC No: 1 of 2 COCs
 Sampler: _____
 For Lab Use Only:
 Walk-in Client: _____
 Lab Sampling: _____
 Job / SDG No.: _____
 Sample Specific Notes: _____

Sample Identification	Sample Date	Sample Time	Sample Type (Exempt, Grab)	Matrix	# of Cont.	Filtered Sample Y/N	Analysis Turnaround Time	Carrier
VAF-44-10-24-121219	12/24/19	8:35	G	GW	3	✓	WCHR-3828	TRANS-10-24-19
VAF-44-15-19-121219		9:02			3	✓		
VAF-44-16-19-121219		9:24			3	✓		
VAF-44-5-9-121219		9:41			3	✓		
VAF-45-20-24-121219		10:20			3	✓		
VAF-45-15-19-121219		10:51			3	✓		
VAF-45-10-19-121219		11:12			3	✓		
VAF-45-5-9-121219		11:32			3	✓		
VAF-42-20-24-121219		12:35			3	✓		
VAF-42-15-19-121219		12:59			3	✓		
VAF-42-10-14-121219		13:15			3	✓		
VAF-42-5-9-121219		13:35			3	✓		

Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other

Possible Hazard Identification: _____

Are any samples from a listed EPA Hazardous Waste? Please list any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Return to Client: Return to Lab: Archived for: _____ Months

Sample Disposal: (A fee may be assessed if samples are retained longer than 1 month)

240-123668 Chain of Custody

Special Instructions/OC Requirements & Comments:
 LEVEL III AND IV SAMPLES RE-ANALYZED

Cooler Temp. (C): _____ (C): _____

Received by: ACADES
 Date/Time: 12/19/2019 13:00

Received by: ACADES
 Date/Time: 12/19/2019 13:00

Received by: ACADES
 Date/Time: 12/19/2019 13:00

Company: ACADES
 Company: ACADES
 Company: ACADES

MICHIGAN 190

Chain of Custody Record

374062



Environment Testing
TestAmerica

Address:

Regulatory Program: DW NPDES RCRA Other:

TAL-8210

Client Contact		Project Manager: 1-415 HUNSKLEY		Site Contact:		Date: 12/12/19		COC No: 2 of 2 COCs	
Company Name: AECADIS OF MICHIGAN LLC		Tel/Email: 269-579-5402		Lab Contact: MIKE DELMONICO		Carrier:		Sampler:	
Address: 2850 CAMDEN DR, STE 502		City/State/Zip: Novi / MI / 48377		Analysis Turnaround Time		Perform MS / MSD (Y / N)		Walk-in Client:	
Phone: 269-579-5402		Fax:		CALENDAR DAYS		Filtered Sample (Y / N)		Lab Sampling:	
Project Name: FORD LTP		Site: FORD LTP		TAT if different from Below		Sample Type (C=Comp, G=Grab)		Job / SDG No.:	
PO # 30216342.0001C		Sample Identification		Sample Date		Sample Time		Sample Specific Notes:	
		Sample Date		Sample Time		Matrix			
		Sample Type (C=Comp, G=Grab)		# of Cont.					
VAP-41-19-23-121219		12/12/19		14:34		G		3	
VAP-41-14-18-121219		14:53		3		GW		3	
VAP-41-9-5-13-5-121219		15:11		3		GW		3	
VAP-41-5-9-121219		15:30		3		GW		3	
VAP-43-19-23-121219		16:15		3		GW		3	
VAP-43-14-18-121219		16:35		3		GW		3	
VAP-43-9-5-13-5-121219		16:54		9		GW		3	
VAP-43-5-9-121219		17:13		3		GW		3	
DUP-02-121219		12/12/19		-		G		3	
TRIP BLANK		-		-		-		2	

Preservation Used: 1= Ice, 2= HC, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:
LEVEL 11 AND 14 REPORTS REQUESTED.

Custody Seal No.: Yes No

Relinquished by: CATHY CISCO / Cathie Cisco
Relinquished by: M. Murphy / M. Murphy
Relinquished by:

Received by: NWI COLD STORAGE
Received by: M. Murphy / M. Murphy
Received in Laboratory by: M. Murphy / M. Murphy

Company: AECADIS
Company: AECADIS
Company: AECADIS

Date/Time: 12/12/19 13:00
Date/Time: 12/13/19 12:50
Date/Time: 12/14/19 12:00

Therm ID No: _____

Return to Client Disposal by Lab Archive for _____ Months

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

Duplicate: TRIP BLANK



Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 123868

Client: ART2055 Site Name: _____ Cooler unpacked by: [Signature]
 Cooler Received on: 12/14/19 Opened on: 12/14/19
 FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 12 Foam Box Client Cooler Box Other
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt: See Multiple Cooler Form
 IR GUN #IR-10 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
 13. Were VOAs on the COC? Yes No
 14. Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # covered Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: _____

18. SAMPLE CONDITION
 Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

Chain of Custody Record

Client Information (Sub Contract Lab)		Lab Pk#	DelMonico, Michael	Carrier Tracking No(s)	COC No: 240-115372.2
Company: TestAmerica Laboratories, Inc.		E-Mail:	michael.delmonico@testamericainc.com	State of Origin:	Michigan
Address: 777 New Durham Road, Edison, NJ, 08817		Phone:	732-549-3679 (Tel) 732-549-3679 (Fax)	Page:	Page 2 of 3
City:		PO #:		Job #:	240-123868-1
State, Zip:		WO #:		Preservation Codes:	A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:
Phone:		Project #:	24015353	Analysis Requested:	M - Hexane N - None O - AshNaO2 P - Na2CO4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)
Email:		SSOW#:		Special Instructions/Note:	
Project Name:		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix (Water, Soak, Churn, etc.)
Site:		12/12/19	12:59 Eastern	Water	Water
VAP-42_15-19_121219 (240-123868-10)		12/12/19	13:15 Eastern	Water	Water
VAP-42_10-14_121219 (240-123868-11)		12/12/19	13:35 Eastern	Water	Water
VAP-42_5-9_121219 (240-123868-12)		12/12/19	Eastern	Water	Water
VAP-41_19-23_121219 (240-123868-13)		12/12/19	Eastern	Water	Water
VAP-41_14-18_121219 (240-123868-14)		12/12/19	Eastern	Water	Water
VAP-41_9.5-13.5_121219 (240-123868-15)		12/12/19	Eastern	Water	Water
VAP-41_5-9_121219 (240-123868-16)		12/12/19	Eastern	Water	Water
VAP-43_19-23_121219 (240-123868-17)		12/12/19	Eastern	Water	Water
VAP-43_14-18_121219 (240-123868-18)		12/12/19	Eastern	Water	Water
Total Number of Containers		3			

Note: Since laboratory accreditations are subject to change, TestAmerica Laboratories, Inc. places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody.

Possible Hazard Identification
 Unconfirmed
 Deliverable Requested: I, II, III, IV, Other (specify) _____

Primary Deliverable Rank: 2

Empty Kit Relinquished by: _____ Date: _____

Relinquished by: *[Signature]* Date: 12-16-19 1400 Company: 240 Company

Relinquished by: *[Signature]* Date: 12/19/19 16:30 Company: *[Signature]* Company

Relinquished by: _____ Date/Time: _____ Company: _____

Custody Seals Intact: *[Signature]* Custody Seal No.: *[Signature]*
 Yes No

Chain of Custody Record

Client Information (Sub Contract Lab)		Lab Pak: DelMonico, Michael		Carrier Tracking No(s): 240-115372.3	
Client Contact: Shipping/Receiving		E-Mail: michael.delmonico@testamerica.com		State of Origin: Michigan	
Company: TestAmerica Laboratories, Inc.		Address: 777 New Durham Road		City: Edison	
Address: 777 New Durham Road		State, Zip: NJ, 08817		Phone: 732-549-3800(Tel) 732-549-3679(Fax)	
Project Name: Ford LTP Livonia MI - E203631		Project #: 24013353		Site:	
Due Date Requested: 12/18/2019		TAT Requested (days):		ROF:	
WO #:		Project #:		SSOW#:	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, D=Dust, A=Air, L=Liquor, O=Other)
VAP-43_9.5-13.5_121219 (240-123868-19)	12/12/19	Eastern	Water	MS	Water
VAP-43_9.5-13.5_121219 (240-123868-19MS)	12/12/19	Eastern	Water	MSD	Water
VAP-43_9.5-13.5_121219 (240-123868-19MSD)	12/12/19	Eastern	Water		Water
VAP-43_5-9_121219 (240-123868-20)	12/12/19	Eastern	Water		Water
DUP-02_121219 (240-123868-21)	12/12/19	Eastern	Water		Water
TRIP BLANK (240-123868-22)	12/12/19	Eastern	Water		Water
Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)	
X		X		X	
8260C/5030C (MOB) VOCs (Short List)		X		X	
Total Number of Containers		9		1	
Special Instructions/Note:		Special Instructions/Note:		Special Instructions/Note:	
Preservation Codes:		A - HCL		M - Hexane	
B - NaOH		N - None		O - Acetone	
C - Zn Acetate		P - Na2CO3		R - Na2S2O3	
D - Nitric Acid		S - H2SO4		T - TSP Dodecahydrate	
E - NaHSO4		U - Acetone		V - MCAA	
F - MeOH		W - pH 4-5		Z - other (specify)	
G - Amchlor		Other:			
H - Ascorbic Acid					
I - Ice					
J - DI Water					
K - EDTA					
L - EDA					
Job #: 240-123868-1		COC No: 240-115372.3		Page: Page 3 of 3	
Accreditations Required (See note):		Analysis Requested		Special Instructions/Note:	
Sampler: DelMonico, Michael		Lab Pak: DelMonico, Michael		Carrier Tracking No(s): 240-115372.3	
Phone: michael.delmonico@testamerica.com		E-Mail: michael.delmonico@testamerica.com		State of Origin: Michigan	
Due Date Requested: 12/18/2019		TAT Requested (days):		ROF:	
WO #:		Project #:		SSOW#:	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, D=Dust, A=Air, L=Liquor, O=Other)
VAP-43_9.5-13.5_121219 (240-123868-19)	12/12/19	Eastern	Water	MS	Water
VAP-43_9.5-13.5_121219 (240-123868-19MS)	12/12/19	Eastern	Water	MSD	Water
VAP-43_9.5-13.5_121219 (240-123868-19MSD)	12/12/19	Eastern	Water		Water
VAP-43_5-9_121219 (240-123868-20)	12/12/19	Eastern	Water		Water
DUP-02_121219 (240-123868-21)	12/12/19	Eastern	Water		Water
TRIP BLANK (240-123868-22)	12/12/19	Eastern	Water		Water
Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)	
X		X		X	
8260C/5030C (MOB) VOCs (Short List)		X		X	
Total Number of Containers		9		1	
Special Instructions/Note:		Special Instructions/Note:		Special Instructions/Note:	
Preservation Codes:		A - HCL		M - Hexane	
B - NaOH		N - None		O - Acetone	
C - Zn Acetate		P - Na2CO3		R - Na2S2O3	
D - Nitric Acid		S - H2SO4		T - TSP Dodecahydrate	
E - NaHSO4		U - Acetone		V - MCAA	
F - MeOH		W - pH 4-5		Z - other (specify)	
G - Amchlor		Other:			
H - Ascorbic Acid					
I - Ice					
J - DI Water					
K - EDTA					
L - EDA					
Job #: 240-123868-1		COC No: 240-115372.3		Page: Page 3 of 3	
Accreditations Required (See note):		Analysis Requested		Special Instructions/Note:	
Sampler: DelMonico, Michael		Lab Pak: DelMonico, Michael		Carrier Tracking No(s): 240-115372.3	
Phone: michael.delmonico@testamerica.com		E-Mail: michael.delmonico@testamerica.com		State of Origin: Michigan	
Due Date Requested: 12/18/2019		TAT Requested (days):		ROF:	
WO #:		Project #:		SSOW#:	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, D=Dust, A=Air, L=Liquor, O=Other)
VAP-43_9.5-13.5_121219 (240-123868-19)	12/12/19	Eastern	Water	MS	Water
VAP-43_9.5-13.5_121219 (240-123868-19MS)	12/12/19	Eastern	Water	MSD	Water
VAP-43_9.5-13.5_121219 (240-123868-19MSD)	12/12/19	Eastern	Water		Water
VAP-43_5-9_121219 (240-123868-20)	12/12/19	Eastern	Water		Water
DUP-02_121219 (240-123868-21)	12/12/19	Eastern	Water		Water
TRIP BLANK (240-123868-22)	12/12/19	Eastern	Water		Water
Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)	
X		X		X	
8260C/5030C (MOB) VOCs (Short List)		X		X	
Total Number of Containers		9		1	
Special Instructions/Note:		Special Instructions/Note:		Special Instructions/Note:	
Preservation Codes:		A - HCL		M - Hexane	
B - NaOH		N - None		O - Acetone	
C - Zn Acetate		P - Na2CO3		R - Na2S2O3	
D - Nitric Acid		S - H2SO4		T - TSP Dodecahydrate	
E - NaHSO4		U - Acetone		V - MCAA	
F - MeOH		W - pH 4-5		Z - other (specify)	
G - Amchlor		Other:			
H - Ascorbic Acid					
I - Ice					
J - DI Water					
K - EDTA					
L - EDA					
Job #: 240-123868-1		COC No: 240-115372.3		Page: Page 3 of 3	
Accreditations Required (See note):		Analysis Requested		Special Instructions/Note:	
Sampler: DelMonico, Michael		Lab Pak: DelMonico, Michael		Carrier Tracking No(s): 240-115372.3	
Phone: michael.delmonico@testamerica.com		E-Mail: michael.delmonico@testamerica.com		State of Origin: Michigan	
Due Date Requested: 12/18/2019		TAT Requested (days):		ROF:	
WO #:		Project #:		SSOW#:	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, D=Dust, A=Air, L=Liquor, O=Other)
VAP-43_9.5-13.5_121219 (240-123868-19)	12/12/19	Eastern	Water	MS	Water
VAP-43_9.5-13.5_121219 (240-123868-19MS)	12/12/19	Eastern	Water	MSD	Water
VAP-43_9.5-13.5_121219 (240-123868-19MSD)	12/12/19	Eastern	Water		Water
VAP-43_5-9_121219 (240-123868-20)	12/12/19	Eastern	Water		Water
DUP-02_121219 (240-123868-21)	12/12/19	Eastern	Water		Water
TRIP BLANK (240-123868-22)	12/12/19	Eastern	Water		Water
Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)	
X		X		X	
8260C/5030C (MOB) VOCs (Short List)		X		X	
Total Number of Containers		9		1	
Special Instructions/Note:		Special Instructions/Note:		Special Instructions/Note:	
Preservation Codes:		A - HCL		M - Hexane	
B - NaOH		N - None		O - Acetone	
C - Zn Acetate		P - Na2CO3		R - Na2S2O3	
D - Nitric Acid		S - H2SO4		T - TSP Dodecahydrate	
E - NaHSO4		U - Acetone		V - MCAA	
F - MeOH		W - pH 4-5		Z - other (specify)	
G - Amchlor		Other:			
H - Ascorbic Acid					
I - Ice					
J - DI Water					
K - EDTA					
L - EDA					
Job #: 240-123868-1		COC No: 240-115372.3		Page: Page 3 of 3	
Accreditations Required (See note):		Analysis Requested		Special Instructions/Note:	
Sampler: DelMonico, Michael		Lab Pak: DelMonico, Michael		Carrier Tracking No(s): 240-115372.3	
Phone: michael.delmonico@testamerica.com		E-Mail: michael.delmonico@testamerica.com		State of Origin: Michigan	
Due Date Requested: 12/18/2019		TAT Requested (days):		ROF:	
WO #:		Project #:		SSOW#:	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, D=Dust, A=Air, L=Liquor, O=Other)
VAP-43_9.5-13.5_121219 (240-123868-19)	12/12/19	Eastern	Water	MS	Water
VAP-43_9.5-13.5_121219 (240-123868-19MS)	12/12/19	Eastern	Water	MSD	Water
VAP-43_9.5-13.5_121219 (240-123868-19MSD)	12/12/19	Eastern	Water		Water
VAP-43_5-9_121219 (240-123868-20)	12/12/19	Eastern	Water		Water
DUP-02_121219 (240-123868-21)	12/12/19	Eastern	Water		Water
TRIP BLANK (240-123868-22)	12/12/19	Eastern	Water		Water
Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)	
X		X		X	
8260C/5030C (MOB) VOCs (Short List)		X		X	
Total Number of Containers		9		1	
Special Instructions/Note:		Special Instructions/Note:		Special Instructions/Note:	
Preservation Codes:		A - HCL		M - Hexane	
B - NaOH		N - None		O - Acetone	
C - Zn Acetate		P - Na2CO3		R - Na2S2O3	
D - Nitric Acid		S - H2SO4		T - TSP Dodecahydrate	
E - NaHSO4		U - Acetone		V - MCAA	
F - MeOH		W - pH 4-5		Z - other (specify)	
G - Amchlor		Other:			
H - Ascorbic Acid					
I - Ice					
J - DI Water					
K - EDTA					
L - EDA					
Job #: 240-123868-1		COC No: 240-115372.3		Page: Page 3 of 3	
Accreditations Required (See note):		Analysis Requested		Special Instructions/Note:	
Sampler: DelMonico, Michael		Lab Pak: DelMonico, Michael		Carrier Tracking No(s): 240-115372.3	
Phone: michael.delmonico@testamerica.com		E-Mail: michael.delmonico@testamerica.com		State of Origin: Michigan	
Due Date Requested: 12/18/2019		TAT Requested (days):		ROF:	
WO #:		Project #:		SSOW#:	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, D=Dust, A=Air, L=Liquor, O=Other)
VAP-43_9.5-13.5_121219 (240-123868-19)	12/12/19	Eastern	Water	MS	Water
VAP-43_9.5-13.5_121219 (240-123868-19MS)	12/12/19	Eastern	Water	MSD	Water
VAP-43_9.5-13.5_121219 (240-123868-19MSD)	12/12/19	Eastern	Water		Water
VAP-43_5-9_121219 (240-123868-20)	12/12/19	Eastern	Water		Water
DUP-02_121219 (240-123868-21)	12/12/19	Eastern	Water		Water
TRIP BLANK (240-123868-22)	12/12/19	Eastern	Water		Water
Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)	
X		X		X	
8260C/5030C (MOB) VOCs (Short List)		X		X	
Total Number of Containers		9		1	
Special Instructions/Note:		Special Instructions/Note:		Special Instructions/Note:	
Preservation Codes:		A - HCL		M - Hexane	
B - NaOH		N - None		O - Acetone	
C - Zn Acetate		P - Na2CO3		R - Na2S2O3	
D - Nitric Acid		S - H2SO4		T - TSP Dodecahydrate	
E - NaHSO4		U - Acetone		V - MCAA	
F - MeOH		W - pH 4-5		Z - other (specify)	
G - Amchlor		Other:			
H - Ascorbic Acid					
I - Ice					
J - DI Water					
K - EDTA					
L - EDA					
Job #: 240-123868-1		COC No: 240-115372.3		Page: Page 3 of 3	
Accreditations Required (See note):		Analysis Requested		Special Instructions/Note:	
Sampler: DelMonico, Michael		Lab Pak: DelMonico, Michael		Carrier Tracking No(s): 240-115372.3	
Phone: michael.delmonico@testamerica.com		E-Mail: michael.delmonico@testamerica.com		State of Origin: Michigan	
Due Date Requested: 12/18/2019		TAT Requested (days):		ROF:	
WO #:		Project #:		SSOW#:	
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, D=Dust, A=Air, L=Liquor, O=Other)
VAP-43_9.5-13.5_121219 (240-123868-19)	12/12/19	Eastern	Water	MS	Water
VAP-43_9.5-13.5_121219 (240-123868-19MS)	12/12/19	Eastern	Water	MSD	Water
VAP-43_9.5-13.5_121219 (240-123868-19MSD)	12/12/19	Eastern	Water		Water
VAP-43_5-9_121219 (240-123868-20)	12/12/19	Eastern	Water		Water
DUP-02_121219 (240-123868-21)	12/12/19	Eastern	Water		Water
TRIP BLANK (240-123868-22)	12/12/19	Eastern	Water		Water
Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)		Field Filtered Sample (Yes or No)	
X		X		X	
8260C/5030C (MOB) VOCs (Short List)		X		X	
Total Number of Containers		9		1	
Special Instructions/Note:		Special Instructions/Note:		Special Instructions/Note:	
Preservation Codes:		A - HCL		M - Hexane	
B - NaOH		N - None		O - Acetone	
C - Zn Acetate		P - Na2CO3		R - Na2S2O3	
D - Nitric Acid		S - H2SO4		T - TSP Dodecahydrate	
E - NaHSO4		U - Acetone		V - MCAA	
F - MeOH		W - pH 4-5		Z - other (specify)	
G - Amchlor					

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 240-123868-1

Login Number: 123868

List Number: 2

Creator: Armbruster, Chris

List Source: Eurofins TestAmerica, Edison

List Creation: 12/18/19 12:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.9/1.2°C IR11
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



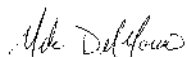
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110825-1
Client Project/Site: Ford LTP Livonia MI - E203728

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/25/2019 12:08:20 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Job ID: 240-110825-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-110825-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/11/2019 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.6° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-219_15-19_040919 (240-110825-1), HPT-219_9-13_040919 (240-110825-2), HPT-219_4.5-8.5_040919 (240-110825-3) and TRIP BLANK (240-110825-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/18/2019 and 04/19/2019.

Samples HPT-219_9-13_040919 (240-110825-2)[66.67X] and HPT-219_4.5-8.5_040919 (240-110825-3)[33.33X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No MS/MSD in batch 377101 due to an incorrect dilution: HPT-219_15-19_040919 (240-110825-1), HPT-219_4.5-8.5_040919 (240-110825-3) and TRIP BLANK (240-110825-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-219_15-19_040919 (240-110825-1), HPT-219_9-13_040919 (240-110825-2) and HPT-219_4.5-8.5_040919 (240-110825-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Job ID: 240-110825-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

samples were analyzed on 04/12/2019.

Samples HPT-219_9-13_040919 (240-110825-2)[10X] and HPT-219_4.5-8.5_040919 (240-110825-3)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110825-1	HPT-219_15-19_040919	Water	04/09/19 13:15	04/11/19 08:30
240-110825-2	HPT-219_9-13_040919	Water	04/09/19 13:30	04/11/19 08:30
240-110825-3	HPT-219_4.5-8.5_040919	Water	04/09/19 13:45	04/11/19 08:30
240-110825-4	TRIP BLANK	Water	04/09/19 00:00	04/11/19 08:30

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- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Client Sample ID: HPT-219_15-19_040919

Lab Sample ID: 240-110825-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.89	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	1.8		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.4		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	0.77	J	1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	0.20	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-219_9-13_040919

Lab Sample ID: 240-110825-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	110		67	11	ug/L	66.67		8260B	Total/NA
trans-1,2-Dichloroethene	210		67	13	ug/L	66.67		8260B	Total/NA
Trichloroethene	2000		67	6.7	ug/L	66.67		8260B	Total/NA

Client Sample ID: HPT-219_4.5-8.5_040919

Lab Sample ID: 240-110825-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	16	J	33	5.3	ug/L	33.33		8260B	Total/NA
trans-1,2-Dichloroethene	31	J	33	6.3	ug/L	33.33		8260B	Total/NA
Trichloroethene	730		33	3.3	ug/L	33.33		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110825-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.63	J	1.0	0.10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Client Sample ID: HPT-219_15-19_040919

Lab Sample ID: 240-110825-1

Date Collected: 04/09/19 13:15

Matrix: Water

Date Received: 04/11/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.89	J	2.0	0.86	ug/L			04/12/19 12:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		63 - 125					04/12/19 12:39	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/18/19 12:14	1
cis-1,2-Dichloroethene	1.8		1.0	0.16	ug/L			04/18/19 12:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/18/19 12:14	1
trans-1,2-Dichloroethene	3.4		1.0	0.19	ug/L			04/18/19 12:14	1
Trichloroethene	0.77	J	1.0	0.10	ug/L			04/18/19 12:14	1
Vinyl chloride	0.20	J	1.0	0.20	ug/L			04/18/19 12:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 121					04/18/19 12:14	1
4-Bromofluorobenzene (Surr)	101		59 - 120					04/18/19 12:14	1
Toluene-d8 (Surr)	112		70 - 123					04/18/19 12:14	1
Dibromofluoromethane (Surr)	103		75 - 128					04/18/19 12:14	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Client Sample ID: HPT-219_9-13_040919

Lab Sample ID: 240-110825-2

Date Collected: 04/09/19 13:30

Matrix: Water

Date Received: 04/11/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	20	U	20	8.6	ug/L			04/12/19 15:39	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 125		04/12/19 15:39	10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	67	U	67	13	ug/L			04/19/19 13:11	66.67
cis-1,2-Dichloroethene	110		67	11	ug/L			04/19/19 13:11	66.67
Tetrachloroethene	67	U	67	10	ug/L			04/19/19 13:11	66.67
trans-1,2-Dichloroethene	210		67	13	ug/L			04/19/19 13:11	66.67
Trichloroethene	2000		67	6.7	ug/L			04/19/19 13:11	66.67
Vinyl chloride	67	U	67	13	ug/L			04/19/19 13:11	66.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 121		04/19/19 13:11	66.67
4-Bromofluorobenzene (Surr)	98		59 - 120		04/19/19 13:11	66.67
Toluene-d8 (Surr)	115		70 - 123		04/19/19 13:11	66.67
Dibromofluoromethane (Surr)	103		75 - 128		04/19/19 13:11	66.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Client Sample ID: HPT-219_4.5-8.5_040919

Lab Sample ID: 240-110825-3

Date Collected: 04/09/19 13:45

Matrix: Water

Date Received: 04/11/19 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	20	U	20	8.6	ug/L	-		04/12/19 16:04	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/12/19 16:04	10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	33	U	33	6.3	ug/L	-		04/18/19 12:58	33.33
cis-1,2-Dichloroethene	16	J	33	5.3	ug/L			04/18/19 12:58	33.33
Tetrachloroethene	33	U	33	5.0	ug/L			04/18/19 12:58	33.33
trans-1,2-Dichloroethene	31	J	33	6.3	ug/L			04/18/19 12:58	33.33
Trichloroethene	730		33	3.3	ug/L			04/18/19 12:58	33.33
Vinyl chloride	33	U	33	6.7	ug/L			04/18/19 12:58	33.33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 121		04/18/19 12:58	33.33
4-Bromofluorobenzene (Surr)	97		59 - 120		04/18/19 12:58	33.33
Toluene-d8 (Surr)	111		70 - 123		04/18/19 12:58	33.33
Dibromofluoromethane (Surr)	103		75 - 128		04/18/19 12:58	33.33

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110825-4

Date Collected: 04/09/19 00:00

Matrix: Water

Date Received: 04/11/19 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/18/19 13:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/18/19 13:20	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/18/19 13:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/18/19 13:20	1
Trichloroethene	0.63	J	1.0	0.10	ug/L			04/18/19 13:20	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/18/19 13:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 121		04/18/19 13:20	1
4-Bromofluorobenzene (Surr)	98		59 - 120		04/18/19 13:20	1
Toluene-d8 (Surr)	114		70 - 123		04/18/19 13:20	1
Dibromofluoromethane (Surr)	107		75 - 128		04/18/19 13:20	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110825-1	HPT-219_15-19_040919	94	101	112	103
240-110825-2	HPT-219_9-13_040919	94	98	115	103
240-110825-2 MS	HPT-219_9-13_040919	89	111	116	99
240-110825-2 MSD	HPT-219_9-13_040919	89	109	115	100
240-110825-3	HPT-219_4.5-8.5_040919	91	97	111	103
240-110825-4	TRIP BLANK	96	98	114	107
LCS 240-377101/4	Lab Control Sample	87	111	117	97
LCS 240-377342/4	Lab Control Sample	90	107	115	96
MB 240-377101/6	Method Blank	93	98	109	100
MB 240-377342/6	Method Blank	95	98	108	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-110825-1	HPT-219_15-19_040919	98
240-110825-2	HPT-219_9-13_040919	109
240-110825-3	HPT-219_4.5-8.5_040919	106
240-110825-3 MS	HPT-219_4.5-8.5_040919	107
240-110825-3 MSD	HPT-219_4.5-8.5_040919	105
LCS 240-376210/4	Lab Control Sample	100
MB 240-376210/5	Method Blank	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-377101/6
Matrix: Water
Analysis Batch: 377101

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/18/19 09:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/18/19 09:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/18/19 09:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/18/19 09:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/18/19 09:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/18/19 09:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 121		04/18/19 09:16	1
4-Bromofluorobenzene (Surr)	98		59 - 120		04/18/19 09:16	1
Toluene-d8 (Surr)	109		70 - 123		04/18/19 09:16	1
Dibromofluoromethane (Surr)	100		75 - 128		04/18/19 09:16	1

Lab Sample ID: LCS 240-377101/4
Matrix: Water
Analysis Batch: 377101

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.70		ug/L		97	65 - 139
cis-1,2-Dichloroethene	10.0	9.62		ug/L		96	76 - 128
Tetrachloroethene	10.0	8.68		ug/L		87	74 - 130
trans-1,2-Dichloroethene	10.0	9.22		ug/L		92	78 - 133
Trichloroethene	10.0	8.67		ug/L		87	76 - 125
Vinyl chloride	10.0	9.94		ug/L		99	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		70 - 121
4-Bromofluorobenzene (Surr)	111		59 - 120
Toluene-d8 (Surr)	117		70 - 123
Dibromofluoromethane (Surr)	97		75 - 128

Lab Sample ID: MB 240-377342/6
Matrix: Water
Analysis Batch: 377342

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 11:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/19/19 11:35	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/19/19 11:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 11:35	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/19/19 11:35	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/19/19 11:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 121		04/19/19 11:35	1
4-Bromofluorobenzene (Surr)	98		59 - 120		04/19/19 11:35	1
Toluene-d8 (Surr)	108		70 - 123		04/19/19 11:35	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-377342/6
Matrix: Water
Analysis Batch: 377342

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)		102		75 - 128		04/19/19 11:35	1

Lab Sample ID: LCS 240-377342/4
Matrix: Water
Analysis Batch: 377342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.2		ug/L		102	65 - 139
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	76 - 128
Tetrachloroethene	10.0	9.10		ug/L		91	74 - 130
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	78 - 133
Trichloroethene	10.0	9.39		ug/L		94	76 - 125
Vinyl chloride	10.0	10.1		ug/L		101	58 - 143

Surrogate	LCS LCS	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)		90		70 - 121
4-Bromofluorobenzene (Surr)		107		59 - 120
Toluene-d8 (Surr)		115		70 - 123
Dibromofluoromethane (Surr)		96		75 - 128

Lab Sample ID: 240-110825-2 MS
Matrix: Water
Analysis Batch: 377342

Client Sample ID: HPT-219_9-13_040919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	67	U	667	588		ug/L		88	53 - 140
cis-1,2-Dichloroethene	110		667	743		ug/L		95	64 - 130
Tetrachloroethene	67	U	667	531		ug/L		80	51 - 136
trans-1,2-Dichloroethene	210		667	832		ug/L		93	68 - 133
Trichloroethene	2000		667	2430		ug/L		68	55 - 131
Vinyl chloride	67	U	667	557		ug/L		83	43 - 154

Surrogate	MS MS	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)		89		70 - 121
4-Bromofluorobenzene (Surr)		111		59 - 120
Toluene-d8 (Surr)		116		70 - 123
Dibromofluoromethane (Surr)		99		75 - 128

Lab Sample ID: 240-110825-2 MSD
Matrix: Water
Analysis Batch: 377342

Client Sample ID: HPT-219_9-13_040919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	67	U	667	681		ug/L		102	53 - 140	15	35
cis-1,2-Dichloroethene	110		667	753		ug/L		96	64 - 130	1	21
Tetrachloroethene	67	U	667	606		ug/L		91	51 - 136	13	23
trans-1,2-Dichloroethene	210		667	858		ug/L		96	68 - 133	3	24
Trichloroethene	2000		667	2410		ug/L		66	55 - 131	1	23

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110825-2 MSD
Matrix: Water
Analysis Batch: 377342

Client Sample ID: HPT-219_9-13_040919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	67	U	667	618		ug/L		93	43 - 154	10	29
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	89		70 - 121								
4-Bromofluorobenzene (Surr)	109		59 - 120								
Toluene-d8 (Surr)	115		70 - 123								
Dibromofluoromethane (Surr)	100		75 - 128								

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376210/5
Matrix: Water
Analysis Batch: 376210

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/12/19 11:48	1
Surrogate	MB %Recovery	MB Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	102		63 - 125						
							Prepared	Analyzed	Dil Fac
								04/12/19 11:48	1

Lab Sample ID: LCS 240-376210/4
Matrix: Water
Analysis Batch: 376210

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.9		ug/L		109	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	100		63 - 125				

Lab Sample ID: 240-110825-3 MS
Matrix: Water
Analysis Batch: 376210

Client Sample ID: HPT-219_4.5-8.5_040919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	20	U	100	94.8		ug/L		95	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	107		63 - 125						

Lab Sample ID: 240-110825-3 MSD
Matrix: Water
Analysis Batch: 376210

Client Sample ID: HPT-219_4.5-8.5_040919
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	20	U	100	91.8		ug/L		92	52 - 129	3	13

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110825-3 MSD

Matrix: Water

Analysis Batch: 376210

Client Sample ID: HPT-219_4.5-8.5_040919

Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	105		63 - 125

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

GC/MS VOA

Analysis Batch: 376210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110825-1	HPT-219_15-19_040919	Total/NA	Water	8260B SIM	
240-110825-2	HPT-219_9-13_040919	Total/NA	Water	8260B SIM	
240-110825-3	HPT-219_4.5-8.5_040919	Total/NA	Water	8260B SIM	
MB 240-376210/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376210/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110825-3 MS	HPT-219_4.5-8.5_040919	Total/NA	Water	8260B SIM	
240-110825-3 MSD	HPT-219_4.5-8.5_040919	Total/NA	Water	8260B SIM	

Analysis Batch: 377101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110825-1	HPT-219_15-19_040919	Total/NA	Water	8260B	
240-110825-3	HPT-219_4.5-8.5_040919	Total/NA	Water	8260B	
240-110825-4	TRIP BLANK	Total/NA	Water	8260B	
MB 240-377101/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377101/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 377342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110825-2	HPT-219_9-13_040919	Total/NA	Water	8260B	
MB 240-377342/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377342/4	Lab Control Sample	Total/NA	Water	8260B	
240-110825-2 MS	HPT-219_9-13_040919	Total/NA	Water	8260B	
240-110825-2 MSD	HPT-219_9-13_040919	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Client Sample ID: HPT-219_15-19_040919

Lab Sample ID: 240-110825-1

Date Collected: 04/09/19 13:15

Matrix: Water

Date Received: 04/11/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377101	04/18/19 12:14	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376210	04/12/19 12:39	SAM	TAL CAN

Client Sample ID: HPT-219_9-13_040919

Lab Sample ID: 240-110825-2

Date Collected: 04/09/19 13:30

Matrix: Water

Date Received: 04/11/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		66.67	377342	04/19/19 13:11	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		10	376210	04/12/19 15:39	SAM	TAL CAN

Client Sample ID: HPT-219_4.5-8.5_040919

Lab Sample ID: 240-110825-3

Date Collected: 04/09/19 13:45

Matrix: Water

Date Received: 04/11/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		33.33	377101	04/18/19 12:58	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		10	376210	04/12/19 16:04	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110825-4

Date Collected: 04/09/19 00:00

Matrix: Water

Date Received: 04/11/19 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377101	04/18/19 13:20	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110825-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Client Information Company: ARCADIS U.S. Inc. Address: 28550 Cabot Drive Suite 500 City: Novi State, Zip: MI, 48377 Phone: Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site:		Center Tracking Info: Lab PM: DelMonico, Michael Email: michael.delmonico@testamerica.com Phone: (999) 619-5009		COC No: 240-59392-2634111 Page: 1 of 36 Job #						
Analysis Requested Due Date Requested: TAT Requested (days): 14 PO #: MI001318.0002.00002 WOC #: E203631 Project #: E203631 SSON#:		Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - AsMSO2 E - NiMSO4 F - NiMSO3 G - NiMSO3 H - NiMSO3 I - Ascorbic Acid J - DI Water K - EDTA L - EDTA Other:								
Sample Identification Sample ID: HPT-219-15-19-010919 HPT-219-13-13-010919 HPT-219-15-8.5-010919 TOP Blank		Sample Date 4/9/19 4/9/19 4/9/19	Sample Time 1315 1330 1345	Sample Type (C=Comp, G=grab) 6 6 6	Matrix (W=Water, S=Solid, O=Other) Solid Solid Solid Solid	Field Filtered Sample (Yes or No) X X X	Perform MS/MSD (Yes or No) X X X	8260B, 8260B SIM 8260B, MI - VOCs (Short List) 8260B - VOCs (Short List)	Total Number of Containers 3 3 3	Special Instructions/Note: 240-110825 Chain of Custody
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months Special Instructions/OC Requirements: Submit all results through external lab								
Empty Kit Requisitioned by: Requisitioned by: [Signature] Requisitioned by: [Signature] Requisitioned by: [Signature]		Date: 4/9/19 16:55 Date: 4/10/19 8:25 Date: 4-10-19 1:00		Date/Time: 4/9/19 16:55 Date/Time: 4-10-19 12:36 Date/Time: 4-11-19 8:30		Company: Arcadis Company: Arcadis Company: FA		Cooler Temperature(s) °F and Other Remarks:		Method of Shipment:

TestAmerica Canton Sample Receipt Form/Narrative

Login # : 110625

Canton Facility

Client Alcedis Site Name _____ Cooler unpacked by: Ryan Criddle

Cooler Received on 4-11-19 Opened on 4-11-19 830

FedEx: Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. 0.8 °C Corrected Cooler Temp. 0.6 °C
IR GUN #36 (CF +0.7°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No

-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? pac Yes No NA

-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC861525

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials? larger than this Yes No NA

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 5839001VB Yes No

16. Was a LL-Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: RC

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) Trip Blank were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

DATA VERIFICATION REPORT



April 25, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 110825-1

Sample date: 2019-04-09

Report received by CADENA: 2019-04-25

Initial Data Verification completed by CADENA: 2019-04-25

Number of Samples:4

Sample Matrices:Water

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

TBK - TEST TRIP blank had a detection below the RL for the following analyte: TRICHLOROETHENE.
The following client sample results should be considered to be non-detect at the RL and qualified with UB flags: -001.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110825-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401108251	HPT-219_15-19_040919	4/9/2019	1:15:00	X	X	
2401108252	HPT-219_9-13_040919	4/9/2019	1:30:00	X	X	
2401108253	HPT-219_4.5-8.5_040919	4/9/2019	1:45:00	X	X	
2401108254	TRIP BLANK	4/9/2019	12:00:00	X		

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110825-1

Sample Name: HPT-219_15-19_040919

Lab Sample ID: 2401108251

Sample Date: 4/9/2019

Analyte	Cas No.	Result	Report		Valid	
			Limit	Units		Qualifier
GC/MS VOC						
<u>OSW-8260B</u>						
Trichloroethene	79-01-6	0.77	1.0	ug/l	UB	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110825-1

Analyte	Cas No.	Sample Name: HPT-219_15-19_040919				Sample Name: HPT-219_9-13_040919				Sample Name: HPT-219_4.5-8.5_040919				Sample Name: TRIP BLANK			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
		Lab Sample ID: 2401108251				Lab Sample ID: 2401108252				Lab Sample ID: 2401108253				Lab Sample ID: 2401108254			
		Sample Date: 4/9/2019				Sample Date: 4/9/2019				Sample Date: 4/9/2019				Sample Date: 4/9/2019			

GC/MS VOC

OSW-8260B

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	67	ug/l	---	ND	33	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	1.8	1.0	ug/l	---	110	67	ug/l	---	16	33	ug/l	J	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	67	ug/l	---	ND	33	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	3.4	1.0	ug/l	---	210	67	ug/l	---	31	33	ug/l	J	ND	1.0	ug/l	---
Trichloroethene	79-01-6	0.77	1.0	ug/l	UB	2000	67	ug/l	---	730	33	ug/l	---	0.63	1.0	ug/l	J
Vinyl chloride	75-01-4	0.20	1.0	ug/l	J	ND	67	ug/l	---	ND	33	ug/l	---	ND	1.0	ug/l	---

OSW-8260BBSim

1,4-Dioxane	123-91-1	0.89	2.0	ug/l	J	ND	20	ug/l	---	ND	20	ug/l	---				
-------------	----------	------	-----	------	---	----	----	------	-----	----	----	------	-----	--	--	--	--

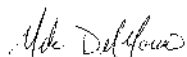
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110948-1
Client Project/Site: Ford LTP Livonia MI - E203728

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/27/2019 10:55:23 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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The
Expert**

Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Job ID: 240-110948-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-110948-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/13/2019 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-220_15-19_041019 (240-110948-1), HPT-220_10-14_041019 (240-110948-2), HPT-220_5-9_041019 (240-110948-3), HPT-221_15-19_041019 (240-110948-4), HPT-221_10-14_041019 (240-110948-5), HPT-221_5-9_041019 (240-110948-6), HPT-222_16-20_041019 (240-110948-7), HPT-222_10-14_041019 (240-110948-8), HPT-222_5-9_041019 (240-110948-9), DUP-03 (240-110948-10) and TRIP BLANK (240-110948-11) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/19/2019, 04/22/2019 and 04/23/2019.

Dibromofluoromethane (Surr) failed the surrogate recovery criteria high for HPT-220_10-14_041019 (240-110948-2), HPT-220_5-9_041019 (240-110948-3), and HPT-221_15-19_041019 (240-110948-4). Refer to the QC report for details.

Trichloroethene failed the recovery criteria low for the MSD of sample HPT-220_10-14_041019MSD (240-110948-2) in batch 240-377763. Refer to the QC report for details.

Samples HPT-220_15-19_041019 (240-110948-1)[6.67X], HPT-220_10-14_041019 (240-110948-2)[100X], HPT-220_5-9_041019 (240-110948-3)[66.67X], HPT-221_10-14_041019 (240-110948-5)[14.29X], HPT-221_5-9_041019 (240-110948-6)[10X], HPT-222_10-14_041019 (240-110948-8)[10X], HPT-222_5-9_041019 (240-110948-9)[2X] and DUP-03 (240-110948-10)[2X] required

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Job ID: 240-110948-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

dilution prior to analysis. The reporting limits have been adjusted accordingly.

Surrogate recovery for the following samples were outside control limits: HPT-220_10-14_041019 (240-110948-2), HPT-220_5-9_041019 (240-110948-3) and HPT-221_15-19_041019 (240-110948-4). Re-extraction and/or re-analysis was performed with concurring results. The best data is reported.

The pH of the samples was greater than 2. The samples were analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if samples are not preserved to a pH of 2: HPT-221_15-19_041019 (240-110948-4) and HPT-221_5-9_041019 (240-110948-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-220_15-19_041019 (240-110948-1), HPT-220_10-14_041019 (240-110948-2), HPT-220_5-9_041019 (240-110948-3), HPT-221_15-19_041019 (240-110948-4), HPT-221_10-14_041019 (240-110948-5), HPT-221_5-9_041019 (240-110948-6), HPT-222_16-20_041019 (240-110948-7), HPT-222_10-14_041019 (240-110948-8), HPT-222_5-9_041019 (240-110948-9) and DUP-03 (240-110948-10) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/16/2019.

1,4-Dioxane failed the recovery criteria low for the MS of sample HPT-220_5-9_041019MS (240-110948-3) in batch 240-376688.

1,4-Dioxane failed the recovery criteria low for the MSD of sample HPT-220_5-9_041019MSD (240-110948-3) in batch 240-376688. 1,4-Dioxane exceeded the RPD limit. Refer to the QC report for details.

Internal standard (ISTD) response for the following samples were outside control limits: HPT-220_5-9_041019 (240-110948-3), (240-110948-A-3 MS) and (240-110948-A-3 MSD). The sample was re-extracted and/or re-analyzed with concurring results, and the original set of data has been reported.

Internal standard responses were outside of acceptance limits for the following sample: HPT-220_10-14_041019 (240-110948-2). The sample shows evidence of matrix interference.

The pH is greater than 2 for the following samples: HPT-220_15-19_041019 (240-110948-1), HPT-221_15-19_041019 (240-110948-4) and HPT-222_16-20_041019 (240-110948-7).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110948-1	HPT-220_15-19_041019	Water	04/10/19 09:50	04/13/19 09:45
240-110948-2	HPT-220_10-14_041019	Water	04/10/19 10:05	04/13/19 09:45
240-110948-3	HPT-220_5-9_041019	Water	04/10/19 10:15	04/13/19 09:45
240-110948-4	HPT-221_15-19_041019	Water	04/10/19 11:50	04/13/19 09:45
240-110948-5	HPT-221_10-14_041019	Water	04/10/19 12:10	04/13/19 09:45
240-110948-6	HPT-221_5-9_041019	Water	04/10/19 12:20	04/13/19 09:45
240-110948-7	HPT-222_16-20_041019	Water	04/10/19 14:35	04/13/19 09:45
240-110948-8	HPT-222_10-14_041019	Water	04/10/19 14:45	04/13/19 09:45
240-110948-9	HPT-222_5-9_041019	Water	04/10/19 14:55	04/13/19 09:45
240-110948-10	DUP-03	Water	04/10/19 00:00	04/13/19 09:45
240-110948-11	TRIP BLANK	Water	04/10/19 00:00	04/13/19 09:45

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-220_15-19_041019

Lab Sample ID: 240-110948-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	140		6.7	1.1	ug/L	6.67		8260B	Total/NA
trans-1,2-Dichloroethene	85		6.7	1.3	ug/L	6.67		8260B	Total/NA
Trichloroethene	120		6.7	0.67	ug/L	6.67		8260B	Total/NA

Client Sample ID: HPT-220_10-14_041019

Lab Sample ID: 240-110948-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	150		100	16	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	300		100	19	ug/L	100		8260B	Total/NA
Trichloroethene	2200	F1	100	10	ug/L	100		8260B	Total/NA

Client Sample ID: HPT-220_5-9_041019

Lab Sample ID: 240-110948-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	33	J	67	11	ug/L	66.67		8260B	Total/NA
trans-1,2-Dichloroethene	41	J	67	13	ug/L	66.67		8260B	Total/NA
Trichloroethene	1900		67	6.7	ug/L	66.67		8260B	Total/NA

Client Sample ID: HPT-221_15-19_041019

Lab Sample ID: 240-110948-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.5		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	7.7		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	14		1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-221_10-14_041019

Lab Sample ID: 240-110948-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	13	J	14	2.3	ug/L	14.29		8260B	Total/NA
trans-1,2-Dichloroethene	13	J	14	2.7	ug/L	14.29		8260B	Total/NA
Trichloroethene	300		14	1.4	ug/L	14.29		8260B	Total/NA

Client Sample ID: HPT-221_5-9_041019

Lab Sample ID: 240-110948-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	220		10	1.6	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	3.4	J	10	1.9	ug/L	10		8260B	Total/NA
Trichloroethene	91		10	1.0	ug/L	10		8260B	Total/NA

Client Sample ID: HPT-222_16-20_041019

Lab Sample ID: 240-110948-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.1		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	3.5		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	14		1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-222_10-14_041019

Lab Sample ID: 240-110948-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.5	J	10	1.6	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	3.4	J	10	1.9	ug/L	10		8260B	Total/NA
Trichloroethene	270		10	1.0	ug/L	10		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-222_5-9_041019

Lab Sample ID: 240-110948-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.61	J	2.0	0.32	ug/L	2		8260B	Total/NA
trans-1,2-Dichloroethene	0.40	J	2.0	0.38	ug/L	2		8260B	Total/NA
Trichloroethene	54		2.0	0.20	ug/L	2		8260B	Total/NA

Client Sample ID: DUP-03

Lab Sample ID: 240-110948-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.66	J	2.0	0.32	ug/L	2		8260B	Total/NA
trans-1,2-Dichloroethene	0.38	J	2.0	0.38	ug/L	2		8260B	Total/NA
Trichloroethene	52		2.0	0.20	ug/L	2		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110948-11

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-220_15-19_041019

Lab Sample ID: 240-110948-1

Date Collected: 04/10/19 09:50

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/16/19 13:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/16/19 13:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	6.7	U	6.7	1.3	ug/L	-		04/22/19 16:30	6.67
cis-1,2-Dichloroethene	140		6.7	1.1	ug/L			04/22/19 16:30	6.67
Tetrachloroethene	6.7	U	6.7	1.0	ug/L			04/22/19 16:30	6.67
trans-1,2-Dichloroethene	85		6.7	1.3	ug/L			04/22/19 16:30	6.67
Trichloroethene	120		6.7	0.67	ug/L			04/22/19 16:30	6.67
Vinyl chloride	6.7	U	6.7	1.3	ug/L			04/22/19 16:30	6.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		04/22/19 16:30	6.67
4-Bromofluorobenzene (Surr)	73		59 - 120		04/22/19 16:30	6.67
Toluene-d8 (Surr)	97		70 - 123		04/22/19 16:30	6.67
Dibromofluoromethane (Surr)	125		75 - 128		04/22/19 16:30	6.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-220_10-14_041019

Lab Sample ID: 240-110948-2

Date Collected: 04/10/19 10:05

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U *	2.0	0.86	ug/L			04/16/19 13:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/16/19 13:34	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	100	U	100	19	ug/L			04/23/19 15:05	100
cis-1,2-Dichloroethene	150		100	16	ug/L			04/23/19 15:05	100
Tetrachloroethene	100	U	100	15	ug/L			04/23/19 15:05	100
trans-1,2-Dichloroethene	300		100	19	ug/L			04/23/19 15:05	100
Trichloroethene	2200	F1	100	10	ug/L			04/23/19 15:05	100
Vinyl chloride	100	U	100	20	ug/L			04/23/19 15:05	100

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		70 - 121		04/23/19 15:05	100
4-Bromofluorobenzene (Surr)	78		59 - 120		04/23/19 15:05	100
Toluene-d8 (Surr)	106		70 - 123		04/23/19 15:05	100
Dibromofluoromethane (Surr)	131	X	75 - 128		04/23/19 15:05	100

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-220_5-9_041019

Lab Sample ID: 240-110948-3

Date Collected: 04/10/19 10:15

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U * F1 F2	2.0	0.86	ug/L			04/16/19 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 125		04/16/19 13:59	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	67	U	67	13	ug/L			04/22/19 17:13	66.67
cis-1,2-Dichloroethene	33	J	67	11	ug/L			04/22/19 17:13	66.67
Tetrachloroethene	67	U	67	10	ug/L			04/22/19 17:13	66.67
trans-1,2-Dichloroethene	41	J	67	13	ug/L			04/22/19 17:13	66.67
Trichloroethene	1900		67	6.7	ug/L			04/22/19 17:13	66.67
Vinyl chloride	67	U	67	13	ug/L			04/22/19 17:13	66.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 121		04/22/19 17:13	66.67
4-Bromofluorobenzene (Surr)	76		59 - 120		04/22/19 17:13	66.67
Toluene-d8 (Surr)	103		70 - 123		04/22/19 17:13	66.67
Dibromofluoromethane (Surr)	131	X	75 - 128		04/22/19 17:13	66.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-221_15-19_041019

Lab Sample ID: 240-110948-4

Date Collected: 04/10/19 11:50

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/16/19 15:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		63 - 125		04/16/19 15:17	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/23/19 15:49	1
cis-1,2-Dichloroethene	6.5		1.0	0.16	ug/L			04/23/19 15:49	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/23/19 15:49	1
trans-1,2-Dichloroethene	7.7		1.0	0.19	ug/L			04/23/19 15:49	1
Trichloroethene	14		1.0	0.10	ug/L			04/23/19 15:49	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/23/19 15:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		70 - 121		04/23/19 15:49	1
4-Bromofluorobenzene (Surr)	79		59 - 120		04/23/19 15:49	1
Toluene-d8 (Surr)	109		70 - 123		04/23/19 15:49	1
Dibromofluoromethane (Surr)	130	X	75 - 128		04/23/19 15:49	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-221_10-14_041019

Lab Sample ID: 240-110948-5

Date Collected: 04/10/19 12:10

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/16/19 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		63 - 125		04/16/19 15:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	14	U	14	2.7	ug/L	-		04/23/19 16:11	14.29
cis-1,2-Dichloroethene	13	J	14	2.3	ug/L	-		04/23/19 16:11	14.29
Tetrachloroethene	14	U	14	2.1	ug/L	-		04/23/19 16:11	14.29
trans-1,2-Dichloroethene	13	J	14	2.7	ug/L	-		04/23/19 16:11	14.29
Trichloroethene	300		14	1.4	ug/L	-		04/23/19 16:11	14.29
Vinyl chloride	14	U	14	2.9	ug/L	-		04/23/19 16:11	14.29

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 121		04/23/19 16:11	14.29
4-Bromofluorobenzene (Surr)	76		59 - 120		04/23/19 16:11	14.29
Toluene-d8 (Surr)	103		70 - 123		04/23/19 16:11	14.29
Dibromofluoromethane (Surr)	121		75 - 128		04/23/19 16:11	14.29

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-221_5-9_041019

Lab Sample ID: 240-110948-6

Date Collected: 04/10/19 12:20

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/16/19 16:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/16/19 16:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	1.9	ug/L	-		04/23/19 16:33	10
cis-1,2-Dichloroethene	220		10	1.6	ug/L			04/23/19 16:33	10
Tetrachloroethene	10	U	10	1.5	ug/L			04/23/19 16:33	10
trans-1,2-Dichloroethene	3.4	J	10	1.9	ug/L			04/23/19 16:33	10
Trichloroethene	91		10	1.0	ug/L			04/23/19 16:33	10
Vinyl chloride	10	U	10	2.0	ug/L			04/23/19 16:33	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		04/23/19 16:33	10
4-Bromofluorobenzene (Surr)	75		59 - 120		04/23/19 16:33	10
Toluene-d8 (Surr)	100		70 - 123		04/23/19 16:33	10
Dibromofluoromethane (Surr)	123		75 - 128		04/23/19 16:33	10

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-222_16-20_041019

Lab Sample ID: 240-110948-7

Date Collected: 04/10/19 14:35

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/16/19 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 125		04/16/19 16:34	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 18:41	1
cis-1,2-Dichloroethene	3.1		1.0	0.16	ug/L			04/22/19 18:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 18:41	1
trans-1,2-Dichloroethene	3.5		1.0	0.19	ug/L			04/22/19 18:41	1
Trichloroethene	14		1.0	0.10	ug/L			04/22/19 18:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 18:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		04/22/19 18:41	1
4-Bromofluorobenzene (Surr)	73		59 - 120		04/22/19 18:41	1
Toluene-d8 (Surr)	98		70 - 123		04/22/19 18:41	1
Dibromofluoromethane (Surr)	125		75 - 128		04/22/19 18:41	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-222_10-14_041019

Lab Sample ID: 240-110948-8

Date Collected: 04/10/19 14:45

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/16/19 16:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		63 - 125		04/16/19 16:59	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	1.9	ug/L			04/22/19 19:03	10
cis-1,2-Dichloroethene	2.5	J	10	1.6	ug/L			04/22/19 19:03	10
Tetrachloroethene	10	U	10	1.5	ug/L			04/22/19 19:03	10
trans-1,2-Dichloroethene	3.4	J	10	1.9	ug/L			04/22/19 19:03	10
Trichloroethene	270		10	1.0	ug/L			04/22/19 19:03	10
Vinyl chloride	10	U	10	2.0	ug/L			04/22/19 19:03	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		04/22/19 19:03	10
4-Bromofluorobenzene (Surr)	72		59 - 120		04/22/19 19:03	10
Toluene-d8 (Surr)	95		70 - 123		04/22/19 19:03	10
Dibromofluoromethane (Surr)	125		75 - 128		04/22/19 19:03	10

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-222_5-9_041019

Lab Sample ID: 240-110948-9

Date Collected: 04/10/19 14:55

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/16/19 17:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		63 - 125		04/16/19 17:25	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.0	U	2.0	0.38	ug/L			04/22/19 19:25	2
cis-1,2-Dichloroethene	0.61	J	2.0	0.32	ug/L			04/22/19 19:25	2
Tetrachloroethene	2.0	U	2.0	0.30	ug/L			04/22/19 19:25	2
trans-1,2-Dichloroethene	0.40	J	2.0	0.38	ug/L			04/22/19 19:25	2
Trichloroethene	54		2.0	0.20	ug/L			04/22/19 19:25	2
Vinyl chloride	2.0	U	2.0	0.40	ug/L			04/22/19 19:25	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		70 - 121		04/22/19 19:25	2
4-Bromofluorobenzene (Surr)	72		59 - 120		04/22/19 19:25	2
Toluene-d8 (Surr)	95		70 - 123		04/22/19 19:25	2
Dibromofluoromethane (Surr)	123		75 - 128		04/22/19 19:25	2

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: DUP-03

Lab Sample ID: 240-110948-10

Date Collected: 04/10/19 00:00

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/16/19 17:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 125		04/16/19 17:51	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.0	U	2.0	0.38	ug/L			04/23/19 16:55	2
cis-1,2-Dichloroethene	0.66	J	2.0	0.32	ug/L			04/23/19 16:55	2
Tetrachloroethene	2.0	U	2.0	0.30	ug/L			04/23/19 16:55	2
trans-1,2-Dichloroethene	0.38	J	2.0	0.38	ug/L			04/23/19 16:55	2
Trichloroethene	52		2.0	0.20	ug/L			04/23/19 16:55	2
Vinyl chloride	2.0	U	2.0	0.40	ug/L			04/23/19 16:55	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 121		04/23/19 16:55	2
4-Bromofluorobenzene (Surr)	75		59 - 120		04/23/19 16:55	2
Toluene-d8 (Surr)	103		70 - 123		04/23/19 16:55	2
Dibromofluoromethane (Surr)	119		75 - 128		04/23/19 16:55	2

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110948-11

Date Collected: 04/10/19 00:00

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 18:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/19/19 18:43	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/19/19 18:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 18:43	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/19/19 18:43	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/19/19 18:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 121		04/19/19 18:43	1
4-Bromofluorobenzene (Surr)	95		59 - 120		04/19/19 18:43	1
Toluene-d8 (Surr)	113		70 - 123		04/19/19 18:43	1
Dibromofluoromethane (Surr)	108		75 - 128		04/19/19 18:43	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110825-A-2 MS	Matrix Spike	89	111	116	99
240-110825-A-2 MSD	Matrix Spike Duplicate	89	109	115	100
240-110948-1	HPT-220_15-19_041019	107	73	97	125
240-110948-2	HPT-220_10-14_041019	115	78	106	131 X
240-110948-2 MS	HPT-220_10-14_041019	99	100	116	116
240-110948-2 MSD	HPT-220_10-14_041019	90	94	109	107
240-110948-3	HPT-220_5-9_041019	114	76	103	131 X
240-110948-4	HPT-221_15-19_041019	117	79	109	130 X
240-110948-5	HPT-221_10-14_041019	109	76	103	121
240-110948-6	HPT-221_5-9_041019	110	75	100	123
240-110948-7	HPT-222_16-20_041019	106	73	98	125
240-110948-8	HPT-222_10-14_041019	107	72	95	125
240-110948-9	HPT-222_5-9_041019	108	72	95	123
240-110948-10	DUP-03	109	75	103	119
240-110948-11	TRIP BLANK	97	95	113	108
240-110950-E-2 MS	Matrix Spike	95	99	107	115
240-110950-E-2 MSD	Matrix Spike Duplicate	91	98	104	113
LCS 240-377342/4	Lab Control Sample	90	107	115	96
LCS 240-377602/4	Lab Control Sample	96	101	111	119
LCS 240-377763/4	Lab Control Sample	90	98	112	111
MB 240-377342/6	Method Blank	95	98	108	102
MB 240-377602/35	Method Blank	106	75	96	120
MB 240-377763/6	Method Blank	103	79	103	117

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-110948-1	HPT-220_15-19_041019	106
240-110948-2	HPT-220_10-14_041019	104
240-110948-3	HPT-220_5-9_041019	109
240-110948-3 MS	HPT-220_5-9_041019	103
240-110948-3 MSD	HPT-220_5-9_041019	112
240-110948-4	HPT-221_15-19_041019	107
240-110948-5	HPT-221_10-14_041019	108
240-110948-6	HPT-221_5-9_041019	106
240-110948-7	HPT-222_16-20_041019	103
240-110948-8	HPT-222_10-14_041019	110
240-110948-9	HPT-222_5-9_041019	108
240-110948-10	DUP-03	105
LCS 240-376688/4	Lab Control Sample	104
MB 240-376688/5	Method Blank	101

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

1

2

3

4

5

6

7

8

9

10

11

12

13

14

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-377342/6
Matrix: Water
Analysis Batch: 377342

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 11:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/19/19 11:35	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/19/19 11:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/19/19 11:35	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/19/19 11:35	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/19/19 11:35	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 121		04/19/19 11:35	1
4-Bromofluorobenzene (Surr)	98		59 - 120		04/19/19 11:35	1
Toluene-d8 (Surr)	108		70 - 123		04/19/19 11:35	1
Dibromofluoromethane (Surr)	102		75 - 128		04/19/19 11:35	1

Lab Sample ID: LCS 240-377342/4
Matrix: Water
Analysis Batch: 377342

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.2		ug/L		102	65 - 139
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	76 - 128
Tetrachloroethene	10.0	9.10		ug/L		91	74 - 130
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	78 - 133
Trichloroethene	10.0	9.39		ug/L		94	76 - 125
Vinyl chloride	10.0	10.1		ug/L		101	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 121
4-Bromofluorobenzene (Surr)	107		59 - 120
Toluene-d8 (Surr)	115		70 - 123
Dibromofluoromethane (Surr)	96		75 - 128

Lab Sample ID: 240-110825-A-2 MS
Matrix: Water
Analysis Batch: 377342

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	67	U	667	588		ug/L		88	53 - 140
cis-1,2-Dichloroethene	110		667	743		ug/L		95	64 - 130
Tetrachloroethene	67	U	667	531		ug/L		80	51 - 136
trans-1,2-Dichloroethene	210		667	832		ug/L		93	68 - 133
Trichloroethene	2000		667	2430		ug/L		68	55 - 131
Vinyl chloride	67	U	667	557		ug/L		83	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	89		70 - 121
4-Bromofluorobenzene (Surr)	111		59 - 120
Toluene-d8 (Surr)	116		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110825-A-2 MS
Matrix: Water
Analysis Batch: 377342

Client Sample ID: Matrix Spike
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	99		75 - 128

Lab Sample ID: 240-110825-A-2 MSD
Matrix: Water
Analysis Batch: 377342

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	67	U	667	681		ug/L		102	53 - 140	15	35
cis-1,2-Dichloroethene	110		667	753		ug/L		96	64 - 130	1	21
Tetrachloroethene	67	U	667	606		ug/L		91	51 - 136	13	23
trans-1,2-Dichloroethene	210		667	858		ug/L		96	68 - 133	3	24
Trichloroethene	2000		667	2410		ug/L		66	55 - 131	1	23
Vinyl chloride	67	U	667	618		ug/L		93	43 - 154	10	29

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	89		70 - 121
<i>4-Bromofluorobenzene (Surr)</i>	109		59 - 120
<i>Toluene-d8 (Surr)</i>	115		70 - 123
<i>Dibromofluoromethane (Surr)</i>	100		75 - 128

Lab Sample ID: MB 240-377602/35
Matrix: Water
Analysis Batch: 377602

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 13:00	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 13:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:00	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 13:00	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 13:00	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	106		70 - 121		04/22/19 13:00	1
<i>4-Bromofluorobenzene (Surr)</i>	75		59 - 120		04/22/19 13:00	1
<i>Toluene-d8 (Surr)</i>	96		70 - 123		04/22/19 13:00	1
<i>Dibromofluoromethane (Surr)</i>	120		75 - 128		04/22/19 13:00	1

Lab Sample ID: LCS 240-377602/4
Matrix: Water
Analysis Batch: 377602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.97		ug/L		100	65 - 139
cis-1,2-Dichloroethene	10.0	11.5		ug/L		115	76 - 128
Tetrachloroethene	10.0	11.9		ug/L		119	74 - 130
trans-1,2-Dichloroethene	10.0	12.7		ug/L		127	78 - 133
Trichloroethene	10.0	10.2		ug/L		102	76 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-377602/4

Matrix: Water

Analysis Batch: 377602

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	10.0		ug/L		100	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
4-Bromofluorobenzene (Surr)	101		59 - 120
Toluene-d8 (Surr)	111		70 - 123
Dibromofluoromethane (Surr)	119		75 - 128

Lab Sample ID: 240-110950-E-2 MS

Matrix: Water

Analysis Batch: 377602

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10	U	100	82.0		ug/L		82	53 - 140
cis-1,2-Dichloroethene	270		100	359		ug/L		90	64 - 130
Tetrachloroethene	10	U	100	84.8		ug/L		85	51 - 136
trans-1,2-Dichloroethene	120		100	232		ug/L		110	68 - 133
Trichloroethene	42		100	120		ug/L		78	55 - 131
Vinyl chloride	10	U	100	104		ug/L		104	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 121
4-Bromofluorobenzene (Surr)	99		59 - 120
Toluene-d8 (Surr)	107		70 - 123
Dibromofluoromethane (Surr)	115		75 - 128

Lab Sample ID: 240-110950-E-2 MSD

Matrix: Water

Analysis Batch: 377602

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	10	U	100	91.6		ug/L		92	53 - 140	11	35
cis-1,2-Dichloroethene	270		100	360		ug/L		91	64 - 130	0	21
Tetrachloroethene	10	U	100	100		ug/L		100	51 - 136	17	23
trans-1,2-Dichloroethene	120		100	239		ug/L		117	68 - 133	3	24
Trichloroethene	42		100	128		ug/L		85	55 - 131	6	23
Vinyl chloride	10	U	100	109		ug/L		109	43 - 154	5	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 121
4-Bromofluorobenzene (Surr)	98		59 - 120
Toluene-d8 (Surr)	104		70 - 123
Dibromofluoromethane (Surr)	113		75 - 128

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-377763/6
Matrix: Water
Analysis Batch: 377763

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 11:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/23/19 11:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/23/19 11:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 11:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/23/19 11:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/23/19 11:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 121		04/23/19 11:37	1
4-Bromofluorobenzene (Surr)	79		59 - 120		04/23/19 11:37	1
Toluene-d8 (Surr)	103		70 - 123		04/23/19 11:37	1
Dibromofluoromethane (Surr)	117		75 - 128		04/23/19 11:37	1

Lab Sample ID: LCS 240-377763/4
Matrix: Water
Analysis Batch: 377763

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139
cis-1,2-Dichloroethene	10.0	11.5		ug/L		115	76 - 128
Tetrachloroethene	10.0	10.9		ug/L		109	74 - 130
trans-1,2-Dichloroethene	10.0	12.5		ug/L		125	78 - 133
Trichloroethene	10.0	9.86		ug/L		99	76 - 125
Vinyl chloride	10.0	10.9		ug/L		109	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 121
4-Bromofluorobenzene (Surr)	98		59 - 120
Toluene-d8 (Surr)	112		70 - 123
Dibromofluoromethane (Surr)	111		75 - 128

Lab Sample ID: 240-110948-2 MS
Matrix: Water
Analysis Batch: 377763

Client Sample ID: HPT-220_10-14_041019
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	100	U	1000	921		ug/L		92	53 - 140
cis-1,2-Dichloroethene	150		1000	1210		ug/L		106	64 - 130
Tetrachloroethene	100	U	1000	941		ug/L		94	51 - 136
trans-1,2-Dichloroethene	300		1000	1390		ug/L		109	68 - 133
Trichloroethene	2200	F1	1000	2820		ug/L		60	55 - 131
Vinyl chloride	100	U	1000	1070		ug/L		107	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		70 - 121
4-Bromofluorobenzene (Surr)	100		59 - 120
Toluene-d8 (Surr)	116		70 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110948-2 MS
Matrix: Water
Analysis Batch: 377763

Client Sample ID: HPT-220_10-14_041019
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	116		75 - 128

Lab Sample ID: 240-110948-2 MSD
Matrix: Water
Analysis Batch: 377763

Client Sample ID: HPT-220_10-14_041019
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	100	U	1000	945		ug/L		94	53 - 140	2	35
cis-1,2-Dichloroethene	150		1000	1150		ug/L		100	64 - 130	5	21
Tetrachloroethene	100	U	1000	976		ug/L		98	51 - 136	4	23
trans-1,2-Dichloroethene	300		1000	1390		ug/L		109	68 - 133	0	24
Trichloroethene	2200	F1	1000	2700	F1	ug/L		49	55 - 131	4	23
Vinyl chloride	100	U	1000	1090		ug/L		109	43 - 154	2	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 121
4-Bromofluorobenzene (Surr)	94		59 - 120
Toluene-d8 (Surr)	109		70 - 123
Dibromofluoromethane (Surr)	107		75 - 128

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376688/5
Matrix: Water
Analysis Batch: 376688

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/16/19 12:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/16/19 12:17	1

Lab Sample ID: LCS 240-376688/4
Matrix: Water
Analysis Batch: 376688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.9		ug/L		109	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		63 - 125

Lab Sample ID: 240-110948-3 MS
Matrix: Water
Analysis Batch: 376688

Client Sample ID: HPT-220_5-9_041019
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U * F1 F2	10.0	3.85	* F1	ug/L		38	52 - 129

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	103		63 - 125

Lab Sample ID: 240-110948-3 MSD
 Matrix: Water
 Analysis Batch: 376688

Client Sample ID: HPT-220_5-9_041019
 Prep Type: Total/NA

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
1,4-Dioxane	2.0	U * F1 F2	10.0	3.22	* F1 F2	ug/L		32	52 - 129	18	13

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	112		63 - 125

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

GC/MS VOA

Analysis Batch: 376688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110948-1	HPT-220_15-19_041019	Total/NA	Water	8260B SIM	
240-110948-2	HPT-220_10-14_041019	Total/NA	Water	8260B SIM	
240-110948-3	HPT-220_5-9_041019	Total/NA	Water	8260B SIM	
240-110948-4	HPT-221_15-19_041019	Total/NA	Water	8260B SIM	
240-110948-5	HPT-221_10-14_041019	Total/NA	Water	8260B SIM	
240-110948-6	HPT-221_5-9_041019	Total/NA	Water	8260B SIM	
240-110948-7	HPT-222_16-20_041019	Total/NA	Water	8260B SIM	
240-110948-8	HPT-222_10-14_041019	Total/NA	Water	8260B SIM	
240-110948-9	HPT-222_5-9_041019	Total/NA	Water	8260B SIM	
240-110948-10	DUP-03	Total/NA	Water	8260B SIM	
MB 240-376688/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376688/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110948-3 MS	HPT-220_5-9_041019	Total/NA	Water	8260B SIM	
240-110948-3 MSD	HPT-220_5-9_041019	Total/NA	Water	8260B SIM	

Analysis Batch: 377342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110948-11	TRIP BLANK	Total/NA	Water	8260B	
MB 240-377342/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377342/4	Lab Control Sample	Total/NA	Water	8260B	
240-110825-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-110825-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 377602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110948-1	HPT-220_15-19_041019	Total/NA	Water	8260B	
240-110948-3	HPT-220_5-9_041019	Total/NA	Water	8260B	
240-110948-7	HPT-222_16-20_041019	Total/NA	Water	8260B	
240-110948-8	HPT-222_10-14_041019	Total/NA	Water	8260B	
240-110948-9	HPT-222_5-9_041019	Total/NA	Water	8260B	
MB 240-377602/35	Method Blank	Total/NA	Water	8260B	
LCS 240-377602/4	Lab Control Sample	Total/NA	Water	8260B	
240-110950-E-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-110950-E-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 377763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110948-2	HPT-220_10-14_041019	Total/NA	Water	8260B	
240-110948-4	HPT-221_15-19_041019	Total/NA	Water	8260B	
240-110948-5	HPT-221_10-14_041019	Total/NA	Water	8260B	
240-110948-6	HPT-221_5-9_041019	Total/NA	Water	8260B	
240-110948-10	DUP-03	Total/NA	Water	8260B	
MB 240-377763/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377763/4	Lab Control Sample	Total/NA	Water	8260B	
240-110948-2 MS	HPT-220_10-14_041019	Total/NA	Water	8260B	
240-110948-2 MSD	HPT-220_10-14_041019	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-220_15-19_041019

Lab Sample ID: 240-110948-1

Date Collected: 04/10/19 09:50

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		6.67	377602	04/22/19 16:30	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 13:08	SAM	TAL CAN

Client Sample ID: HPT-220_10-14_041019

Lab Sample ID: 240-110948-2

Date Collected: 04/10/19 10:05

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	377763	04/23/19 15:05	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 13:34	SAM	TAL CAN

Client Sample ID: HPT-220_5-9_041019

Lab Sample ID: 240-110948-3

Date Collected: 04/10/19 10:15

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		66.67	377602	04/22/19 17:13	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 13:59	SAM	TAL CAN

Client Sample ID: HPT-221_15-19_041019

Lab Sample ID: 240-110948-4

Date Collected: 04/10/19 11:50

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377763	04/23/19 15:49	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 15:17	SAM	TAL CAN

Client Sample ID: HPT-221_10-14_041019

Lab Sample ID: 240-110948-5

Date Collected: 04/10/19 12:10

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		14.29	377763	04/23/19 16:11	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 15:42	SAM	TAL CAN

Client Sample ID: HPT-221_5-9_041019

Lab Sample ID: 240-110948-6

Date Collected: 04/10/19 12:20

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	377763	04/23/19 16:33	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 16:08	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Client Sample ID: HPT-222_16-20_041019

Lab Sample ID: 240-110948-7

Date Collected: 04/10/19 14:35

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377602	04/22/19 18:41	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 16:34	SAM	TAL CAN

Client Sample ID: HPT-222_10-14_041019

Lab Sample ID: 240-110948-8

Date Collected: 04/10/19 14:45

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	377602	04/22/19 19:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 16:59	SAM	TAL CAN

Client Sample ID: HPT-222_5-9_041019

Lab Sample ID: 240-110948-9

Date Collected: 04/10/19 14:55

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	377602	04/22/19 19:25	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 17:25	SAM	TAL CAN

Client Sample ID: DUP-03

Lab Sample ID: 240-110948-10

Date Collected: 04/10/19 00:00

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	377763	04/23/19 16:55	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 17:51	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110948-11

Date Collected: 04/10/19 00:00

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377342	04/19/19 18:43	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110948-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login #: 110948

Client Arcadis Site Name _____ Cooler unpacked by: Ryan Cribler
Cooler Received on 4-13-19 Opened on 4-13-19 9:45

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 7A Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt: See Multiple Cooler Form
IR GUN# IR-8 (CF -0.2°C) Observed Cooler Temp. 1.6 °C Corrected Cooler Temp. 1.4 °C
IR GUN #36 (CF +0.7°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition. (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B834001VB Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other
Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES
Samples processed by: AAA Ryan

18. SAMPLE CONDITION
Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION
Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____
VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



April 27, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008

Event Specific Scope of Work References: Sample COC

Laboratory: Test America - North Canton

Laboratory submittal: 110948-1

Sample date: 2019-04-10

Report received by CADENA: 2019-04-27

Initial Data Verification completed by CADENA: 2019-04-27

Number of Samples: 11

Sample Matrices: Water

Test Categories: GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC samples -002, -004, -006 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

SUR - GCMS VOC samples -002, -003, -004 surrogate recoveries were outliers biased high for 1 out of 4 surrogates. These client sample results should be considered to be estimated and qualified with J flags if detected. Non-detect results do not require qualification.

SPV - SIM GCMS VOC samples -001, -004, -007 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with UJ flags if non-detect.

MSD - SIM GCMS VOC sample -003 MS and MSD recovery outliers or one recovery along with the MS/MSD RPD were outliers with the recovery biased low for the following analyte: 1,4-DIOXANE. Client sample results for this analyte should be considered to be estimated and qualified with a UJ flags if non-detect.

GCMS VOC sample -002 MS or MSD recoveries but not both or RPD only were outliers for TRICHLOROETHENE so client sample results were not qualified based on this QC outlier alone.

SIM GCMS VOC QC batch INTERNAL STANDARD response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110948-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401109481	HPT-220_15-19_041019	4/10/2019	9:50:00	X	X	
24011094810	DUP-03	4/10/2019	12:00:00	X	X	
24011094811	TRIP BLANK	4/10/2019	12:00:00	X		
2401109482	HPT-220_10-14_041019	4/10/2019	10:05:00	X	X	
2401109483	HPT-220_5-9_041019	4/10/2019	10:15:00	X	X	
2401109484	HPT-221_15-19_041019	4/10/2019	11:50:00	X	X	
2401109485	HPT-221_10-14_041019	4/10/2019	12:10:00	X	X	
2401109486	HPT-221_5-9_041019	4/10/2019	12:20:00	X	X	
2401109487	HPT-222_16-20_041019	4/10/2019	2:35:00	X	X	
2401109488	HPT-222_10-14_041019	4/10/2019	2:45:00	X	X	
2401109489	HPT-222_5-9_041019	4/10/2019	2:55:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110948-1

Sample Name:	HPT-220_15-19_041019	HPT-220_10-14_041019	HPT-220_5-9_041019	HPT-221_15-19_041019	HPT-221_5-9_041019	HPT-222_16-20_041019
Lab Sample ID:	2401109481	2401109482	2401109483	2401109484	2401109486	2401109487
Sample Date:	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019

Analyte	Cas No.	Report				Valid				Report				Valid				Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier				
GC/MS VOC																																	
<u>OSW-8260B</u>																																	
1,1-Dichloroethene	75-35-4					ND	100	ug/l	UJ																								
cis-1,2-Dichloroethene	156-59-2					150	100	ug/l	J	33	67	ug/l	J	6.5	1.0	ug/l	J	220	10	ug/l	J												
Tetrachloroethene	127-18-4					ND	100	ug/l	UJ					ND	1.0	ug/l	UJ	ND	10	ug/l	UJ												
trans-1,2-Dichloroethene	156-60-5					300	100	ug/l	J	41	67	ug/l	J	7.7	1.0	ug/l	J	3.4	10	ug/l	J												
Trichloroethene	79-01-6					2200	100	ug/l	J	1900	67	ug/l	J	14	1.0	ug/l	J	91	10	ug/l	J												
Vinyl chloride	75-01-4					ND	100	ug/l	UJ					ND	1.0	ug/l	UJ	ND	10	ug/l	UJ												
<u>OSW-8260BBSim</u>																																	
1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ					ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ					ND	2.0	ug/l	UJ								

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110948-1

Sample Name: HPT-220_15-19_041019	DUP-03	TRIP BLANK	HPT-220_10-14_041019	HPT-220_5-9_041019	HPT-221_15-19_041019	HPT-221_10-14_041019
Lab Sample ID: 2401109481	24011094810	24011094811	2401109482	2401109483	2401109484	2401109485
Sample Date: 4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019	4/10/2019

Analyte	Cas No.	Report				Valid				Report				Valid				Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier				

GC/MS VOC

OSW-8260B

1,1-Dichloroethene	75-35-4	ND	6.7	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	100	ug/l	UJ	ND	67	ug/l	---	ND	1.0	ug/l	UJ	ND	14	ug/l
cis-1,2-Dichloroethene	156-59-2	140	6.7	ug/l	---	0.66	2.0	ug/l	J	ND	1.0	ug/l	---	150	100	ug/l	J	33	67	ug/l	J	6.5	1.0	ug/l	J	13	14	ug/l
Tetrachloroethene	127-18-4	ND	6.7	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	100	ug/l	UJ	ND	67	ug/l	---	ND	1.0	ug/l	UJ	ND	14	ug/l
trans-1,2-Dichloroethene	156-60-5	85	6.7	ug/l	---	0.38	2.0	ug/l	J	ND	1.0	ug/l	---	300	100	ug/l	J	41	67	ug/l	J	7.7	1.0	ug/l	J	13	14	ug/l
Trichloroethene	79-01-6	120	6.7	ug/l	---	52	2.0	ug/l	---	ND	1.0	ug/l	---	2200	100	ug/l	J	1900	67	ug/l	J	14	1.0	ug/l	J	300	14	ug/l
Vinyl chloride	75-01-4	ND	6.7	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	100	ug/l	UJ	ND	67	ug/l	---	ND	1.0	ug/l	UJ	ND	14	ug/l

OSW-8260BBSim

1,4-Dioxane	123-91-1	ND	2.0	ug/l	UJ	ND	2.0	ug/l	---					ND	2.0	ug/l	---	ND	2.0	ug/l	UJ	ND	2.0	ug/l	UJ	ND	2.0	ug/l
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Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110948-1

Sample Name:	HPT-221_5-9_041019	HPT-222_16-20_041019	HPT-222_10-14_041019	HPT-222_5-9_041019
Lab Sample ID:	2401109486	2401109487	2401109488	2401109489
Sample Date:	4/10/2019	4/10/2019	4/10/2019	4/10/2019

Analyte	Cas No.	Valid			Valid			Valid			Valid			Valid		
		Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit

GC/MS VOC

OSW-8260B

1,1-Dichloroethene	75-35-4	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	10	ug/l	---	ND	2.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	J	220	10	ug/l	J	3.1	1.0	ug/l	---	2.5	10	ug/l	J	0.61	2.0	ug/l	J
Tetrachloroethene	127-18-4	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	10	ug/l	---	ND	2.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	J	3.4	10	ug/l	J	3.5	1.0	ug/l	---	3.4	10	ug/l	J	0.40	2.0	ug/l	J
Trichloroethene	79-01-6	---	91	10	ug/l	J	14	1.0	ug/l	---	270	10	ug/l	---	54	2.0	ug/l	---
Vinyl chloride	75-01-4	---	ND	10	ug/l	UJ	ND	1.0	ug/l	---	ND	10	ug/l	---	ND	2.0	ug/l	---

OSW-8260BBSim

1,4-Dioxane	123-91-1	---	ND	2.0	ug/l	---	ND	2.0	ug/l	UJ	ND	2.0	ug/l	---	ND	2.0	ug/l	---
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ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110950-1
Client Project/Site: Ford LTP Livonia MI - E203728

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/27/2019 11:05:08 AM

Michael DelMonico, Project Manager I
(330)497-9396
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Job ID: 240-110950-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-110950-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/13/2019 9:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples HPT-223_20-24_041119 (240-110950-1), HPT-223_15-19_041119 (240-110950-2), HPT-223_10-14_041119 (240-110950-3), HPT-223_5-9_041119 (240-110950-4), TRIP BLANK (240-110950-5) and DUP-04 (240-110950-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/22/2019.

1,2-Dichloroethane-d4 (Surr) and Dibromofluoromethane (Surr) failed the surrogate recovery criteria high for HPT-223_20-24_041119 (240-110950-1). Refer to the QC report for details.

Samples HPT-223_15-19_041119 (240-110950-2)[10X], HPT-223_10-14_041119 (240-110950-3)[6.67X] and HPT-223_5-9_041119 (240-110950-4)[3.33X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

There was an MS/MSD analyzed in batch 240-377606 but could not be reported because the associated sample needed reanalyzed in a different batch: HPT-223_10-14_041119 (240-110950-3), HPT-223_5-9_041119 (240-110950-4), TRIP BLANK (240-110950-5) and DUP-04 (240-110950-6).

Surrogate recovery for the following sample was outside the upper control limit: HPT-223_20-24_041119 (240-110950-1). This sample

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Job ID: 240-110950-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

The pH of the sample was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if sample is not preserved to a pH of 2: HPT-223_15-19_041119 (240-110950-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples HPT-223_20-24_041119 (240-110950-1), HPT-223_15-19_041119 (240-110950-2), HPT-223_10-14_041119 (240-110950-3), HPT-223_5-9_041119 (240-110950-4) and DUP-04 (240-110950-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/16/2019.

The pH is greater than 2 for the following sample: HPT-223_15-19_041119 (240-110950-2).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110950-1	HPT-223_20-24_041119	Water	04/11/19 11:35	04/13/19 09:45
240-110950-2	HPT-223_15-19_041119	Water	04/11/19 11:50	04/13/19 09:45
240-110950-3	HPT-223_10-14_041119	Water	04/11/19 12:05	04/13/19 09:45
240-110950-4	HPT-223_5-9_041119	Water	04/11/19 12:20	04/13/19 09:45
240-110950-5	TRIP BLANK	Water	04/11/19 00:00	04/13/19 09:45
240-110950-6	DUP-04	Water	04/11/19 00:00	04/13/19 09:45



Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Client Sample ID: HPT-223_20-24_041119

Lab Sample ID: 240-110950-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.37	J	1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: HPT-223_15-19_041119

Lab Sample ID: 240-110950-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	270		10	1.6	ug/L	10		8260B	Total/NA
trans-1,2-Dichloroethene	120		10	1.9	ug/L	10		8260B	Total/NA
Trichloroethene	42		10	1.0	ug/L	10		8260B	Total/NA

Client Sample ID: HPT-223_10-14_041119

Lab Sample ID: 240-110950-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	10		6.7	1.1	ug/L	6.67		8260B	Total/NA
trans-1,2-Dichloroethene	10		6.7	1.3	ug/L	6.67		8260B	Total/NA
Trichloroethene	130		6.7	0.67	ug/L	6.67		8260B	Total/NA

Client Sample ID: HPT-223_5-9_041119

Lab Sample ID: 240-110950-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.5		3.3	0.53	ug/L	3.33		8260B	Total/NA
trans-1,2-Dichloroethene	1.5	J	3.3	0.63	ug/L	3.33		8260B	Total/NA
Trichloroethene	82		3.3	0.33	ug/L	3.33		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110950-5

No Detections.

Client Sample ID: DUP-04

Lab Sample ID: 240-110950-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Client Sample ID: HPT-223_20-24_041119

Lab Sample ID: 240-110950-1

Date Collected: 04/11/19 11:35

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/16/19 18:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/16/19 18:16	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 20:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 20:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 20:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 20:08	1
Trichloroethene	0.37	J	1.0	0.10	ug/L			04/22/19 20:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 20:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125	X	70 - 121		04/22/19 20:08	1
4-Bromofluorobenzene (Surr)	81		59 - 120		04/22/19 20:08	1
Toluene-d8 (Surr)	104		70 - 123		04/22/19 20:08	1
Dibromofluoromethane (Surr)	145	X	75 - 128		04/22/19 20:08	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Client Sample ID: HPT-223_15-19_041119

Lab Sample ID: 240-110950-2

Date Collected: 04/11/19 11:50

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/16/19 18:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 125		04/16/19 18:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	1.9	ug/L	-		04/22/19 20:30	10
cis-1,2-Dichloroethene	270		10	1.6	ug/L			04/22/19 20:30	10
Tetrachloroethene	10	U	10	1.5	ug/L			04/22/19 20:30	10
trans-1,2-Dichloroethene	120		10	1.9	ug/L			04/22/19 20:30	10
Trichloroethene	42		10	1.0	ug/L			04/22/19 20:30	10
Vinyl chloride	10	U	10	2.0	ug/L			04/22/19 20:30	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 121		04/22/19 20:30	10
4-Bromofluorobenzene (Surr)	70		59 - 120		04/22/19 20:30	10
Toluene-d8 (Surr)	97		70 - 123		04/22/19 20:30	10
Dibromofluoromethane (Surr)	127		75 - 128		04/22/19 20:30	10

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Client Sample ID: HPT-223_10-14_041119

Lab Sample ID: 240-110950-3

Date Collected: 04/11/19 12:05

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/16/19 19:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/16/19 19:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	6.7	U	6.7	1.3	ug/L	-		04/22/19 14:51	6.67
cis-1,2-Dichloroethene	10		6.7	1.1	ug/L			04/22/19 14:51	6.67
Tetrachloroethene	6.7	U	6.7	1.0	ug/L			04/22/19 14:51	6.67
trans-1,2-Dichloroethene	10		6.7	1.3	ug/L			04/22/19 14:51	6.67
Trichloroethene	130		6.7	0.67	ug/L			04/22/19 14:51	6.67
Vinyl chloride	6.7	U	6.7	1.3	ug/L			04/22/19 14:51	6.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 121		04/22/19 14:51	6.67
4-Bromofluorobenzene (Surr)	96		59 - 120		04/22/19 14:51	6.67
Toluene-d8 (Surr)	96		70 - 123		04/22/19 14:51	6.67
Dibromofluoromethane (Surr)	88		75 - 128		04/22/19 14:51	6.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Client Sample ID: HPT-223_5-9_041119

Lab Sample ID: 240-110950-4

Date Collected: 04/11/19 12:20

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/16/19 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/16/19 19:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	3.3	U	3.3	0.63	ug/L	-		04/22/19 15:16	3.33
cis-1,2-Dichloroethene	6.5		3.3	0.53	ug/L			04/22/19 15:16	3.33
Tetrachloroethene	3.3	U	3.3	0.50	ug/L	-		04/22/19 15:16	3.33
trans-1,2-Dichloroethene	1.5	J	3.3	0.63	ug/L			04/22/19 15:16	3.33
Trichloroethene	82		3.3	0.33	ug/L			04/22/19 15:16	3.33
Vinyl chloride	3.3	U	3.3	0.67	ug/L	-		04/22/19 15:16	3.33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		70 - 121		04/22/19 15:16	3.33
4-Bromofluorobenzene (Surr)	101		59 - 120		04/22/19 15:16	3.33
Toluene-d8 (Surr)	99		70 - 123		04/22/19 15:16	3.33
Dibromofluoromethane (Surr)	93		75 - 128		04/22/19 15:16	3.33

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110950-5

Date Collected: 04/11/19 00:00

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 15:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 15:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 15:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 15:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 15:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 15:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/22/19 15:41	1
4-Bromofluorobenzene (Surr)	93		59 - 120		04/22/19 15:41	1
Toluene-d8 (Surr)	97		70 - 123		04/22/19 15:41	1
Dibromofluoromethane (Surr)	94		75 - 128		04/22/19 15:41	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Client Sample ID: DUP-04

Lab Sample ID: 240-110950-6

Date Collected: 04/11/19 00:00

Matrix: Water

Date Received: 04/13/19 09:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/16/19 19:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		04/16/19 19:59	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 16:05	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 16:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:05	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 16:05	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 16:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/22/19 16:05	1
4-Bromofluorobenzene (Surr)	97		59 - 120		04/22/19 16:05	1
Toluene-d8 (Surr)	96		70 - 123		04/22/19 16:05	1
Dibromofluoromethane (Surr)	92		75 - 128		04/22/19 16:05	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110950-1	HPT-223_20-24_041119	125 X	81	104	145 X
240-110950-2	HPT-223_15-19_041119	109	70	97	127
240-110950-2 MS	HPT-223_15-19_041119	95	99	107	115
240-110950-2 MSD	HPT-223_15-19_041119	91	98	104	113
240-110950-3	HPT-223_10-14_041119	86	96	96	88
240-110950-4	HPT-223_5-9_041119	86	101	99	93
240-110950-5	TRIP BLANK	87	93	97	94
240-110950-6	DUP-04	85	97	96	92
LCS 240-377602/4	Lab Control Sample	96	101	111	119
LCS 240-377606/4	Lab Control Sample	86	100	92	101
MB 240-377602/35	Method Blank	106	75	96	120
MB 240-377606/6	Method Blank	87	102	95	91

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-110948-A-3 MS	Matrix Spike	103
240-110948-A-3 MSD	Matrix Spike Duplicate	112
240-110950-1	HPT-223_20-24_041119	102
240-110950-2	HPT-223_15-19_041119	103
240-110950-3	HPT-223_10-14_041119	106
240-110950-4	HPT-223_5-9_041119	106
240-110950-6	DUP-04	100
LCS 240-376688/4	Lab Control Sample	104
MB 240-376688/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-377602/35
Matrix: Water
Analysis Batch: 377602

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 13:00	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 13:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:00	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 13:00	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 13:00	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		04/22/19 13:00	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/22/19 13:00	1
Toluene-d8 (Surr)	96		70 - 123		04/22/19 13:00	1
Dibromofluoromethane (Surr)	120		75 - 128		04/22/19 13:00	1

Lab Sample ID: LCS 240-377602/4
Matrix: Water
Analysis Batch: 377602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.97		ug/L		100	65 - 139
cis-1,2-Dichloroethene	10.0	11.5		ug/L		115	76 - 128
Tetrachloroethene	10.0	11.9		ug/L		119	74 - 130
trans-1,2-Dichloroethene	10.0	12.7		ug/L		127	78 - 133
Trichloroethene	10.0	10.2		ug/L		102	76 - 125
Vinyl chloride	10.0	10.0		ug/L		100	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
4-Bromofluorobenzene (Surr)	101		59 - 120
Toluene-d8 (Surr)	111		70 - 123
Dibromofluoromethane (Surr)	119		75 - 128

Lab Sample ID: 240-110950-2 MS
Matrix: Water
Analysis Batch: 377602

Client Sample ID: HPT-223_15-19_041119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10	U	100	82.0		ug/L		82	53 - 140
cis-1,2-Dichloroethene	270		100	359		ug/L		90	64 - 130
Tetrachloroethene	10	U	100	84.8		ug/L		85	51 - 136
trans-1,2-Dichloroethene	120		100	232		ug/L		110	68 - 133
Trichloroethene	42		100	120		ug/L		78	55 - 131
Vinyl chloride	10	U	100	104		ug/L		104	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 121
4-Bromofluorobenzene (Surr)	99		59 - 120
Toluene-d8 (Surr)	107		70 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110950-2 MS
Matrix: Water
Analysis Batch: 377602

Client Sample ID: HPT-223_15-19_041119
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	115		75 - 128

Lab Sample ID: 240-110950-2 MSD
Matrix: Water
Analysis Batch: 377602

Client Sample ID: HPT-223_15-19_041119
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	10	U	100	91.6		ug/L		92	53 - 140	11	35
cis-1,2-Dichloroethene	270		100	360		ug/L		91	64 - 130	0	21
Tetrachloroethene	10	U	100	100		ug/L		100	51 - 136	17	23
trans-1,2-Dichloroethene	120		100	239		ug/L		117	68 - 133	3	24
Trichloroethene	42		100	128		ug/L		85	55 - 131	6	23
Vinyl chloride	10	U	100	109		ug/L		109	43 - 154	5	29

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	91		70 - 121
<i>4-Bromofluorobenzene (Surr)</i>	98		59 - 120
<i>Toluene-d8 (Surr)</i>	104		70 - 123
<i>Dibromofluoromethane (Surr)</i>	113		75 - 128

Lab Sample ID: MB 240-377606/6
Matrix: Water
Analysis Batch: 377606

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 13:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 13:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 13:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 13:12	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	87		70 - 121		04/22/19 13:12	1
<i>4-Bromofluorobenzene (Surr)</i>	102		59 - 120		04/22/19 13:12	1
<i>Toluene-d8 (Surr)</i>	95		70 - 123		04/22/19 13:12	1
<i>Dibromofluoromethane (Surr)</i>	91		75 - 128		04/22/19 13:12	1

Lab Sample ID: LCS 240-377606/4
Matrix: Water
Analysis Batch: 377606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	10.1		ug/L		101	74 - 130
trans-1,2-Dichloroethene	10.0	10.0		ug/L		100	78 - 133
Trichloroethene	10.0	9.69		ug/L		97	76 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-377606/4
Matrix: Water
Analysis Batch: 377606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	11.0		ug/L		110	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		70 - 121
4-Bromofluorobenzene (Surr)	100		59 - 120
Toluene-d8 (Surr)	92		70 - 123
Dibromofluoromethane (Surr)	101		75 - 128

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376688/5
Matrix: Water
Analysis Batch: 376688

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/16/19 12:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/16/19 12:17	1

Lab Sample ID: LCS 240-376688/4
Matrix: Water
Analysis Batch: 376688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.9		ug/L		109	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		63 - 125

Lab Sample ID: 240-110948-A-3 MS
Matrix: Water
Analysis Batch: 376688

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U * F1 F2	10.0	3.85	F1 *	ug/L		38	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		63 - 125

Lab Sample ID: 240-110948-A-3 MSD
Matrix: Water
Analysis Batch: 376688

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U * F1 F2	10.0	3.22	F1 F2 *	ug/L		32	52 - 129	18	13

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110948-A-3 MSD
Matrix: Water
Analysis Batch: 376688

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	112		63 - 125

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QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

GC/MS VOA

Analysis Batch: 376688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110950-1	HPT-223_20-24_041119	Total/NA	Water	8260B SIM	
240-110950-2	HPT-223_15-19_041119	Total/NA	Water	8260B SIM	
240-110950-3	HPT-223_10-14_041119	Total/NA	Water	8260B SIM	
240-110950-4	HPT-223_5-9_041119	Total/NA	Water	8260B SIM	
240-110950-6	DUP-04	Total/NA	Water	8260B SIM	
MB 240-376688/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376688/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110948-A-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-110948-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 377602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110950-1	HPT-223_20-24_041119	Total/NA	Water	8260B	
240-110950-2	HPT-223_15-19_041119	Total/NA	Water	8260B	
MB 240-377602/35	Method Blank	Total/NA	Water	8260B	
LCS 240-377602/4	Lab Control Sample	Total/NA	Water	8260B	
240-110950-2 MS	HPT-223_15-19_041119	Total/NA	Water	8260B	
240-110950-2 MSD	HPT-223_15-19_041119	Total/NA	Water	8260B	

Analysis Batch: 377606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110950-3	HPT-223_10-14_041119	Total/NA	Water	8260B	
240-110950-4	HPT-223_5-9_041119	Total/NA	Water	8260B	
240-110950-5	TRIP BLANK	Total/NA	Water	8260B	
240-110950-6	DUP-04	Total/NA	Water	8260B	
MB 240-377606/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377606/4	Lab Control Sample	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Client Sample ID: HPT-223_20-24_041119

Lab Sample ID: 240-110950-1

Date Collected: 04/11/19 11:35

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377602	04/22/19 20:08	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 18:16	SAM	TAL CAN

Client Sample ID: HPT-223_15-19_041119

Lab Sample ID: 240-110950-2

Date Collected: 04/11/19 11:50

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		10	377602	04/22/19 20:30	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 18:42	SAM	TAL CAN

Client Sample ID: HPT-223_10-14_041119

Lab Sample ID: 240-110950-3

Date Collected: 04/11/19 12:05

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		6.67	377606	04/22/19 14:51	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 19:08	SAM	TAL CAN

Client Sample ID: HPT-223_5-9_041119

Lab Sample ID: 240-110950-4

Date Collected: 04/11/19 12:20

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		3.33	377606	04/22/19 15:16	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 19:33	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110950-5

Date Collected: 04/11/19 00:00

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 15:41	LRW	TAL CAN

Client Sample ID: DUP-04

Lab Sample ID: 240-110950-6

Date Collected: 04/11/19 00:00

Matrix: Water

Date Received: 04/13/19 09:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 16:05	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376688	04/16/19 19:59	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110950-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



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Client Information Client Contact: Christina Weaver Caitlin O'Neill Company: ARCADIS U.S. Inc. Address: 28850 Cabot Drive, Suite 500 City: Novi State, Zip: MI 48377 Phone: 248-722-2411 Email: Caitlin.ONeill@arcadis.com Project Name: 10-14-19 10-14-19 5-9-19 Trip Blank DUP-04		Lab #1: Michael DelMonico Lab #2: Michael DelMonico Email: michael.delmonico@testamerica.com		Carrier Tracking Info: 240-50392-253417 Page 1 of 38 Job #	
Analysis Requested TAT Requested (days): 10-DAY (STD) PO #: MIC01318 0002 00002 WO #: Cedena #: E203651 Project #: 24015353 SOW:		Preservation Codes: A - HCL B - NaOH C - Zn Acetate D - H2SO4 E - NH4OH F - MeOH G - Acetic Acid H - Acetic Acid I - Ice J - DI Water K - EDTA L - EDA Other:		Special Instructions/Note: Total Number of Containers: 6 6 6 6 1 6	
Sample Identification Sample ID: HPT-223-20-24-04119 HPT-223-15-19-04119 HPT-223-10-14-04119 HPT-223-5-9-04119 TRIP Blank DUP-04		Matrix (Inorganic, Organic, Other): Water Water Water Water Water Water Water Water Water		Sample Type (C=Comp, G=grab): 6 6 6 6 — 6	
Sample Date: 4/11/19 4/11/19 4/11/19 4/11/19 4/11/19 4/11/19		Sample Time: 1135 1150 1205 1230 — —		Field Filled Sample (Yes or No): Yes Yes Yes Yes — Yes	
Form MS/MSO (Yes or No): Yes Yes Yes Yes — Yes		R2608, R2609, SIM R2608, M - VOCs (Short List) R2608 - VOCs (Short List)		240-110850 Chain of Custody	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Delicate (Requested: I, II, III)		<input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab Special Instructions/OC Requirements: Submit all samples through company at Simpsonville, SC	
Empty Kit Relinquished by: Relinquished by: Christina Weaver Relinquished by: Caitlin O'Neill Relinquished by:		Date/TIME: 4/11/19 17:07 Date/TIME: 4/12/19 11:00 Date/TIME: 4/13/19 9:45		Company: Arcadis Company: Arcadis Company: The Company	
Custody Seal Intact: A Yes A No Custody Seal No		Cooler Temperature(s) °C and Other Remarks:		Ver: 01/16/2019	

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

LogIn #: 110950

Client Arcadis Site Name _____ Cooler unpacked by: Ryan Cribler
Cooler Received on 4-13-19 Opened on 4-13-19 9:15

FedEx: 1st Grd. Exp. UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____
Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None _____

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-8 (CF -0.2°C) Observed Cooler Temp. 1.6 °C Corrected Cooler Temp. 1.4 °C
IR GUN #36 (CF +0.7°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
-Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B834001VB Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: ATA Ryan

18. SAMPLE CONDITION
Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION
Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____
VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



April 29, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008

Event Specific Scope of Work References: Sample COC

Laboratory: Test America - North Canton

Laboratory submittal: 110950-1

Sample date: 2019-04-11

Report received by CADENA: 2019-04-27

Initial Data Verification completed by CADENA: 2019-04-29

Number of Samples:6

Sample Matrices: Water

Test Categories: GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

SPV - GCMS VOC and VOC SIM sample -002 preservation non-compliance as noted in the laboratory submittal should render all associated results as estimated and qualified with J flags if detected and UJ flags if non-detect.

SUR - GCMS VOC sample -001 surrogate recoveries were outliers biased high for 2 out of 4 surrogates. These client sample results should be considered to be estimated and qualified with J flags if detected. Non-detect results do not require qualification.

GCMS VOC QC batch MS/MSD issues as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

GCMS VOC SIM QC batch MS/MSD recovery outliers, RPD or internal standard outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 110950-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401109501	HPT-223_20-24_041119	4/11/2019	11:35:00	X	X	
2401109502	HPT-223_15-19_041119	4/11/2019	11:50:00	X	X	
2401109503	HPT-223_10-14_041119	4/11/2019	12:05:00	X	X	
2401109504	HPT-223_5-9_041119	4/11/2019	12:20:00	X	X	
2401109505	TRIP BLANK	4/11/2019	12:00:00	X		
2401109506	DUP-04	4/11/2019	12:00:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110950-1

Sample Name:	HPT-223_20-24_041119	HPT-223_15-19_041119
Lab Sample ID:	2401109501	2401109502
Sample Date:	4/11/2019	4/11/2019

Analyte	Cas No.	Report		Units	Valid		Report		Valid	
		Result	Limit		Qualifier	Result	Limit	Units	Qualifier	
GC/MS VOC										
<u>OSW-8260B</u>										
1,1-Dichloroethene	75-35-4						ND	10	ug/l	UJ
cis-1,2-Dichloroethene	156-59-2						270	10	ug/l	J
Tetrachloroethene	127-18-4						ND	10	ug/l	UJ
trans-1,2-Dichloroethene	156-60-5						120	10	ug/l	J
Trichloroethene	79-01-6	0.37	1.0	ug/l	J		42	10	ug/l	J
Vinyl chloride	75-01-4						ND	10	ug/l	UJ
<u>OSW-8260BBSim</u>										
1,4-Dioxane	123-91-1						ND	2.0	ug/l	UJ

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 110950-1

Sample Name:	HPT-223_20-24_041119	HPT-223_15-19_041119	HPT-223_10-14_041119	HPT-223_5-9_041119	TRIP BLANK	DUP-04
Lab Sample ID:	2401109501	2401109502	2401109503	2401109504	2401109505	2401109506
Sample Date:	4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019	4/11/2019

Analyte	Cas No.	Report				Valid				Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier

GC/MS VOC

OSW-8260B

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	10	ug/l	UJ	ND	6.7	ug/l	---	ND	3.3	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	270	10	ug/l	J	10	6.7	ug/l	---	6.5	3.3	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	10	ug/l	UJ	ND	6.7	ug/l	---	ND	3.3	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	120	10	ug/l	J	10	6.7	ug/l	---	1.5	3.3	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	0.37	1.0	ug/l	J	42	10	ug/l	J	130	6.7	ug/l	---	82	3.3	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	10	ug/l	UJ	ND	6.7	ug/l	---	ND	3.3	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---

OSW-8260BBSim

1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	ND	2.0	ug/l	UJ	ND	2.0	ug/l	---	ND	2.0	ug/l	---					ND	2.0	ug/l	---
-------------	----------	----	-----	------	-----	----	-----	------	----	----	-----	------	-----	----	-----	------	-----	--	--	--	--	----	-----	------	-----

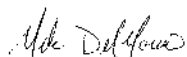
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-110996-1
Client Project/Site: Ford LTP Livonia MI - E203728

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
4/29/2019 4:35:27 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Job ID: 240-110996-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-110996-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/16/2019 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.4° C, 1.6° C and 2.0° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples LIFHP-132_17-21_041419 (240-110996-1), LIFHP-132_12-16_041419 (240-110996-2), LIFHP-132_7-11_041419 (240-110996-3), LIFHP-131_16-20_041419 (240-110996-5), LIFHP-131_11-15_041419 (240-110996-6), LIFHP-131_6-10_041419 (240-110996-7), LIFHP-130_16-20_041419 (240-110996-8), LIFHP-130_11-15_041419 (240-110996-9), LIFHP-130_6-10_041419 (240-110996-10), LIFHP-129_15-19_041419 (240-110996-11), LIFHP-129_10-14_041419 (240-110996-34), LIFHP-129_5-9_041419 (240-110996-35), DUP-06 (240-110996-37), TRIP BLANK (240-110996-38) and TRIP BLANK (240-110996-39) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 04/21/2019, 04/22/2019 and 04/23/2019.

Samples LIFHP-131_11-15_041419 (240-110996-6)[2.5X], LIFHP-131_6-10_041419 (240-110996-7)[2.5X], LIFHP-129_15-19_041419 (240-110996-11)[5X], LIFHP-129_10-14_041419 (240-110996-34)[25X], LIFHP-129_5-9_041419 (240-110996-35)[13.33X] and DUP-06 (240-110996-37)[2.5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The pH of the samples LIFHP-131_16-20_041419 (240-110996-5) and LIFHP-130_16-20_041419 (240-110996-8) was greater than 2. The sample was analyzed within the normal 14 day holding time; however, experimental evidence suggests that some aromatic compounds in wastewater samples, notably, Benzene, Toluene, and Ethylbenzene are susceptible to biological degradation if samples

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Job ID: 240-110996-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

are not preserved to a pH of 2.

There was an MS/MSD analyzed in batch 240-377606 but could not be reported because the associated sample needed reanalyzed in a different batch: LIFHP-132_17-21_041419 (240-110996-1), LIFHP-132_7-11_041419 (240-110996-3), LIFHP-131_16-20_041419 (240-110996-5), LIFHP-131_11-15_041419 (240-110996-6), LIFHP-131_6-10_041419 (240-110996-7), LIFHP-130_16-20_041419 (240-110996-8), LIFHP-130_11-15_041419 (240-110996-9), LIFHP-130_6-10_041419 (240-110996-10), LIFHP-129_15-19_041419 (240-110996-11), LIFHP-129_10-14_041419 (240-110996-34), LIFHP-129_5-9_041419 (240-110996-35), DUP-06 (240-110996-37) and TRIP BLANK (240-110996-38).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS

Samples LIFHP-131_29-30_041419 (240-110996-12), LIFHP-130_1-2_041419 (240-110996-13), LIFHP-130_2-3_041419 (240-110996-14), LIFHP-130_3-4_041419 (240-110996-15), LIFHP-130_4-5_041419 (240-110996-16), LIFHP-130_5-6_041419 (240-110996-17), LIFHP-130_29-30_041419 (240-110996-18), LIFHP-129_1-2_041419 (240-110996-19), LIFHP-129_2-3_041419 (240-110996-20), LIFHP-129_3-4_041419 (240-110996-21), LIFHP-129_4-5_041419 (240-110996-22), LIFHP-132_1-2_041419 (240-110996-23), LIFHP-132_3-4_041419 (240-110996-24), LIFHP-132_4-5_041419 (240-110996-25), LIFHP-132_5-6_041419 (240-110996-26), LIFHP-132_6-7_041419 (240-110996-27), LIFHP-132_29-30_041419 (240-110996-28), LIFHP-131_1-2_041419 (240-110996-29), LIFHP-131_2-3_041419 (240-110996-30), LIFHP-131_3-4_041419 (240-110996-31), LIFHP-131_4-5_041419 (240-110996-32), LIFHP-131_5-6_041419 (240-110996-33) and LIFHP-129_29-30_041419 (240-110996-36) were analyzed for volatile organic compounds in accordance with EPA SW-846 Method 8260B. The samples were prepared on 04/17/2019 and analyzed on 04/17/2019, 04/18/2019 and 04/19/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples LIFHP-132_17-21_041419 (240-110996-1), LIFHP-132_12-16_041419 (240-110996-2), LIFHP-132_7-11_041419 (240-110996-3), LIFHP-131_16-20_041419 (240-110996-5), LIFHP-131_11-15_041419 (240-110996-6), LIFHP-131_6-10_041419 (240-110996-7), LIFHP-130_16-20_041419 (240-110996-8), LIFHP-130_11-15_041419 (240-110996-9), LIFHP-130_6-10_041419 (240-110996-10), LIFHP-129_15-19_041419 (240-110996-11), LIFHP-129_10-14_041419 (240-110996-34), LIFHP-129_5-9_041419 (240-110996-35) and DUP-06 (240-110996-37) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/17/2019 and 04/22/2019.

The pH is greater than 2 for the following samples: LIFHP-132_12-16_041419 (240-110996-2[MSD]), LIFHP-131_16-20_041419 (240-110996-5) and LIFHP-130_16-20_041419 (240-110996-8).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples LIFHP-131_29-30_041419 (240-110996-12), LIFHP-130_1-2_041419 (240-110996-13), LIFHP-130_2-3_041419 (240-110996-14), LIFHP-130_3-4_041419 (240-110996-15), LIFHP-130_4-5_041419 (240-110996-16), LIFHP-130_5-6_041419 (240-110996-17), LIFHP-130_29-30_041419 (240-110996-18), LIFHP-129_1-2_041419 (240-110996-19), LIFHP-129_2-3_041419 (240-110996-20), LIFHP-129_3-4_041419 (240-110996-21), LIFHP-129_4-5_041419 (240-110996-22), LIFHP-132_1-2_041419 (240-110996-23), LIFHP-132_3-4_041419 (240-110996-24), LIFHP-132_4-5_041419 (240-110996-25), LIFHP-132_5-6_041419 (240-110996-26), LIFHP-132_6-7_041419 (240-110996-27), LIFHP-132_29-30_041419 (240-110996-28), LIFHP-131_1-2_041419 (240-110996-29), LIFHP-131_2-3_041419 (240-110996-30), LIFHP-131_3-4_041419 (240-110996-31), LIFHP-131_4-5_041419 (240-110996-32), LIFHP-131_5-6_041419 (240-110996-33) and LIFHP-129_29-30_041419 (240-110996-36) were analyzed for percent solids in accordance with ASTM Method D2216-80. The samples were analyzed on 04/17/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B MI	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN
5035	Closed System Purge and Trap	SW846	TAL CAN

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-110996-1	LIFHP-132_17-21_041419	Water	04/14/19 10:40	04/16/19 10:00
240-110996-2	LIFHP-132_12-16_041419	Water	04/14/19 11:00	04/16/19 10:00
240-110996-3	LIFHP-132_7-11_041419	Water	04/14/19 11:15	04/16/19 10:00
240-110996-5	LIFHP-131_16-20_041419	Water	04/14/19 13:55	04/16/19 10:00
240-110996-6	LIFHP-131_11-15_041419	Water	04/14/19 14:10	04/16/19 10:00
240-110996-7	LIFHP-131_6-10_041419	Water	04/14/19 14:25	04/16/19 10:00
240-110996-8	LIFHP-130_16-20_041419	Water	04/14/19 16:45	04/16/19 10:00
240-110996-9	LIFHP-130_11-15_041419	Water	04/14/19 17:00	04/16/19 10:00
240-110996-10	LIFHP-130_6-10_041419	Water	04/14/19 17:10	04/16/19 10:00
240-110996-11	LIFHP-129_15-19_041419	Water	04/14/19 19:35	04/16/19 10:00
240-110996-12	LIFHP-131_29-30_041419	Solid	04/14/19 13:40	04/16/19 10:00
240-110996-13	LIFHP-130_1-2_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-14	LIFHP-130_2-3_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-15	LIFHP-130_3-4_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-16	LIFHP-130_4-5_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-17	LIFHP-130_5-6_041419	Solid	04/14/19 15:15	04/16/19 10:00
240-110996-18	LIFHP-130_29-30_041419	Solid	04/14/19 16:25	04/16/19 10:00
240-110996-19	LIFHP-129_1-2_041419	Solid	04/14/19 18:00	04/16/19 10:00
240-110996-20	LIFHP-129_2-3_041419	Solid	04/14/19 18:00	04/16/19 10:00
240-110996-21	LIFHP-129_3-4_041419	Solid	04/14/19 18:00	04/16/19 10:00
240-110996-22	LIFHP-129_4-5_041419	Solid	04/14/19 18:00	04/16/19 10:00
240-110996-23	LIFHP-132_1-2_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-24	LIFHP-132_3-4_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-25	LIFHP-132_4-5_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-26	LIFHP-132_5-6_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-27	LIFHP-132_6-7_041419	Solid	04/14/19 11:20	04/16/19 10:00
240-110996-28	LIFHP-132_29-30_041419	Solid	04/14/19 11:10	04/16/19 10:00
240-110996-29	LIFHP-131_1-2_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-30	LIFHP-131_2-3_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-31	LIFHP-131_3-4_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-32	LIFHP-131_4-5_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-33	LIFHP-131_5-6_041419	Solid	04/14/19 12:00	04/16/19 10:00
240-110996-34	LIFHP-129_10-14_041419	Water	04/14/19 19:55	04/16/19 10:00
240-110996-35	LIFHP-129_5-9_041419	Water	04/14/19 20:05	04/16/19 10:00
240-110996-36	LIFHP-129_29-30_041419	Solid	04/14/19 19:05	04/16/19 10:00
240-110996-37	DUP-06	Water	04/14/19 00:00	04/16/19 10:00
240-110996-38	TRIP BLANK	Water	04/14/19 00:00	04/16/19 10:00
240-110996-39	TRIP BLANK	Water	04/14/19 00:00	04/16/19 10:00

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_17-21_041419

Lab Sample ID: 240-110996-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.87	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: LIFHP-132_12-16_041419

Lab Sample ID: 240-110996-2

No Detections.

Client Sample ID: LIFHP-132_7-11_041419

Lab Sample ID: 240-110996-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.5		1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-131_16-20_041419

Lab Sample ID: 240-110996-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.83	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-131_11-15_041419

Lab Sample ID: 240-110996-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	34		2.5	0.40	ug/L	2.5		8260B	Total/NA
Vinyl chloride	79		2.5	0.50	ug/L	2.5		8260B	Total/NA

Client Sample ID: LIFHP-131_6-10_041419

Lab Sample ID: 240-110996-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.97	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	37		2.5	0.40	ug/L	2.5		8260B	Total/NA
Vinyl chloride	63		2.5	0.50	ug/L	2.5		8260B	Total/NA

Client Sample ID: LIFHP-130_16-20_041419

Lab Sample ID: 240-110996-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.5		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-130_11-15_041419

Lab Sample ID: 240-110996-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.4		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-130_6-10_041419

Lab Sample ID: 240-110996-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.93	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.55	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: LIFHP-129_15-19_041419

Lab Sample ID: 240-110996-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	110		5.0	1.0	ug/L	5		8260B	Total/NA

Client Sample ID: LIFHP-131_29-30_041419

Lab Sample ID: 240-110996-12

No Detections.

Client Sample ID: LIFHP-130_1-2_041419

Lab Sample ID: 240-110996-13

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_2-3_041419 **Lab Sample ID: 240-110996-14**

No Detections.

Client Sample ID: LIFHP-130_3-4_041419 **Lab Sample ID: 240-110996-15**

No Detections.

Client Sample ID: LIFHP-130_4-5_041419 **Lab Sample ID: 240-110996-16**

No Detections.

Client Sample ID: LIFHP-130_5-6_041419 **Lab Sample ID: 240-110996-17**

No Detections.

Client Sample ID: LIFHP-130_29-30_041419 **Lab Sample ID: 240-110996-18**

No Detections.

Client Sample ID: LIFHP-129_1-2_041419 **Lab Sample ID: 240-110996-19**

No Detections.

Client Sample ID: LIFHP-129_2-3_041419 **Lab Sample ID: 240-110996-20**

No Detections.

Client Sample ID: LIFHP-129_3-4_041419 **Lab Sample ID: 240-110996-21**

No Detections.

Client Sample ID: LIFHP-129_4-5_041419 **Lab Sample ID: 240-110996-22**

No Detections.

Client Sample ID: LIFHP-132_1-2_041419 **Lab Sample ID: 240-110996-23**

No Detections.

Client Sample ID: LIFHP-132_3-4_041419 **Lab Sample ID: 240-110996-24**

No Detections.

Client Sample ID: LIFHP-132_4-5_041419 **Lab Sample ID: 240-110996-25**

No Detections.

Client Sample ID: LIFHP-132_5-6_041419 **Lab Sample ID: 240-110996-26**

No Detections.

Client Sample ID: LIFHP-132_6-7_041419 **Lab Sample ID: 240-110996-27**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	20	J	52	12	ug/Kg	1	☼	8260B MI	Total/NA

Client Sample ID: LIFHP-132_29-30_041419 **Lab Sample ID: 240-110996-28**

No Detections.

Client Sample ID: LIFHP-131_1-2_041419 **Lab Sample ID: 240-110996-29**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_2-3_041419

Lab Sample ID: 240-110996-30

No Detections.

Client Sample ID: LIFHP-131_3-4_041419

Lab Sample ID: 240-110996-31

No Detections.

Client Sample ID: LIFHP-131_4-5_041419

Lab Sample ID: 240-110996-32

No Detections.

Client Sample ID: LIFHP-131_5-6_041419

Lab Sample ID: 240-110996-33

No Detections.

Client Sample ID: LIFHP-129_10-14_041419

Lab Sample ID: 240-110996-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	120		25	4.0	ug/L	25		8260B	Total/NA
Vinyl chloride	610		25	5.0	ug/L	25		8260B	Total/NA

Client Sample ID: LIFHP-129_5-9_041419

Lab Sample ID: 240-110996-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	94		13	2.1	ug/L	13.33		8260B	Total/NA
Vinyl chloride	320		13	2.7	ug/L	13.33		8260B	Total/NA

Client Sample ID: LIFHP-129_29-30_041419

Lab Sample ID: 240-110996-36

No Detections.

Client Sample ID: DUP-06

Lab Sample ID: 240-110996-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	38		2.5	0.40	ug/L	2.5		8260B	Total/NA
Vinyl chloride	80		2.5	0.50	ug/L	2.5		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-38

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-39

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_17-21_041419

Lab Sample ID: 240-110996-1

Date Collected: 04/14/19 10:40

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.87	J	2.0	0.86	ug/L			04/17/19 17:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		63 - 125		04/17/19 17:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 16:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 16:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 16:30	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 121		04/22/19 16:30	1
4-Bromofluorobenzene (Surr)	95		59 - 120		04/22/19 16:30	1
Toluene-d8 (Surr)	92		70 - 123		04/22/19 16:30	1
Dibromofluoromethane (Surr)	96		75 - 128		04/22/19 16:30	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_12-16_041419

Lab Sample ID: 240-110996-2

Date Collected: 04/14/19 11:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 18:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 125		04/17/19 18:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/21/19 00:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		04/21/19 00:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		04/21/19 00:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/21/19 00:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		04/21/19 00:30	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		04/21/19 00:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 121		04/21/19 00:30	1
4-Bromofluorobenzene (Surr)	75		59 - 120		04/21/19 00:30	1
Toluene-d8 (Surr)	90		70 - 123		04/21/19 00:30	1
Dibromofluoromethane (Surr)	127		75 - 128		04/21/19 00:30	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_7-11_041419

Lab Sample ID: 240-110996-3

Date Collected: 04/14/19 11:15

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/17/19 19:25	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 16:55	1
cis-1,2-Dichloroethene	1.5		1.0	0.16	ug/L			04/22/19 16:55	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 16:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 16:55	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 16:55	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 16:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 121		04/22/19 16:55	1
4-Bromofluorobenzene (Surr)	102		59 - 120		04/22/19 16:55	1
Toluene-d8 (Surr)	97		70 - 123		04/22/19 16:55	1
Dibromofluoromethane (Surr)	96		75 - 128		04/22/19 16:55	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_16-20_041419

Lab Sample ID: 240-110996-5

Date Collected: 04/14/19 13:55

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 19:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/17/19 19:50	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 17:20	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		04/22/19 17:20	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		04/22/19 17:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 17:20	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		04/22/19 17:20	1
Vinyl chloride	0.83	J	1.0	0.20	ug/L	-		04/22/19 17:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/22/19 17:20	1
4-Bromofluorobenzene (Surr)	101		59 - 120		04/22/19 17:20	1
Toluene-d8 (Surr)	96		70 - 123		04/22/19 17:20	1
Dibromofluoromethane (Surr)	93		75 - 128		04/22/19 17:20	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_11-15_041419

Lab Sample ID: 240-110996-6

Date Collected: 04/14/19 14:10

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 20:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 20:16	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.5	U	2.5	0.48	ug/L	-		04/22/19 17:45	2.5
cis-1,2-Dichloroethene	34		2.5	0.40	ug/L			04/22/19 17:45	2.5
Tetrachloroethene	2.5	U	2.5	0.38	ug/L			04/22/19 17:45	2.5
trans-1,2-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 17:45	2.5
Trichloroethene	2.5	U	2.5	0.25	ug/L			04/22/19 17:45	2.5
Vinyl chloride	79		2.5	0.50	ug/L			04/22/19 17:45	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 121		04/22/19 17:45	2.5
4-Bromofluorobenzene (Surr)	104		59 - 120		04/22/19 17:45	2.5
Toluene-d8 (Surr)	97		70 - 123		04/22/19 17:45	2.5
Dibromofluoromethane (Surr)	89		75 - 128		04/22/19 17:45	2.5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_6-10_041419

Lab Sample ID: 240-110996-7

Date Collected: 04/14/19 14:25

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.97	J	2.0	0.86	ug/L			04/17/19 20:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 20:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 18:10	2.5
cis-1,2-Dichloroethene	37		2.5	0.40	ug/L			04/22/19 18:10	2.5
Tetrachloroethene	2.5	U	2.5	0.38	ug/L			04/22/19 18:10	2.5
trans-1,2-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 18:10	2.5
Trichloroethene	2.5	U	2.5	0.25	ug/L			04/22/19 18:10	2.5
Vinyl chloride	63		2.5	0.50	ug/L			04/22/19 18:10	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		70 - 121		04/22/19 18:10	2.5
4-Bromofluorobenzene (Surr)	98		59 - 120		04/22/19 18:10	2.5
Toluene-d8 (Surr)	94		70 - 123		04/22/19 18:10	2.5
Dibromofluoromethane (Surr)	95		75 - 128		04/22/19 18:10	2.5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_16-20_041419

Lab Sample ID: 240-110996-8

Date Collected: 04/14/19 16:45

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/17/19 21:07	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 21:07	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 18:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		04/22/19 18:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		04/22/19 18:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		04/22/19 18:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		04/22/19 18:34	1
Vinyl chloride	1.5		1.0	0.20	ug/L	-		04/22/19 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		70 - 121		04/22/19 18:34	1
4-Bromofluorobenzene (Surr)	97		59 - 120		04/22/19 18:34	1
Toluene-d8 (Surr)	94		70 - 123		04/22/19 18:34	1
Dibromofluoromethane (Surr)	88		75 - 128		04/22/19 18:34	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_11-15_041419

Lab Sample ID: 240-110996-9

Date Collected: 04/14/19 17:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 21:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/17/19 21:33	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 19:00	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 19:00	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 19:00	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 19:00	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 19:00	1
Vinyl chloride	1.4		1.0	0.20	ug/L			04/22/19 19:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/22/19 19:00	1
4-Bromofluorobenzene (Surr)	102		59 - 120		04/22/19 19:00	1
Toluene-d8 (Surr)	94		70 - 123		04/22/19 19:00	1
Dibromofluoromethane (Surr)	96		75 - 128		04/22/19 19:00	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_6-10_041419

Lab Sample ID: 240-110996-10

Date Collected: 04/14/19 17:10

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.93	J	2.0	0.86	ug/L			04/17/19 21:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 125		04/17/19 21:58	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 19:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 19:25	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 19:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 19:25	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 19:25	1
Vinyl chloride	0.55	J	1.0	0.20	ug/L			04/22/19 19:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		70 - 121		04/22/19 19:25	1
4-Bromofluorobenzene (Surr)	99		59 - 120		04/22/19 19:25	1
Toluene-d8 (Surr)	95		70 - 123		04/22/19 19:25	1
Dibromofluoromethane (Surr)	97		75 - 128		04/22/19 19:25	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_15-19_041419

Lab Sample ID: 240-110996-11

Date Collected: 04/14/19 19:35

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 22:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/17/19 22:24	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L			04/22/19 19:49	5
cis-1,2-Dichloroethene	5.0	U	5.0	0.80	ug/L			04/22/19 19:49	5
Tetrachloroethene	5.0	U	5.0	0.75	ug/L			04/22/19 19:49	5
trans-1,2-Dichloroethene	5.0	U	5.0	0.95	ug/L			04/22/19 19:49	5
Trichloroethene	5.0	U	5.0	0.50	ug/L			04/22/19 19:49	5
Vinyl chloride	110		5.0	1.0	ug/L			04/22/19 19:49	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 121		04/22/19 19:49	5
4-Bromofluorobenzene (Surr)	101		59 - 120		04/22/19 19:49	5
Toluene-d8 (Surr)	97		70 - 123		04/22/19 19:49	5
Dibromofluoromethane (Surr)	96		75 - 128		04/22/19 19:49	5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_29-30_041419

Lab Sample ID: 240-110996-12

Date Collected: 04/14/19 13:40

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 82.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	60	U	60	24	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
cis-1,2-Dichloroethene	60	U	60	14	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
Tetrachloroethene	60	U	60	27	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
trans-1,2-Dichloroethene	60	U	60	15	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
Trichloroethene	60	U	60	17	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1
Vinyl chloride	48	U	48	18	ug/Kg	☼	04/17/19 10:51	04/17/19 22:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		53 - 155	04/17/19 10:51	04/17/19 22:34	1
4-Bromofluorobenzene (Surr)	91		48 - 151	04/17/19 10:51	04/17/19 22:34	1
Toluene-d8 (Surr)	95		49 - 147	04/17/19 10:51	04/17/19 22:34	1
Dibromofluoromethane (Surr)	80		49 - 138	04/17/19 10:51	04/17/19 22:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.7		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	17.3		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_1-2_041419

Lab Sample ID: 240-110996-13

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 92.6

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	49	U	49	20	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
cis-1,2-Dichloroethene	49	U	49	11	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
Tetrachloroethene	49	U	49	22	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
trans-1,2-Dichloroethene	49	U	49	12	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
Trichloroethene	49	U	49	13	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1
Vinyl chloride	39	U	39	15	ug/Kg	☼	04/17/19 10:51	04/17/19 23:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		53 - 155	04/17/19 10:51	04/17/19 23:39	1
4-Bromofluorobenzene (Surr)	98		48 - 151	04/17/19 10:51	04/17/19 23:39	1
Toluene-d8 (Surr)	101		49 - 147	04/17/19 10:51	04/17/19 23:39	1
Dibromofluoromethane (Surr)	83		49 - 138	04/17/19 10:51	04/17/19 23:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.6		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	7.4		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_2-3_041419

Lab Sample ID: 240-110996-14

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 90.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
Trichloroethene	53	U	53	14	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1
Vinyl chloride	42	U	42	16	ug/Kg	☼	04/17/19 10:51	04/18/19 00:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		53 - 155	04/17/19 10:51	04/18/19 00:01	1
4-Bromofluorobenzene (Surr)	108		48 - 151	04/17/19 10:51	04/18/19 00:01	1
Toluene-d8 (Surr)	108		49 - 147	04/17/19 10:51	04/18/19 00:01	1
Dibromofluoromethane (Surr)	87		49 - 138	04/17/19 10:51	04/18/19 00:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	90.3		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	9.7		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_3-4_041419

Lab Sample ID: 240-110996-15

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 93.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	44	U	44	18	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
cis-1,2-Dichloroethene	44	U	44	10	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
Tetrachloroethene	44	U	44	20	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
trans-1,2-Dichloroethene	44	U	44	11	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
Trichloroethene	44	U	44	12	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1
Vinyl chloride	36	U	36	13	ug/Kg	☼	04/17/19 10:51	04/18/19 00:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		53 - 155	04/17/19 10:51	04/18/19 00:22	1
4-Bromofluorobenzene (Surr)	103		48 - 151	04/17/19 10:51	04/18/19 00:22	1
Toluene-d8 (Surr)	110		49 - 147	04/17/19 10:51	04/18/19 00:22	1
Dibromofluoromethane (Surr)	88		49 - 138	04/17/19 10:51	04/18/19 00:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	93.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	6.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_4-5_041419

Lab Sample ID: 240-110996-16

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	51	U	51	20	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
cis-1,2-Dichloroethene	51	U	51	11	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
Tetrachloroethene	51	U	51	23	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
trans-1,2-Dichloroethene	51	U	51	13	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
Trichloroethene	51	U	51	14	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1
Vinyl chloride	41	U	41	15	ug/Kg	☼	04/17/19 10:51	04/18/19 00:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/17/19 10:51	04/18/19 00:44	1
4-Bromofluorobenzene (Surr)	99		48 - 151	04/17/19 10:51	04/18/19 00:44	1
Toluene-d8 (Surr)	105		49 - 147	04/17/19 10:51	04/18/19 00:44	1
Dibromofluoromethane (Surr)	85		49 - 138	04/17/19 10:51	04/18/19 00:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.5		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	8.5		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_5-6_041419

Lab Sample ID: 240-110996-17

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 86.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 10:51	04/18/19 01:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		53 - 155	04/17/19 10:51	04/18/19 01:06	1
4-Bromofluorobenzene (Surr)	103		48 - 151	04/17/19 10:51	04/18/19 01:06	1
Toluene-d8 (Surr)	106		49 - 147	04/17/19 10:51	04/18/19 01:06	1
Dibromofluoromethane (Surr)	87		49 - 138	04/17/19 10:51	04/18/19 01:06	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	86.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	13.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_29-30_041419

Lab Sample ID: 240-110996-18

Date Collected: 04/14/19 16:25

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.9

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 12:48	04/19/19 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		53 - 155	04/17/19 12:48	04/19/19 20:38	1
4-Bromofluorobenzene (Surr)	87		48 - 151	04/17/19 12:48	04/19/19 20:38	1
Toluene-d8 (Surr)	86		49 - 147	04/17/19 12:48	04/19/19 20:38	1
Dibromofluoromethane (Surr)	77		49 - 138	04/17/19 12:48	04/19/19 20:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.9		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	15.1		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_1-2_041419

Lab Sample ID: 240-110996-19

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 88.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
Tetrachloroethene	50	U	50	22	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
trans-1,2-Dichloroethene	50	U	50	12	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/17/19 10:51	04/18/19 01:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		53 - 155	04/17/19 10:51	04/18/19 01:27	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/17/19 10:51	04/18/19 01:27	1
Toluene-d8 (Surr)	99		49 - 147	04/17/19 10:51	04/18/19 01:27	1
Dibromofluoromethane (Surr)	80		49 - 138	04/17/19 10:51	04/18/19 01:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.8		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	11.2		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_2-3_041419

Lab Sample ID: 240-110996-20

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 95.7

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	43	U	43	17	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
cis-1,2-Dichloroethene	43	U	43	9.8	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
Tetrachloroethene	43	U	43	20	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
trans-1,2-Dichloroethene	43	U	43	11	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
Trichloroethene	43	U	43	12	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1
Vinyl chloride	35	U	35	13	ug/Kg	☼	04/17/19 10:51	04/18/19 01:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		53 - 155	04/17/19 10:51	04/18/19 01:49	1
4-Bromofluorobenzene (Surr)	91		48 - 151	04/17/19 10:51	04/18/19 01:49	1
Toluene-d8 (Surr)	92		49 - 147	04/17/19 10:51	04/18/19 01:49	1
Dibromofluoromethane (Surr)	77		49 - 138	04/17/19 10:51	04/18/19 01:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	95.7		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	4.3		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_3-4_041419

Lab Sample ID: 240-110996-21

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 88.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	64	U	64	25	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
cis-1,2-Dichloroethene	64	U	64	14	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
Tetrachloroethene	64	U	64	29	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
trans-1,2-Dichloroethene	64	U	64	16	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
Trichloroethene	64	U	64	17	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1
Vinyl chloride	51	U	51	19	ug/Kg	☼	04/17/19 10:51	04/18/19 02:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		53 - 155	04/17/19 10:51	04/18/19 02:11	1
4-Bromofluorobenzene (Surr)	125		48 - 151	04/17/19 10:51	04/18/19 02:11	1
Toluene-d8 (Surr)	127		49 - 147	04/17/19 10:51	04/18/19 02:11	1
Dibromofluoromethane (Surr)	107		49 - 138	04/17/19 10:51	04/18/19 02:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	88.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	11.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_4-5_041419

Lab Sample ID: 240-110996-22

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 83.5

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	61	U	61	25	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
cis-1,2-Dichloroethene	61	U	61	14	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
Tetrachloroethene	61	U	61	28	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
trans-1,2-Dichloroethene	61	U	61	15	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
Trichloroethene	61	U	61	17	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1
Vinyl chloride	49	U	49	18	ug/Kg	☼	04/17/19 10:51	04/18/19 02:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		53 - 155	04/17/19 10:51	04/18/19 02:33	1
4-Bromofluorobenzene (Surr)	103		48 - 151	04/17/19 10:51	04/18/19 02:33	1
Toluene-d8 (Surr)	109		49 - 147	04/17/19 10:51	04/18/19 02:33	1
Dibromofluoromethane (Surr)	91		49 - 138	04/17/19 10:51	04/18/19 02:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.5		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	16.5		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_1-2_041419

Lab Sample ID: 240-110996-23

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 89.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	53	U	53	21	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
cis-1,2-Dichloroethene	53	U	53	12	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
Tetrachloroethene	53	U	53	24	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
trans-1,2-Dichloroethene	53	U	53	13	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
Trichloroethene	53	U	53	15	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/17/19 10:51	04/18/19 02:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		53 - 155	04/17/19 10:51	04/18/19 02:55	1
4-Bromofluorobenzene (Surr)	90		48 - 151	04/17/19 10:51	04/18/19 02:55	1
Toluene-d8 (Surr)	96		49 - 147	04/17/19 10:51	04/18/19 02:55	1
Dibromofluoromethane (Surr)	70		49 - 138	04/17/19 10:51	04/18/19 02:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	89.1		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	10.9		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_3-4_041419

Lab Sample ID: 240-110996-24

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	48	U	48	19	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
cis-1,2-Dichloroethene	48	U	48	11	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
Tetrachloroethene	48	U	48	22	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
trans-1,2-Dichloroethene	48	U	48	12	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
Trichloroethene	48	U	48	13	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1
Vinyl chloride	38	U	38	14	ug/Kg	☼	04/17/19 10:51	04/18/19 03:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		53 - 155	04/17/19 10:51	04/18/19 03:17	1
4-Bromofluorobenzene (Surr)	106		48 - 151	04/17/19 10:51	04/18/19 03:17	1
Toluene-d8 (Surr)	114		49 - 147	04/17/19 10:51	04/18/19 03:17	1
Dibromofluoromethane (Surr)	92		49 - 138	04/17/19 10:51	04/18/19 03:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.0		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	9.0		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_4-5_041419

Lab Sample ID: 240-110996-25

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.2

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	55	U	55	22	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
cis-1,2-Dichloroethene	55	U	55	12	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
Tetrachloroethene	55	U	55	25	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
trans-1,2-Dichloroethene	55	U	55	14	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
Trichloroethene	55	U	55	15	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1
Vinyl chloride	44	U	44	17	ug/Kg	☼	04/17/19 10:51	04/18/19 03:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		53 - 155	04/17/19 10:51	04/18/19 03:39	1
4-Bromofluorobenzene (Surr)	87		48 - 151	04/17/19 10:51	04/18/19 03:39	1
Toluene-d8 (Surr)	93		49 - 147	04/17/19 10:51	04/18/19 03:39	1
Dibromofluoromethane (Surr)	79		49 - 138	04/17/19 10:51	04/18/19 03:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.2		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	12.8		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_5-6_041419

Lab Sample ID: 240-110996-26

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	22	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
trans-1,2-Dichloroethene	54	U	54	14	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/17/19 10:51	04/18/19 04:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		53 - 155	04/17/19 10:51	04/18/19 04:00	1
4-Bromofluorobenzene (Surr)	92		48 - 151	04/17/19 10:51	04/18/19 04:00	1
Toluene-d8 (Surr)	101		49 - 147	04/17/19 10:51	04/18/19 04:00	1
Dibromofluoromethane (Surr)	83		49 - 138	04/17/19 10:51	04/18/19 04:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.3		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	12.7		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_6-7_041419

Lab Sample ID: 240-110996-27

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 92.3

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	52	U	52	21	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
cis-1,2-Dichloroethene	20	J	52	12	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
Tetrachloroethene	52	U	52	23	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
trans-1,2-Dichloroethene	52	U	52	13	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
Trichloroethene	52	U	52	14	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1
Vinyl chloride	41	U	41	16	ug/Kg	☼	04/17/19 10:51	04/18/19 04:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		53 - 155	04/17/19 10:51	04/18/19 04:22	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/17/19 10:51	04/18/19 04:22	1
Toluene-d8 (Surr)	102		49 - 147	04/17/19 10:51	04/18/19 04:22	1
Dibromofluoromethane (Surr)	83		49 - 138	04/17/19 10:51	04/18/19 04:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	92.3		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	7.7		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_29-30_041419

Lab Sample ID: 240-110996-28

Date Collected: 04/14/19 11:10

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 85.0

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1
Vinyl chloride	45	U	45	17	ug/Kg	☼	04/17/19 10:51	04/18/19 04:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		53 - 155	04/17/19 10:51	04/18/19 04:43	1
4-Bromofluorobenzene (Surr)	101		48 - 151	04/17/19 10:51	04/18/19 04:43	1
Toluene-d8 (Surr)	105		49 - 147	04/17/19 10:51	04/18/19 04:43	1
Dibromofluoromethane (Surr)	85		49 - 138	04/17/19 10:51	04/18/19 04:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.0		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	15.0		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_1-2_041419

Lab Sample ID: 240-110996-29

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.8

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	54	U	54	22	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
cis-1,2-Dichloroethene	54	U	54	12	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
Tetrachloroethene	54	U	54	24	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
trans-1,2-Dichloroethene	54	U	54	14	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
Trichloroethene	54	U	54	15	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1
Vinyl chloride	43	U	43	16	ug/Kg	☼	04/17/19 10:51	04/18/19 05:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		53 - 155	04/17/19 10:51	04/18/19 05:05	1
4-Bromofluorobenzene (Surr)	104		48 - 151	04/17/19 10:51	04/18/19 05:05	1
Toluene-d8 (Surr)	105		49 - 147	04/17/19 10:51	04/18/19 05:05	1
Dibromofluoromethane (Surr)	79		49 - 138	04/17/19 10:51	04/18/19 05:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	87.8		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	12.2		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_2-3_041419

Lab Sample ID: 240-110996-30

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	58	U	58	23	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
cis-1,2-Dichloroethene	58	U	58	13	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
Tetrachloroethene	58	U	58	26	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
trans-1,2-Dichloroethene	58	U	58	15	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
Trichloroethene	58	U	58	16	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 10:51	04/18/19 05:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		53 - 155	04/17/19 10:51	04/18/19 05:27	1
4-Bromofluorobenzene (Surr)	107		48 - 151	04/17/19 10:51	04/18/19 05:27	1
Toluene-d8 (Surr)	110		49 - 147	04/17/19 10:51	04/18/19 05:27	1
Dibromofluoromethane (Surr)	88		49 - 138	04/17/19 10:51	04/18/19 05:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	15.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_3-4_041419

Lab Sample ID: 240-110996-31

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	50	U	50	20	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
cis-1,2-Dichloroethene	50	U	50	11	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
Tetrachloroethene	50	U	50	23	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
trans-1,2-Dichloroethene	50	U	50	13	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
Trichloroethene	50	U	50	14	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1
Vinyl chloride	40	U	40	15	ug/Kg	☼	04/17/19 12:48	04/19/19 21:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	76		53 - 155	04/17/19 12:48	04/19/19 21:43	1
4-Bromofluorobenzene (Surr)	88		48 - 151	04/17/19 12:48	04/19/19 21:43	1
Toluene-d8 (Surr)	87		49 - 147	04/17/19 12:48	04/19/19 21:43	1
Dibromofluoromethane (Surr)	73		49 - 138	04/17/19 12:48	04/19/19 21:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	91.4		0.1	0.1	%			04/17/19 14:27	1
Percent Moisture	8.6		0.1	0.1	%			04/17/19 14:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_4-5_041419

Lab Sample ID: 240-110996-32

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 85.4

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	57	U	57	23	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
cis-1,2-Dichloroethene	57	U	57	13	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
Tetrachloroethene	57	U	57	26	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
trans-1,2-Dichloroethene	57	U	57	14	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
Trichloroethene	57	U	57	16	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 12:48	04/19/19 22:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		53 - 155	04/17/19 12:48	04/19/19 22:05	1
4-Bromofluorobenzene (Surr)	94		48 - 151	04/17/19 12:48	04/19/19 22:05	1
Toluene-d8 (Surr)	94		49 - 147	04/17/19 12:48	04/19/19 22:05	1
Dibromofluoromethane (Surr)	81		49 - 138	04/17/19 12:48	04/19/19 22:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	85.4		0.1	0.1	%			04/17/19 14:35	1
Percent Moisture	14.6		0.1	0.1	%			04/17/19 14:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_5-6_041419

Lab Sample ID: 240-110996-33

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	56	U	56	22	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
cis-1,2-Dichloroethene	56	U	56	13	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
Tetrachloroethene	56	U	56	25	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
trans-1,2-Dichloroethene	56	U	56	14	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
Trichloroethene	56	U	56	15	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1
Vinyl chloride	45	U	45	17	ug/Kg	☼	04/17/19 12:48	04/19/19 22:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		53 - 155	04/17/19 12:48	04/19/19 22:26	1
4-Bromofluorobenzene (Surr)	97		48 - 151	04/17/19 12:48	04/19/19 22:26	1
Toluene-d8 (Surr)	100		49 - 147	04/17/19 12:48	04/19/19 22:26	1
Dibromofluoromethane (Surr)	84		49 - 138	04/17/19 12:48	04/19/19 22:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	84.1		0.1	0.1	%			04/17/19 14:35	1
Percent Moisture	15.9		0.1	0.1	%			04/17/19 14:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_10-14_041419

Lab Sample ID: 240-110996-34

Date Collected: 04/14/19 19:55

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 22:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/17/19 22:49	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	25	U	25	4.8	ug/L			04/22/19 20:14	25
cis-1,2-Dichloroethene	120		25	4.0	ug/L			04/22/19 20:14	25
Tetrachloroethene	25	U	25	3.8	ug/L			04/22/19 20:14	25
trans-1,2-Dichloroethene	25	U	25	4.8	ug/L			04/22/19 20:14	25
Trichloroethene	25	U	25	2.5	ug/L			04/22/19 20:14	25
Vinyl chloride	610		25	5.0	ug/L			04/22/19 20:14	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		70 - 121		04/22/19 20:14	25
4-Bromofluorobenzene (Surr)	99		59 - 120		04/22/19 20:14	25
Toluene-d8 (Surr)	93		70 - 123		04/22/19 20:14	25
Dibromofluoromethane (Surr)	97		75 - 128		04/22/19 20:14	25

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_5-9_041419

Lab Sample ID: 240-110996-35

Date Collected: 04/14/19 20:05

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/22/19 13:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		04/22/19 13:59	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	13	U	13	2.5	ug/L			04/22/19 20:39	13.33
cis-1,2-Dichloroethene	94		13	2.1	ug/L			04/22/19 20:39	13.33
Tetrachloroethene	13	U	13	2.0	ug/L			04/22/19 20:39	13.33
trans-1,2-Dichloroethene	13	U	13	2.5	ug/L			04/22/19 20:39	13.33
Trichloroethene	13	U	13	1.3	ug/L			04/22/19 20:39	13.33
Vinyl chloride	320		13	2.7	ug/L			04/22/19 20:39	13.33

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 121		04/22/19 20:39	13.33
4-Bromofluorobenzene (Surr)	102		59 - 120		04/22/19 20:39	13.33
Toluene-d8 (Surr)	94		70 - 123		04/22/19 20:39	13.33
Dibromofluoromethane (Surr)	99		75 - 128		04/22/19 20:39	13.33

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_29-30_041419

Lab Sample ID: 240-110996-36

Date Collected: 04/14/19 19:05

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 83.1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	58	U	58	23	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
cis-1,2-Dichloroethene	58	U	58	13	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
Tetrachloroethene	58	U	58	26	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
trans-1,2-Dichloroethene	58	U	58	14	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
Trichloroethene	58	U	58	16	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1
Vinyl chloride	46	U	46	17	ug/Kg	☼	04/17/19 12:48	04/19/19 22:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		53 - 155	04/17/19 12:48	04/19/19 22:48	1
4-Bromofluorobenzene (Surr)	87		48 - 151	04/17/19 12:48	04/19/19 22:48	1
Toluene-d8 (Surr)	93		49 - 147	04/17/19 12:48	04/19/19 22:48	1
Dibromofluoromethane (Surr)	80		49 - 138	04/17/19 12:48	04/19/19 22:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	83.1		0.1	0.1	%			04/17/19 14:35	1
Percent Moisture	16.9		0.1	0.1	%			04/17/19 14:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: DUP-06

Lab Sample ID: 240-110996-37

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/22/19 14:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/22/19 14:25	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 21:04	2.5
cis-1,2-Dichloroethene	38		2.5	0.40	ug/L			04/22/19 21:04	2.5
Tetrachloroethene	2.5	U	2.5	0.38	ug/L			04/22/19 21:04	2.5
trans-1,2-Dichloroethene	2.5	U	2.5	0.48	ug/L			04/22/19 21:04	2.5
Trichloroethene	2.5	U	2.5	0.25	ug/L			04/22/19 21:04	2.5
Vinyl chloride	80		2.5	0.50	ug/L			04/22/19 21:04	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 121		04/22/19 21:04	2.5
4-Bromofluorobenzene (Surr)	107		59 - 120		04/22/19 21:04	2.5
Toluene-d8 (Surr)	97		70 - 123		04/22/19 21:04	2.5
Dibromofluoromethane (Surr)	100		75 - 128		04/22/19 21:04	2.5

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-38

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 21:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 21:28	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 21:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 21:28	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 21:28	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 21:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		70 - 121		04/22/19 21:28	1
4-Bromofluorobenzene (Surr)	103		59 - 120		04/22/19 21:28	1
Toluene-d8 (Surr)	96		70 - 123		04/22/19 21:28	1
Dibromofluoromethane (Surr)	94		75 - 128		04/22/19 21:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-39

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 13:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/23/19 13:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/23/19 13:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 13:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/23/19 13:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/23/19 13:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 121		04/23/19 13:37	1
4-Bromofluorobenzene (Surr)	99		59 - 120		04/23/19 13:37	1
Toluene-d8 (Surr)	97		70 - 123		04/23/19 13:37	1
Dibromofluoromethane (Surr)	98		75 - 128		04/23/19 13:37	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-110996-1	LIFHP-132_17-21_041419	92	95	92	96
240-110996-2	LIFHP-132_12-16_041419	116	75	90	127
240-110996-2 MS	LIFHP-132_12-16_041419	95	108	104	102
240-110996-2 MSD	LIFHP-132_12-16_041419	94	105	103	100
240-110996-3	LIFHP-132_7-11_041419	93	102	97	96
240-110996-5	LIFHP-131_16-20_041419	88	101	96	93
240-110996-6	LIFHP-131_11-15_041419	91	104	97	89
240-110996-7	LIFHP-131_6-10_041419	90	98	94	95
240-110996-8	LIFHP-130_16-20_041419	85	97	94	88
240-110996-9	LIFHP-130_11-15_041419	87	102	94	96
240-110996-10	LIFHP-130_6-10_041419	88	99	95	97
240-110996-11	LIFHP-129_15-19_041419	96	101	97	96
240-110996-34	LIFHP-129_10-14_041419	87	99	93	97
240-110996-35	LIFHP-129_5-9_041419	91	102	94	99
240-110996-37	DUP-06	93	107	97	100
240-110996-38	TRIP BLANK	93	103	96	94
240-110996-39	TRIP BLANK	96	99	97	98
LCS 240-377477/4	Lab Control Sample	96	104	100	100
LCS 240-377606/4	Lab Control Sample	86	100	92	101
LCS 240-377778/4	Lab Control Sample	87	95	93	95
MB 240-377477/7	Method Blank	110	76	89	119
MB 240-377606/6	Method Blank	87	102	95	91
MB 240-377778/6	Method Blank	84	97	95	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	TOL (49-147)	DBFM (49-138)
240-110996-12	LIFHP-131_29-30_041419	83	91	95	80
240-110996-12 MS	LIFHP-131_29-30_041419	78	91	94	77
240-110996-12 MSD	LIFHP-131_29-30_041419	83	91	99	81
240-110996-13	LIFHP-130_1-2_041419	89	98	101	83
240-110996-14	LIFHP-130_2-3_041419	94	108	108	87
240-110996-15	LIFHP-130_3-4_041419	92	103	110	88
240-110996-16	LIFHP-130_4-5_041419	88	99	105	85
240-110996-17	LIFHP-130_5-6_041419	93	103	106	87
240-110996-18	LIFHP-130_29-30_041419	83	87	86	77
240-110996-18 MS	LIFHP-130_29-30_041419	86	94	98	84
240-110996-18 MSD	LIFHP-130_29-30_041419	78	85	91	77
240-110996-19	LIFHP-129_1-2_041419	86	94	99	80
240-110996-20	LIFHP-129_2-3_041419	82	91	92	77
240-110996-21	LIFHP-129_3-4_041419	116	125	127	107

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (53-155)	BFB (48-151)	TOL (49-147)	DBFM (49-138)
240-110996-22	LIFHP-129_4-5_041419	96	103	109	91
240-110996-23	LIFHP-132_1-2_041419	85	90	96	70
240-110996-24	LIFHP-132_3-4_041419	100	106	114	92
240-110996-25	LIFHP-132_4-5_041419	84	87	93	79
240-110996-26	LIFHP-132_5-6_041419	87	92	101	83
240-110996-27	LIFHP-132_6-7_041419	88	94	102	83
240-110996-28	LIFHP-132_29-30_041419	91	101	105	85
240-110996-29	LIFHP-131_1-2_041419	94	104	105	79
240-110996-30	LIFHP-131_2-3_041419	97	107	110	88
240-110996-31	LIFHP-131_3-4_041419	76	88	87	73
240-110996-32	LIFHP-131_4-5_041419	85	94	94	81
240-110996-33	LIFHP-131_5-6_041419	90	97	100	84
240-110996-36	LIFHP-129_29-30_041419	84	87	93	80
240-110996-36 MS	LIFHP-129_29-30_041419	84	86	96	82
240-110996-36 MSD	LIFHP-129_29-30_041419	86	85	95	84
LCS 240-376916/2-A	Lab Control Sample	92	95	99	87
LCS 240-376973/2-A	Lab Control Sample	83	92	95	80
MB 240-376916/1-A	Method Blank	101	108	110	96
MB 240-376973/1-A	Method Blank	76	86	83	70

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Matrix: Solid

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (10-150)	BFB (10-150)	TOL (10-150)	DBFM (10-150)
MRL 240-377029/6	Lab Control Sample	89	97	97	87

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-110996-1	LIFHP-132_17-21_041419	100
240-110996-2	LIFHP-132_12-16_041419	103
240-110996-2 MS	LIFHP-132_12-16_041419	107
240-110996-2 MSD	LIFHP-132_12-16_041419	103
240-110996-3	LIFHP-132_7-11_041419	102
240-110996-5	LIFHP-131_16-20_041419	106

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.

Job ID: 240-110996-1

Project/Site: Ford LTP Livonia MI - E203728

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-110996-6	LIFHP-131_11-15_041419	104
240-110996-7	LIFHP-131_6-10_041419	104
240-110996-8	LIFHP-130_16-20_041419	104
240-110996-9	LIFHP-130_11-15_041419	106
240-110996-10	LIFHP-130_6-10_041419	105
240-110996-11	LIFHP-129_15-19_041419	104
240-110996-34	LIFHP-129_10-14_041419	102
240-110996-35	LIFHP-129_5-9_041419	102
240-110996-37	DUP-06	101
240-111040-D-3 MS	Matrix Spike	103
240-111040-D-3 MSD	Matrix Spike Duplicate	105
LCS 240-376915/4	Lab Control Sample	99
LCS 240-377588/4	Lab Control Sample	95
MB 240-376915/5	Method Blank	101
MB 240-377588/5	Method Blank	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-377477/7
Matrix: Water
Analysis Batch: 377477

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/20/19 16:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/20/19 16:40	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/20/19 16:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/20/19 16:40	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/20/19 16:40	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/20/19 16:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		04/20/19 16:40	1
4-Bromofluorobenzene (Surr)	76		59 - 120		04/20/19 16:40	1
Toluene-d8 (Surr)	89		70 - 123		04/20/19 16:40	1
Dibromofluoromethane (Surr)	119		75 - 128		04/20/19 16:40	1

Lab Sample ID: LCS 240-377477/4
Matrix: Water
Analysis Batch: 377477

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.92		ug/L		99	65 - 139
cis-1,2-Dichloroethene	10.0	9.56		ug/L		96	76 - 128
Tetrachloroethene	10.0	10.5		ug/L		105	74 - 130
trans-1,2-Dichloroethene	10.0	9.92		ug/L		99	78 - 133
Trichloroethene	10.0	9.63		ug/L		96	76 - 125
Vinyl chloride	10.0	8.30		ug/L		83	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
4-Bromofluorobenzene (Surr)	104		59 - 120
Toluene-d8 (Surr)	100		70 - 123
Dibromofluoromethane (Surr)	100		75 - 128

Lab Sample ID: 240-110996-2 MS
Matrix: Water
Analysis Batch: 377477

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.93		ug/L		99	53 - 140
cis-1,2-Dichloroethene	1.0	U	10.0	9.39		ug/L		94	64 - 130
Tetrachloroethene	1.0	U	10.0	10.1		ug/L		101	51 - 136
trans-1,2-Dichloroethene	1.0	U	10.0	9.82		ug/L		98	68 - 133
Trichloroethene	1.0	U	10.0	9.00		ug/L		90	55 - 131
Vinyl chloride	1.0	U	10.0	7.95		ug/L		80	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		70 - 121
4-Bromofluorobenzene (Surr)	108		59 - 120
Toluene-d8 (Surr)	104		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110996-2 MS
Matrix: Water
Analysis Batch: 377477

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	102		75 - 128

Lab Sample ID: 240-110996-2 MSD
Matrix: Water
Analysis Batch: 377477

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	53 - 140	2	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.55		ug/L		95	64 - 130	2	21
Tetrachloroethene	1.0	U	10.0	10.5		ug/L		105	51 - 136	3	23
trans-1,2-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	68 - 133	3	24
Trichloroethene	1.0	U	10.0	9.39		ug/L		94	55 - 131	4	23
Vinyl chloride	1.0	U	10.0	8.61		ug/L		86	43 - 154	8	29

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	94		70 - 121
<i>4-Bromofluorobenzene (Surr)</i>	105		59 - 120
<i>Toluene-d8 (Surr)</i>	103		70 - 123
<i>Dibromofluoromethane (Surr)</i>	100		75 - 128

Lab Sample ID: MB 240-377606/6
Matrix: Water
Analysis Batch: 377606

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/22/19 13:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/22/19 13:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/22/19 13:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/22/19 13:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/22/19 13:12	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	87		70 - 121		04/22/19 13:12	1
<i>4-Bromofluorobenzene (Surr)</i>	102		59 - 120		04/22/19 13:12	1
<i>Toluene-d8 (Surr)</i>	95		70 - 123		04/22/19 13:12	1
<i>Dibromofluoromethane (Surr)</i>	91		75 - 128		04/22/19 13:12	1

Lab Sample ID: LCS 240-377606/4
Matrix: Water
Analysis Batch: 377606

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	10.1		ug/L		101	74 - 130
trans-1,2-Dichloroethene	10.0	10.0		ug/L		100	78 - 133
Trichloroethene	10.0	9.69		ug/L		97	76 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-377606/4

Matrix: Water

Analysis Batch: 377606

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	11.0		ug/L		110	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		70 - 121
4-Bromofluorobenzene (Surr)	100		59 - 120
Toluene-d8 (Surr)	92		70 - 123
Dibromofluoromethane (Surr)	101		75 - 128

Lab Sample ID: MB 240-377778/6

Matrix: Water

Analysis Batch: 377778

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 13:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			04/23/19 13:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			04/23/19 13:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			04/23/19 13:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			04/23/19 13:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			04/23/19 13:12	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		70 - 121		04/23/19 13:12	1
4-Bromofluorobenzene (Surr)	97		59 - 120		04/23/19 13:12	1
Toluene-d8 (Surr)	95		70 - 123		04/23/19 13:12	1
Dibromofluoromethane (Surr)	99		75 - 128		04/23/19 13:12	1

Lab Sample ID: LCS 240-377778/4

Matrix: Water

Analysis Batch: 377778

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	65 - 139
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	76 - 128
Tetrachloroethene	10.0	9.38		ug/L		94	74 - 130
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	78 - 133
Trichloroethene	10.0	9.82		ug/L		98	76 - 125
Vinyl chloride	10.0	10.1		ug/L		101	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		70 - 121
4-Bromofluorobenzene (Surr)	95		59 - 120
Toluene-d8 (Surr)	93		70 - 123
Dibromofluoromethane (Surr)	95		75 - 128

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376916/1-A
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 376916

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
Trichloroethene	40	U	40	11	ug/Kg		04/17/19 10:51	04/17/19 21:29	1
Vinyl chloride	32	U	32	12	ug/Kg		04/17/19 10:51	04/17/19 21:29	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		53 - 155	04/17/19 10:51	04/17/19 21:29	1
4-Bromofluorobenzene (Surr)	108		48 - 151	04/17/19 10:51	04/17/19 21:29	1
Toluene-d8 (Surr)	110		49 - 147	04/17/19 10:51	04/17/19 21:29	1
Dibromofluoromethane (Surr)	96		49 - 138	04/17/19 10:51	04/17/19 21:29	1

Lab Sample ID: LCS 240-376916/2-A
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376916

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	1000	1120		ug/Kg		112	57 - 139
cis-1,2-Dichloroethene	1000	1030		ug/Kg		103	74 - 123
Tetrachloroethene	1000	998		ug/Kg		100	76 - 120
trans-1,2-Dichloroethene	1000	1150		ug/Kg		115	71 - 133
Trichloroethene	1000	965		ug/Kg		97	73 - 126
Vinyl chloride	1000	1240		ug/Kg		124	52 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		53 - 155
4-Bromofluorobenzene (Surr)	95		48 - 151
Toluene-d8 (Surr)	99		49 - 147
Dibromofluoromethane (Surr)	87		49 - 138

Lab Sample ID: 240-110996-12 MS
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: LIFHP-131_29-30_041419
Prep Type: Total/NA
Prep Batch: 376916

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1-Dichloroethene	60	U	1310	1390		ug/Kg	☼	106	36 - 150
cis-1,2-Dichloroethene	60	U	1310	1210		ug/Kg	☼	93	50 - 128
Tetrachloroethene	60	U	1310	1250		ug/Kg	☼	96	20 - 151
trans-1,2-Dichloroethene	60	U	1310	1410		ug/Kg	☼	108	44 - 141
Trichloroethene	60	U	1310	1150		ug/Kg	☼	88	25 - 148
Vinyl chloride	48	U	1310	1610		ug/Kg	☼	123	31 - 148

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	78		53 - 155
4-Bromofluorobenzene (Surr)	91		48 - 151
Toluene-d8 (Surr)	94		49 - 147

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110996-12 MS
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: LIFHP-131_29-30_041419
Prep Type: Total/NA
Prep Batch: 376916

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	77		49 - 138

Lab Sample ID: 240-110996-12 MSD
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: LIFHP-131_29-30_041419
Prep Type: Total/NA
Prep Batch: 376916

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>	<i>RPD</i>	<i>Limit</i>
1,1-Dichloroethene	60	U	1330	1500		ug/Kg	☼	113	36 - 150	7	40
cis-1,2-Dichloroethene	60	U	1330	1330		ug/Kg	☼	100	50 - 128	9	40
Tetrachloroethene	60	U	1330	1370		ug/Kg	☼	104	20 - 151	9	40
trans-1,2-Dichloroethene	60	U	1330	1530		ug/Kg	☼	115	44 - 141	8	40
Trichloroethene	60	U	1330	1280		ug/Kg	☼	96	25 - 148	11	40
Vinyl chloride	48	U	1330	1680		ug/Kg	☼	127	31 - 148	5	37

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	83		53 - 155
<i>4-Bromofluorobenzene (Surr)</i>	91		48 - 151
<i>Toluene-d8 (Surr)</i>	99		49 - 147
<i>Dibromofluoromethane (Surr)</i>	81		49 - 138

Lab Sample ID: MB 240-376973/1-A
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 376973

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,1-Dichloroethene	40	U	40	16	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
cis-1,2-Dichloroethene	40	U	40	9.0	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
Tetrachloroethene	40	U	40	18	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
trans-1,2-Dichloroethene	40	U	40	10	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
Trichloroethene	40	U	40	11	ug/Kg		04/17/19 12:48	04/19/19 19:53	1
Vinyl chloride	32	U	32	12	ug/Kg		04/17/19 12:48	04/19/19 19:53	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	76		53 - 155	04/17/19 12:48	04/19/19 19:53	1
<i>4-Bromofluorobenzene (Surr)</i>	86		48 - 151	04/17/19 12:48	04/19/19 19:53	1
<i>Toluene-d8 (Surr)</i>	83		49 - 147	04/17/19 12:48	04/19/19 19:53	1
<i>Dibromofluoromethane (Surr)</i>	70		49 - 138	04/17/19 12:48	04/19/19 19:53	1

Lab Sample ID: LCS 240-376973/2-A
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376973

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>Limits</i>
1,1-Dichloroethene	1000	1120		ug/Kg		112	57 - 139
cis-1,2-Dichloroethene	1000	947		ug/Kg		95	74 - 123
Tetrachloroethene	1000	991		ug/Kg		99	76 - 120
trans-1,2-Dichloroethene	1000	1100		ug/Kg		110	71 - 133
Trichloroethene	1000	910		ug/Kg		91	73 - 126

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-376973/2-A
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 376973

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	1000	1220		ug/Kg		122	52 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		53 - 155
4-Bromofluorobenzene (Surr)	92		48 - 151
Toluene-d8 (Surr)	95		49 - 147
Dibromofluoromethane (Surr)	80		49 - 138

Lab Sample ID: 240-110996-18 MS
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: LIFHP-130_29-30_041419
Prep Type: Total/NA
Prep Batch: 376973

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	57	U	1320	1430		ug/Kg	☼	109	36 - 150
cis-1,2-Dichloroethene	57	U	1320	1300		ug/Kg	☼	99	50 - 128
Tetrachloroethene	57	U	1320	1300		ug/Kg	☼	98	20 - 151
trans-1,2-Dichloroethene	57	U	1320	1490		ug/Kg	☼	113	44 - 141
Trichloroethene	57	U	1320	1260		ug/Kg	☼	96	25 - 148
Vinyl chloride	46	U	1320	1720		ug/Kg	☼	130	31 - 148

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		53 - 155
4-Bromofluorobenzene (Surr)	94		48 - 151
Toluene-d8 (Surr)	98		49 - 147
Dibromofluoromethane (Surr)	84		49 - 138

Lab Sample ID: 240-110996-18 MSD
Matrix: Solid
Analysis Batch: 377415

Client Sample ID: LIFHP-130_29-30_041419
Prep Type: Total/NA
Prep Batch: 376973

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,1-Dichloroethene	57	U	1250	1320		ug/Kg	☼	105	36 - 150	8	40
cis-1,2-Dichloroethene	57	U	1250	1160		ug/Kg	☼	93	50 - 128	12	40
Tetrachloroethene	57	U	1250	1170		ug/Kg	☼	94	20 - 151	10	40
trans-1,2-Dichloroethene	57	U	1250	1370		ug/Kg	☼	109	44 - 141	9	40
Trichloroethene	57	U	1250	1140		ug/Kg	☼	91	25 - 148	10	40
Vinyl chloride	46	U	1250	1540		ug/Kg	☼	123	31 - 148	11	37

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	78		53 - 155
4-Bromofluorobenzene (Surr)	85		48 - 151
Toluene-d8 (Surr)	91		49 - 147
Dibromofluoromethane (Surr)	77		49 - 138

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-110996-36 MS

Matrix: Solid
Analysis Batch: 377415

Client Sample ID: LIFHP-129_29-30_041419

Prep Type: Total/NA
Prep Batch: 376973

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1-Dichloroethene	58	U	1320	1450		ug/Kg	☼	110	36 - 150
cis-1,2-Dichloroethene	58	U	1320	1290		ug/Kg	☼	98	50 - 128
Tetrachloroethene	58	U	1320	1250		ug/Kg	☼	95	20 - 151
trans-1,2-Dichloroethene	58	U	1320	1470		ug/Kg	☼	111	44 - 141
Trichloroethene	58	U	1320	1200		ug/Kg	☼	91	25 - 148
Vinyl chloride	46	U	1320	1590		ug/Kg	☼	120	31 - 148

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	84		53 - 155
4-Bromofluorobenzene (Surr)	86		48 - 151
Toluene-d8 (Surr)	96		49 - 147
Dibromofluoromethane (Surr)	82		49 - 138

Lab Sample ID: 240-110996-36 MSD

Matrix: Solid
Analysis Batch: 377415

Client Sample ID: LIFHP-129_29-30_041419

Prep Type: Total/NA
Prep Batch: 376973

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1-Dichloroethene	58	U	1270	1480		ug/Kg	☼	117	36 - 150	2	40
cis-1,2-Dichloroethene	58	U	1270	1280		ug/Kg	☼	101	50 - 128	1	40
Tetrachloroethene	58	U	1270	1200		ug/Kg	☼	94	20 - 151	5	40
trans-1,2-Dichloroethene	58	U	1270	1430		ug/Kg	☼	113	44 - 141	2	40
Trichloroethene	58	U	1270	1170		ug/Kg	☼	92	25 - 148	2	40
Vinyl chloride	46	U	1270	1640		ug/Kg	☼	130	31 - 148	4	37

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	86		53 - 155
4-Bromofluorobenzene (Surr)	85		48 - 151
Toluene-d8 (Surr)	95		49 - 147
Dibromofluoromethane (Surr)	84		49 - 138

Lab Sample ID: MRL 240-377029/6

Matrix: Solid
Analysis Batch: 377029

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL	MRL	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	0.00100	0.00136		ng/uL		136	10 - 150
cis-1,2-Dichloroethene	0.00100	0.00125		ng/uL		125	10 - 150
Tetrachloroethene	0.00100	0.00125		ng/uL		125	10 - 150
trans-1,2-Dichloroethene	0.00100	0.00137		ng/uL		137	10 - 150
Trichloroethene	0.00100	0.00110		ng/uL		110	10 - 150
Vinyl chloride	0.00100	0.00160	^	ng/uL		160	10 - 150

Surrogate	MRL	MRL	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	89		10 - 150
4-Bromofluorobenzene (Surr)	97		10 - 150
Toluene-d8 (Surr)	97		10 - 150

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B MI - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MRL 240-377029/6
Matrix: Solid
Analysis Batch: 377029

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Surrogate	%Recovery	MRL MRL Qualifier	Limits
Dibromofluoromethane (Surr)	87		10 - 150

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-376915/5
Matrix: Water
Analysis Batch: 376915

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/17/19 12:59	1
Surrogate	%Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		04/17/19 12:59	1			

Lab Sample ID: LCS 240-376915/4
Matrix: Water
Analysis Batch: 376915

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	59 - 131
Surrogate	%Recovery	LCS LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		63 - 125				

Lab Sample ID: 240-110996-2 MS
Matrix: Water
Analysis Batch: 376915

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	10.8		ug/L		108	52 - 129
Surrogate	%Recovery	MS MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	107		63 - 125						

Lab Sample ID: 240-110996-2 MSD
Matrix: Water
Analysis Batch: 376915

Client Sample ID: LIFHP-132_12-16_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.1		ug/L		111	52 - 129	4	13
Surrogate	%Recovery	MSD MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	103		63 - 125								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-377588/5
Matrix: Water
Analysis Batch: 377588

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/22/19 11:51	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 125					04/22/19 11:51	1

Lab Sample ID: LCS 240-377588/4
Matrix: Water
Analysis Batch: 377588

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L	-	105	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	95		63 - 125				

Lab Sample ID: 240-111040-D-3 MS
Matrix: Water
Analysis Batch: 377588

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.2		ug/L	-	112	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	103		63 - 125						

Lab Sample ID: 240-111040-D-3 MSD
Matrix: Water
Analysis Batch: 377588

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	11.2		ug/L	-	112	52 - 129	1	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	105		63 - 125								

Method: Moisture - Percent Moisture

Lab Sample ID: 240-110996-12 DU
Matrix: Solid
Analysis Batch: 376947

Client Sample ID: LIFHP-131_29-30_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	82.7		82.0		%	-	0.9	20
Percent Moisture	17.3		18.0		%	-	4	20

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Method: Moisture - Percent Moisture (Continued)

Lab Sample ID: 240-110996-18 DU
Matrix: Solid
Analysis Batch: 376947

Client Sample ID: LIFHP-130_29-30_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD	
			Result	Qualifier				Limit	Limit
Percent Solids	84.9		86.2		%		1	20	
Percent Moisture	15.1		13.8		%		9	20	

Lab Sample ID: 240-110996-28 DU
Matrix: Solid
Analysis Batch: 376947

Client Sample ID: LIFHP-132_29-30_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD	
			Result	Qualifier				Limit	Limit
Percent Solids	85.0		82.3		%		3	20	
Percent Moisture	15.0		17.7		%		16	20	

Lab Sample ID: 240-110996-36 DU
Matrix: Solid
Analysis Batch: 376947

Client Sample ID: LIFHP-129_29-30_041419
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU		Unit	D	RPD	RPD	
			Result	Qualifier				Limit	Limit
Percent Solids	83.1		80.0		%		4	20	
Percent Moisture	16.9		20.0		%		17	20	

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

GC/MS VOA

Analysis Batch: 376915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-1	LIFHP-132_17-21_041419	Total/NA	Water	8260B SIM	
240-110996-2	LIFHP-132_12-16_041419	Total/NA	Water	8260B SIM	
240-110996-3	LIFHP-132_7-11_041419	Total/NA	Water	8260B SIM	
240-110996-5	LIFHP-131_16-20_041419	Total/NA	Water	8260B SIM	
240-110996-6	LIFHP-131_11-15_041419	Total/NA	Water	8260B SIM	
240-110996-7	LIFHP-131_6-10_041419	Total/NA	Water	8260B SIM	
240-110996-8	LIFHP-130_16-20_041419	Total/NA	Water	8260B SIM	
240-110996-9	LIFHP-130_11-15_041419	Total/NA	Water	8260B SIM	
240-110996-10	LIFHP-130_6-10_041419	Total/NA	Water	8260B SIM	
240-110996-11	LIFHP-129_15-19_041419	Total/NA	Water	8260B SIM	
240-110996-34	LIFHP-129_10-14_041419	Total/NA	Water	8260B SIM	
MB 240-376915/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-376915/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-110996-2 MS	LIFHP-132_12-16_041419	Total/NA	Water	8260B SIM	
240-110996-2 MSD	LIFHP-132_12-16_041419	Total/NA	Water	8260B SIM	

Prep Batch: 376916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-12	LIFHP-131_29-30_041419	Total/NA	Solid	5035	
240-110996-13	LIFHP-130_1-2_041419	Total/NA	Solid	5035	
240-110996-14	LIFHP-130_2-3_041419	Total/NA	Solid	5035	
240-110996-15	LIFHP-130_3-4_041419	Total/NA	Solid	5035	
240-110996-16	LIFHP-130_4-5_041419	Total/NA	Solid	5035	
240-110996-17	LIFHP-130_5-6_041419	Total/NA	Solid	5035	
240-110996-19	LIFHP-129_1-2_041419	Total/NA	Solid	5035	
240-110996-20	LIFHP-129_2-3_041419	Total/NA	Solid	5035	
240-110996-21	LIFHP-129_3-4_041419	Total/NA	Solid	5035	
240-110996-22	LIFHP-129_4-5_041419	Total/NA	Solid	5035	
240-110996-23	LIFHP-132_1-2_041419	Total/NA	Solid	5035	
240-110996-24	LIFHP-132_3-4_041419	Total/NA	Solid	5035	
240-110996-25	LIFHP-132_4-5_041419	Total/NA	Solid	5035	
240-110996-26	LIFHP-132_5-6_041419	Total/NA	Solid	5035	
240-110996-27	LIFHP-132_6-7_041419	Total/NA	Solid	5035	
240-110996-28	LIFHP-132_29-30_041419	Total/NA	Solid	5035	
240-110996-29	LIFHP-131_1-2_041419	Total/NA	Solid	5035	
240-110996-30	LIFHP-131_2-3_041419	Total/NA	Solid	5035	
MB 240-376916/1-A	Method Blank	Total/NA	Solid	5035	
LCS 240-376916/2-A	Lab Control Sample	Total/NA	Solid	5035	
240-110996-12 MS	LIFHP-131_29-30_041419	Total/NA	Solid	5035	
240-110996-12 MSD	LIFHP-131_29-30_041419	Total/NA	Solid	5035	

Prep Batch: 376973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-18	LIFHP-130_29-30_041419	Total/NA	Solid	5035	
240-110996-31	LIFHP-131_3-4_041419	Total/NA	Solid	5035	
240-110996-32	LIFHP-131_4-5_041419	Total/NA	Solid	5035	
240-110996-33	LIFHP-131_5-6_041419	Total/NA	Solid	5035	
240-110996-36	LIFHP-129_29-30_041419	Total/NA	Solid	5035	
MB 240-376973/1-A	Method Blank	Total/NA	Solid	5035	
LCS 240-376973/2-A	Lab Control Sample	Total/NA	Solid	5035	
240-110996-18 MS	LIFHP-130_29-30_041419	Total/NA	Solid	5035	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

GC/MS VOA (Continued)

Prep Batch: 376973 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-18 MSD	LIFHP-130_29-30_041419	Total/NA	Solid	5035	
240-110996-36 MS	LIFHP-129_29-30_041419	Total/NA	Solid	5035	
240-110996-36 MSD	LIFHP-129_29-30_041419	Total/NA	Solid	5035	

Analysis Batch: 377029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-12	LIFHP-131_29-30_041419	Total/NA	Solid	8260B MI	376916
240-110996-13	LIFHP-130_1-2_041419	Total/NA	Solid	8260B MI	376916
240-110996-14	LIFHP-130_2-3_041419	Total/NA	Solid	8260B MI	376916
240-110996-15	LIFHP-130_3-4_041419	Total/NA	Solid	8260B MI	376916
240-110996-16	LIFHP-130_4-5_041419	Total/NA	Solid	8260B MI	376916
240-110996-17	LIFHP-130_5-6_041419	Total/NA	Solid	8260B MI	376916
240-110996-19	LIFHP-129_1-2_041419	Total/NA	Solid	8260B MI	376916
240-110996-20	LIFHP-129_2-3_041419	Total/NA	Solid	8260B MI	376916
240-110996-21	LIFHP-129_3-4_041419	Total/NA	Solid	8260B MI	376916
240-110996-22	LIFHP-129_4-5_041419	Total/NA	Solid	8260B MI	376916
240-110996-23	LIFHP-132_1-2_041419	Total/NA	Solid	8260B MI	376916
240-110996-24	LIFHP-132_3-4_041419	Total/NA	Solid	8260B MI	376916
240-110996-25	LIFHP-132_4-5_041419	Total/NA	Solid	8260B MI	376916
240-110996-26	LIFHP-132_5-6_041419	Total/NA	Solid	8260B MI	376916
240-110996-27	LIFHP-132_6-7_041419	Total/NA	Solid	8260B MI	376916
240-110996-28	LIFHP-132_29-30_041419	Total/NA	Solid	8260B MI	376916
240-110996-29	LIFHP-131_1-2_041419	Total/NA	Solid	8260B MI	376916
240-110996-30	LIFHP-131_2-3_041419	Total/NA	Solid	8260B MI	376916
MB 240-376916/1-A	Method Blank	Total/NA	Solid	8260B MI	376916
LCS 240-376916/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	376916
MRL 240-377029/6	Lab Control Sample	Total/NA	Solid	8260B MI	
240-110996-12 MS	LIFHP-131_29-30_041419	Total/NA	Solid	8260B MI	376916
240-110996-12 MSD	LIFHP-131_29-30_041419	Total/NA	Solid	8260B MI	376916

Analysis Batch: 377415

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-18	LIFHP-130_29-30_041419	Total/NA	Solid	8260B MI	376973
240-110996-31	LIFHP-131_3-4_041419	Total/NA	Solid	8260B MI	376973
240-110996-32	LIFHP-131_4-5_041419	Total/NA	Solid	8260B MI	376973
240-110996-33	LIFHP-131_5-6_041419	Total/NA	Solid	8260B MI	376973
240-110996-36	LIFHP-129_29-30_041419	Total/NA	Solid	8260B MI	376973
MB 240-376973/1-A	Method Blank	Total/NA	Solid	8260B MI	376973
LCS 240-376973/2-A	Lab Control Sample	Total/NA	Solid	8260B MI	376973
240-110996-18 MS	LIFHP-130_29-30_041419	Total/NA	Solid	8260B MI	376973
240-110996-18 MSD	LIFHP-130_29-30_041419	Total/NA	Solid	8260B MI	376973
240-110996-36 MS	LIFHP-129_29-30_041419	Total/NA	Solid	8260B MI	376973
240-110996-36 MSD	LIFHP-129_29-30_041419	Total/NA	Solid	8260B MI	376973

Analysis Batch: 377477

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-2	LIFHP-132_12-16_041419	Total/NA	Water	8260B	
MB 240-377477/7	Method Blank	Total/NA	Water	8260B	
LCS 240-377477/4	Lab Control Sample	Total/NA	Water	8260B	
240-110996-2 MS	LIFHP-132_12-16_041419	Total/NA	Water	8260B	
240-110996-2 MSD	LIFHP-132_12-16_041419	Total/NA	Water	8260B	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

GC/MS VOA

Analysis Batch: 377588

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-35	LIFHP-129_5-9_041419	Total/NA	Water	8260B SIM	
240-110996-37	DUP-06	Total/NA	Water	8260B SIM	
MB 240-377588/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-377588/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-111040-D-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-111040-D-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 377606

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-1	LIFHP-132_17-21_041419	Total/NA	Water	8260B	
240-110996-3	LIFHP-132_7-11_041419	Total/NA	Water	8260B	
240-110996-5	LIFHP-131_16-20_041419	Total/NA	Water	8260B	
240-110996-6	LIFHP-131_11-15_041419	Total/NA	Water	8260B	
240-110996-7	LIFHP-131_6-10_041419	Total/NA	Water	8260B	
240-110996-8	LIFHP-130_16-20_041419	Total/NA	Water	8260B	
240-110996-9	LIFHP-130_11-15_041419	Total/NA	Water	8260B	
240-110996-10	LIFHP-130_6-10_041419	Total/NA	Water	8260B	
240-110996-11	LIFHP-129_15-19_041419	Total/NA	Water	8260B	
240-110996-34	LIFHP-129_10-14_041419	Total/NA	Water	8260B	
240-110996-35	LIFHP-129_5-9_041419	Total/NA	Water	8260B	
240-110996-37	DUP-06	Total/NA	Water	8260B	
240-110996-38	TRIP BLANK	Total/NA	Water	8260B	
MB 240-377606/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377606/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 377778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-39	TRIP BLANK	Total/NA	Water	8260B	
MB 240-377778/6	Method Blank	Total/NA	Water	8260B	
LCS 240-377778/4	Lab Control Sample	Total/NA	Water	8260B	

General Chemistry

Analysis Batch: 376947

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-12	LIFHP-131_29-30_041419	Total/NA	Solid	Moisture	
240-110996-13	LIFHP-130_1-2_041419	Total/NA	Solid	Moisture	
240-110996-14	LIFHP-130_2-3_041419	Total/NA	Solid	Moisture	
240-110996-15	LIFHP-130_3-4_041419	Total/NA	Solid	Moisture	
240-110996-16	LIFHP-130_4-5_041419	Total/NA	Solid	Moisture	
240-110996-17	LIFHP-130_5-6_041419	Total/NA	Solid	Moisture	
240-110996-18	LIFHP-130_29-30_041419	Total/NA	Solid	Moisture	
240-110996-19	LIFHP-129_1-2_041419	Total/NA	Solid	Moisture	
240-110996-20	LIFHP-129_2-3_041419	Total/NA	Solid	Moisture	
240-110996-21	LIFHP-129_3-4_041419	Total/NA	Solid	Moisture	
240-110996-22	LIFHP-129_4-5_041419	Total/NA	Solid	Moisture	
240-110996-23	LIFHP-132_1-2_041419	Total/NA	Solid	Moisture	
240-110996-24	LIFHP-132_3-4_041419	Total/NA	Solid	Moisture	
240-110996-25	LIFHP-132_4-5_041419	Total/NA	Solid	Moisture	
240-110996-26	LIFHP-132_5-6_041419	Total/NA	Solid	Moisture	
240-110996-27	LIFHP-132_6-7_041419	Total/NA	Solid	Moisture	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

General Chemistry (Continued)

Analysis Batch: 376947 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-110996-28	LIFHP-132_29-30_041419	Total/NA	Solid	Moisture	
240-110996-29	LIFHP-131_1-2_041419	Total/NA	Solid	Moisture	
240-110996-30	LIFHP-131_2-3_041419	Total/NA	Solid	Moisture	
240-110996-31	LIFHP-131_3-4_041419	Total/NA	Solid	Moisture	
240-110996-32	LIFHP-131_4-5_041419	Total/NA	Solid	Moisture	
240-110996-33	LIFHP-131_5-6_041419	Total/NA	Solid	Moisture	
240-110996-36	LIFHP-129_29-30_041419	Total/NA	Solid	Moisture	
240-110996-12 DU	LIFHP-131_29-30_041419	Total/NA	Solid	Moisture	
240-110996-18 DU	LIFHP-130_29-30_041419	Total/NA	Solid	Moisture	
240-110996-28 DU	LIFHP-132_29-30_041419	Total/NA	Solid	Moisture	
240-110996-36 DU	LIFHP-129_29-30_041419	Total/NA	Solid	Moisture	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_17-21_041419

Lab Sample ID: 240-110996-1

Date Collected: 04/14/19 10:40

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 16:30	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 17:42	SAM	TAL CAN

Client Sample ID: LIFHP-132_12-16_041419

Lab Sample ID: 240-110996-2

Date Collected: 04/14/19 11:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377477	04/21/19 00:30	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 18:08	SAM	TAL CAN

Client Sample ID: LIFHP-132_7-11_041419

Lab Sample ID: 240-110996-3

Date Collected: 04/14/19 11:15

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 16:55	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 19:25	SAM	TAL CAN

Client Sample ID: LIFHP-131_16-20_041419

Lab Sample ID: 240-110996-5

Date Collected: 04/14/19 13:55

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 17:20	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 19:50	SAM	TAL CAN

Client Sample ID: LIFHP-131_11-15_041419

Lab Sample ID: 240-110996-6

Date Collected: 04/14/19 14:10

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	377606	04/22/19 17:45	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 20:16	SAM	TAL CAN

Client Sample ID: LIFHP-131_6-10_041419

Lab Sample ID: 240-110996-7

Date Collected: 04/14/19 14:25

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	377606	04/22/19 18:10	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 20:42	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_16-20_041419

Lab Sample ID: 240-110996-8

Date Collected: 04/14/19 16:45

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 18:34	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 21:07	SAM	TAL CAN

Client Sample ID: LIFHP-130_11-15_041419

Lab Sample ID: 240-110996-9

Date Collected: 04/14/19 17:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 19:00	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 21:33	SAM	TAL CAN

Client Sample ID: LIFHP-130_6-10_041419

Lab Sample ID: 240-110996-10

Date Collected: 04/14/19 17:10

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 19:25	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 21:58	SAM	TAL CAN

Client Sample ID: LIFHP-129_15-19_041419

Lab Sample ID: 240-110996-11

Date Collected: 04/14/19 19:35

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	377606	04/22/19 19:49	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 22:24	SAM	TAL CAN

Client Sample ID: LIFHP-131_29-30_041419

Lab Sample ID: 240-110996-12

Date Collected: 04/14/19 13:40

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-131_29-30_041419

Lab Sample ID: 240-110996-12

Date Collected: 04/14/19 13:40

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 82.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/17/19 22:34	TJL1	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_1-2_041419

Lab Sample ID: 240-110996-13

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_1-2_041419

Lab Sample ID: 240-110996-13

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 92.6

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/17/19 23:39	TJL1	TAL CAN

Client Sample ID: LIFHP-130_2-3_041419

Lab Sample ID: 240-110996-14

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_2-3_041419

Lab Sample ID: 240-110996-14

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 90.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 00:01	TJL1	TAL CAN

Client Sample ID: LIFHP-130_3-4_041419

Lab Sample ID: 240-110996-15

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_3-4_041419

Lab Sample ID: 240-110996-15

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 93.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 00:22	TJL1	TAL CAN

Client Sample ID: LIFHP-130_4-5_041419

Lab Sample ID: 240-110996-16

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-130_4-5_041419

Lab Sample ID: 240-110996-16

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 00:44	TJL1	TAL CAN

Client Sample ID: LIFHP-130_5-6_041419

Lab Sample ID: 240-110996-17

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_5-6_041419

Lab Sample ID: 240-110996-17

Date Collected: 04/14/19 15:15

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 86.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 01:06	TJL1	TAL CAN

Client Sample ID: LIFHP-130_29-30_041419

Lab Sample ID: 240-110996-18

Date Collected: 04/14/19 16:25

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-130_29-30_041419

Lab Sample ID: 240-110996-18

Date Collected: 04/14/19 16:25

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.9

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 20:38	TJL1	TAL CAN

Client Sample ID: LIFHP-129_1-2_041419

Lab Sample ID: 240-110996-19

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_1-2_041419

Lab Sample ID: 240-110996-19

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 88.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 01:27	TJL1	TAL CAN

Client Sample ID: LIFHP-129_2-3_041419

Lab Sample ID: 240-110996-20

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-129_2-3_041419

Lab Sample ID: 240-110996-20

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 95.7

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 01:49	TJL1	TAL CAN

Client Sample ID: LIFHP-129_3-4_041419

Lab Sample ID: 240-110996-21

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-129_3-4_041419

Lab Sample ID: 240-110996-21

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 88.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 02:11	TJL1	TAL CAN

Client Sample ID: LIFHP-129_4-5_041419

Lab Sample ID: 240-110996-22

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_4-5_041419

Lab Sample ID: 240-110996-22

Date Collected: 04/14/19 18:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 83.5

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 02:33	TJL1	TAL CAN

Client Sample ID: LIFHP-132_1-2_041419

Lab Sample ID: 240-110996-23

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-132_1-2_041419

Lab Sample ID: 240-110996-23

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 89.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 02:55	TJL1	TAL CAN

Client Sample ID: LIFHP-132_3-4_041419

Lab Sample ID: 240-110996-24

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-132_3-4_041419

Lab Sample ID: 240-110996-24

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 03:17	TJL1	TAL CAN

Client Sample ID: LIFHP-132_4-5_041419

Lab Sample ID: 240-110996-25

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_4-5_041419

Lab Sample ID: 240-110996-25

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.2

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 03:39	TJL1	TAL CAN

Client Sample ID: LIFHP-132_5-6_041419

Lab Sample ID: 240-110996-26

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-132_5-6_041419

Lab Sample ID: 240-110996-26

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 04:00	TJL1	TAL CAN

Client Sample ID: LIFHP-132_6-7_041419

Lab Sample ID: 240-110996-27

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-132_6-7_041419

Lab Sample ID: 240-110996-27

Date Collected: 04/14/19 11:20

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 92.3

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 04:22	TJL1	TAL CAN

Client Sample ID: LIFHP-132_29-30_041419

Lab Sample ID: 240-110996-28

Date Collected: 04/14/19 11:10

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-132_29-30_041419

Lab Sample ID: 240-110996-28

Date Collected: 04/14/19 11:10

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 85.0

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 04:43	TJL1	TAL CAN

Client Sample ID: LIFHP-131_1-2_041419

Lab Sample ID: 240-110996-29

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-131_1-2_041419

Lab Sample ID: 240-110996-29

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 87.8

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 05:05	TJL1	TAL CAN

Client Sample ID: LIFHP-131_2-3_041419

Lab Sample ID: 240-110996-30

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Client Sample ID: LIFHP-131_2-3_041419

Lab Sample ID: 240-110996-30

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376916	04/17/19 10:51	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377029	04/18/19 05:27	TJL1	TAL CAN

Client Sample ID: LIFHP-131_3-4_041419

Lab Sample ID: 240-110996-31

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:27	JMB	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-131_3-4_041419

Lab Sample ID: 240-110996-31

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 91.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 21:43	TJL1	TAL CAN

Client Sample ID: LIFHP-131_4-5_041419

Lab Sample ID: 240-110996-32

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:35	JMB	TAL CAN

Client Sample ID: LIFHP-131_4-5_041419

Lab Sample ID: 240-110996-32

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 85.4

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 22:05	TJL1	TAL CAN

Client Sample ID: LIFHP-131_5-6_041419

Lab Sample ID: 240-110996-33

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:35	JMB	TAL CAN

Client Sample ID: LIFHP-131_5-6_041419

Lab Sample ID: 240-110996-33

Date Collected: 04/14/19 12:00

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 84.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 22:26	TJL1	TAL CAN

Client Sample ID: LIFHP-129_10-14_041419

Lab Sample ID: 240-110996-34

Date Collected: 04/14/19 19:55

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	377606	04/22/19 20:14	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	376915	04/17/19 22:49	SAM	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Client Sample ID: LIFHP-129_5-9_041419

Lab Sample ID: 240-110996-35

Date Collected: 04/14/19 20:05

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		13.33	377606	04/22/19 20:39	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	377588	04/22/19 13:59	SAM	TAL CAN

Client Sample ID: LIFHP-129_29-30_041419

Lab Sample ID: 240-110996-36

Date Collected: 04/14/19 19:05

Matrix: Solid

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	376947	04/17/19 14:35	JMB	TAL CAN

Client Sample ID: LIFHP-129_29-30_041419

Lab Sample ID: 240-110996-36

Date Collected: 04/14/19 19:05

Matrix: Solid

Date Received: 04/16/19 10:00

Percent Solids: 83.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			376973	04/17/19 12:48	LAM	TAL CAN
Total/NA	Analysis	8260B MI		1	377415	04/19/19 22:48	TJL1	TAL CAN

Client Sample ID: DUP-06

Lab Sample ID: 240-110996-37

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	377606	04/22/19 21:04	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	377588	04/22/19 14:25	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-38

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377606	04/22/19 21:28	LRW	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-110996-39

Date Collected: 04/14/19 00:00

Matrix: Water

Date Received: 04/16/19 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	377778	04/23/19 13:37	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-110996-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Chain of Custody Record

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TestAmerica

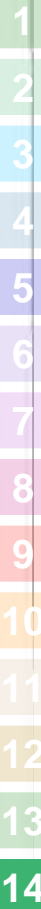
190

Client Information		Lab PM		Carrier Tracking Info		Analysis Requested	
Client Name: Cristina Weaver	Lab PM: DelMonico, Michael	Carrier: 190	Tracking No: 240-59392-25341 9	Page 1 of 2		Preparation Codes:	
Client Contact: Caitlin O'Neill	Lab PM: Michael delmonico@testamericainc.com	Due Date Requested:		TAT Requested (days):		M - Metals N - Nono O - Ash/OC2 P - NAC/OC4S S - NAC/OC4S F - NAC/OC4S E - NAC/OC4S R - NAC/OC4S G - Ampella H - Acetic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Company: ARCADIS U.S. Inc.	Address: 2855D Cabot Drive, Suite 500	City: North Canton, OH	State: OH	Zip: 44720	Phone: 248-722-2411	Special Instructions/Note:	
Project Name: Ford LTP Livonia MI - E203631	Project #:	Request #:	Request E:	Request S:	Request F:	Total Number of Containers:	
Site: SSOAW	PO #:	MI001318.0002.00002	W3 #:	Cadena #:	E203631	Special Instructions/Note:	
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=Water, S=Soil, O=Other)	Field Filtered Sample (Yes or No)	Lab Filtered Sample (Yes or No)	Special Instructions/Note:
LFHP-132-17-21-041419	4/14/19	1040	G	Water	U	U	6
LFHP-132-12-16-041419	4/14/19	1100	G	Water	U	U	6
LFHP-132-7-11-041419	4/14/19	1115	G	Water	U	U	6
LFHP-129-29-30-041419	4/14/19	1905	G	Water	U	U	6
LFHP-131-16-20-041419	4/14/19	1355	G	Water	U	U	6
LFHP-131-11-15-041419	4/14/19	1410	G	Water	U	U	6
LFHP-131-6-10-041419	4/14/19	1425	G	Water	U	U	6
LFHP-130-16-20-041419	4/14/19	1645	G	Water	U	U	6
LFHP-130-11-15-041419	4/14/19	1700	G	Water	U	U	6
LFHP-130-6-10-041419	4/14/19	1710	G	Water	U	U	6
LFHP-129-15-19-041419	4/14/19	1935	G	Water	U	U	6
Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested: <input type="checkbox"/> I, II, III <input checked="" type="checkbox"/> Other (specify)							
Empty Kit Relinquished by: _____ Date: _____ Relinquished by: Cristina Weaver Date/Time: 4/14/19 2200 Relinquished by: Caitlin O'Neill Date/Time: 04/15/19 0700 Relinquished by: Cristina Weaver Date/Time: 4-15-19 19:50							
Custody Seal Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Custody Seal No: _____							

Client Information Company: ARCADIS U.S. Inc. Address: 28550 Cabot Drive Suite 500 City: Novi State, Zip: MI 48377 Phone: 248-722-2411 Email: Caitlin.ONeill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site: S50W/W		Lab PM: DelMonico, Michael E-Mail: michael.delmonico@testamericainc.com Carrier Tracking No(s): Lab #: Job #: COC No: 240-59392-25341_10 Page 2 of 4 Page 10 of 16	
Due Date Requested: TAT Requested (days): 10-DAY (STD)		Analysis Requested	
PO # MI001318.0002.00002 WO # Cadena # E203631 Project # 24075353 Site S50W/W		Preservation Codes: A - HCl B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSO4 F - MeOH G - Amchlor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:	
Sample Identification Sample Date Sample Time Sample Type (C=Comp, G=grab) Matrix (W=Water, S=Solid, O=Other, D=Distillate, A=Air)		Total Number of Containers Special Instructions/Note:	
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological Deliverable Requested I, II, III (V) Other (specify)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months	
Empty Kit Relinquished by:		Special Instructions/QC Requirements Submit all results through Cadena at ym.tomalin@arcadis.com	
Reinquished by: Christine Wisniewski Reinquished by: Caitlin O'Neill Reinquished by: Michael...		Date/Time: 4/14/19 2200 Date/Time: 04/15/19 0900 Date/Time: 4-15-19 730	
Custody Seals Intact Δ Yes A No		Cooler Temperature(s) and Other Remarks:	



Client Information Client Contact: Caitlin O'Neill Company: ARCADIS U.S. Inc Address: 28550 Cabot Drive Suite 500 City: Novi State, Zip: MI, 48377 Phone: 248-722-2411 Email: Caitlin.O'Neill@arcadis.com Project Name: Ford LTP Livonia MI - E203631 Site:		Lab PM: DelMonico, Michael E-Mail: michael.delmonico@testamericainc.com Phone: (981)-619-5009 Fax: (981)-619-5009		Carrier Tracking No(s): COC No: 240-59392-25341.12 Page 3 of 4 Job #:	
Due Date Requested: TAT Requested (days): 10-DAY (STD)		Analysis Requested			
PO #: M1001318 0002 00002 WO #: Cadena #: E203631 Project #: 24015353 SSO# #:		Field Filtered Sample (Yes or No)		Total Number of Containers	
Sample Identification		Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=other)
LFHP-132-12-041419 LFHP-132-34-041419 LFHP-132-4-5-041419 LFHP-132-5-6-041419 LFHP-132-6-7-041419 LFHP-132-29-30-041419 LFHP-131-1-2-041419 LFHP-131-2-3-041419 LFHP-131-3-4-041419 LFHP-131-4-5-041419 LFHP-131-5-6-041419		4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19 4/14/19	1120 1120 1120 1120 1120 1120 1200 1200 1200 1200 1200	G G G G G G G G G G	Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid Solid
Possible Hazard Identification <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Perform MS/MSD (Yes or No)		Special Instructions/Note:	
Deliverable Requested: <input type="checkbox"/> I, II, III <input checked="" type="checkbox"/> Other (specify)		Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months		Dry Sample included Dry weight sample included Dry weight included Dry weight included Dry weight included Dry weight included Dry weight included Dry weight included Dry weight included Dry weight included	
Empty Kit Relinquished by:		Date:		Special Instructions/OC Requirements: Submit all results through cadena at tim.tamara@arcadis.com #E203631	
Relinquished by: Christina Weaver Relinquished by: Caitlin O'Neill Relinquished by: Jeni Heel		Date/Time: 4/14/19 2300 Date/Time: 04/15/19 0900 Date/Time: 4-15-19 9:50		Date/Time: 4/14/19 2200 Date/Time: 4-15-19 9:10 Date/Time: 4/16/19 8000	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Company: Arcadis Company: Arcadis Company: E-TR		Company: Arcadis Company: Arcadis Company: AA	



TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone (330) 497-9396 Fax (330) 497-0772

1.8/1.6 2.2/2.0 1.6/1.4
Chain of Custody Record

MICHIGAN
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TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Client Information		Lab PM		Carrier Tracking (Nbrs)		COC No.							
ARCADIS U.S. Inc.		Christina Weaver		DellMonico, Michael		240-59392-25341, 16							
Address: 28550 Cabot Drive Suite 500		Phone: (989)-619-5009		E-Mail: michael.delmonico@testamericainc.com		Page 4 of 16							
City: Novi		TAT Requested (days): 10-DAY (STD)		Job #		Page 16 of 16							
State, Zip: MI, 48377		PO #: MID001318.0002.00002		Analysis Requested		Preservation Codes:							
Phone: 248-722-2411		WO #: Cadena # E203631		Perform MS/MSD (Yes or No)		A - HCL B - NaOH C - Zn Acetate D - Nitric Acid E - NaHSC4 F - MeOH G - Amelcor H - Ascorbic Acid I - Ice J - DI Water K - EDTA L - EDA Other:							
Email: Caitlin.O'Neill@arcadis.com		Project #: 24015353		Field Filtered Sample (Yes or No)		M - Hexane N - None O - Na2O4S P - Na2SO3 Q - Na2SO4 R - Na2S2O3 S - H2SO4 T - TSP Dodecylhydrate U - Acetone V - MCAA W - pH 4-5 X - other (specify)							
Project Name: Ford LTP Livonia MI - E203631		Site: 550WE		Special Instructions/Note:		Total Number of containers							
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (Water, Sewage, Dissolution, Other)	Preservation Code	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260B, 8260B_SIM	8260B MI - VOCs (Short List)	8260B - VOCs (Short List)	Analysis Requested	Carrier Tracking (Nbrs)	COC No.
LTFHP-129_10-14_041419	4/14/19	1955	6	Water		XX	XX	3	3	3			
LTFHP-129_5-9_041419	4/14/19	2005	6	Water		XX	XX	3	3	3			
LTFHP-129_29-30-041419	4/14/19	1905	6	Water		XX	XX	3	3	3			
DUP-06	4/14/19		6	Water		XX	XX	3	3	3			
TRIP Blank	4/14/19												
TRIP Blank	4/14/19												

Special Instructions/Note: 6 bag weight included; MS/MSD

Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological

Deliverable Requested: I, II, III, IV Other (specify)

Empty Kit Relinquished by: [Signature]

Relinquished by: Christina Weaver

Relinquished by: Caitlin O'Neill

Relinquished by: [Signature]

Custody Seal No. [Signature]

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): Return To Client Disposal By Lab Archive For Months

Special Instructions/QC Requirements: Submit all 6 Suits through Cadena at 51410191@arcadis.com # E 203728

Received by: Arcadis
Received by: Arcadis
Received by: E-TAC

Date/Time: 4/14/19 2200
Date/Time: 04/15/19 0900
Date/Time: 4-15-19 950

Date/Time: 4/14/19 2200
Date/Time: 4-15-19 9:10
Date/Time: 4/16/19 1000

Company: Arcadis
Company: Arcadis
Company: E-TAC
Company: Arcadis
Company: [Signature]



Canton Facility

Client Accuris Site Name _____ Cooler unpacked by: _____
 Cooler Received on 4/16/19 Opened on 4/16/19
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

- Cooler temperature upon receipt
 IR GUN# IR-8 (CF -0.2°C) Observed Cooler Temp. 1.8 °C Corrected Cooler Temp. 1.6 °C
 IR GUN #36 (CF +0.7°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 See Multiple Cooler Form
- Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
- Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738
- Were VOAs on the COC? Yes No NA
- Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # N/A Yes No
- Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: Martha

LIFHP-132-29-30-041419 - did not receive
MS/MS volume - will not log MS/MSO -

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

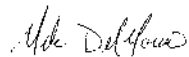
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-111623-1
Client Project/Site: Ford LTP Livonia MI - E203631

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
5/9/2019 4:05:55 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Job ID: 240-111623-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203631

Report Number: 240-111623-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 4/26/2019 9:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-114_042319 (240-111623-1), MW-120_042319 (240-111623-2), MW-113_042319 (240-111623-3), MW-124_042319 (240-111623-4) and TRIP BLANK (240-111623-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 05/04/2019 and 05/06/2019.

Dibromofluoromethane (Surr) failed the surrogate recovery criteria high for MW-113_042319 (240-111623-3). Refer to the QC report for details.

trans-1,2-Dichloroethene failed the recovery criteria high for LCS 240-379663/4. Refer to the QC report for details.

The laboratory control sample (LCS) for 379663 recovered outside control limits for multiple analytes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported: MW-114_042319 (240-111623-1), MW-113_042319 (240-111623-3), MW-124_042319 (240-111623-4), TRIP BLANK (240-111623-5) and (LCS 240-379663/4).

Surrogate recovery for the following sample was outside the upper control limit: MW-113_042319 (240-111623-3). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Job ID: 240-111623-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

No MS/MSD in batch 379663 due to an incorrect dilution: MW-114_042319 (240-111623-1), MW-113_042319 (240-111623-3), MW-124_042319 (240-111623-4) and TRIP BLANK (240-111623-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-114_042319 (240-111623-1), MW-120_042319 (240-111623-2), MW-113_042319 (240-111623-3) and MW-124_042319 (240-111623-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 04/29/2019.

1,4-Dioxane exceeded the RPD limit for the MSD of sample MW-124_042319MSD (240-111623-4) in batch 240-378674. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-111623-1	MW-114_042319	Water	04/23/19 15:25	04/26/19 09:00
240-111623-2	MW-120_042319	Water	04/23/19 13:30	04/26/19 09:00
240-111623-3	MW-113_042319	Water	04/23/19 13:26	04/26/19 09:00
240-111623-4	MW-124_042319	Water	04/23/19 15:08	04/26/19 09:00
240-111623-5	TRIP BLANK	Water	04/23/19 00:00	04/26/19 09:00

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Client Sample ID: MW-114_042319

Lab Sample ID: 240-111623-1

No Detections.

Client Sample ID: MW-120_042319

Lab Sample ID: 240-111623-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	3.7		1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: MW-113_042319

Lab Sample ID: 240-111623-3

No Detections.

Client Sample ID: MW-124_042319

Lab Sample ID: 240-111623-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.19	J *	1.0	0.19	ug/L	1		8260B	Total/NA
Vinyl chloride	0.32	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-111623-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Client Sample ID: MW-114_042319

Lab Sample ID: 240-111623-1

Date Collected: 04/23/19 15:25

Matrix: Water

Date Received: 04/26/19 09:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		04/29/19 14:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125		04/29/19 14:42	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		05/04/19 20:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		05/04/19 20:40	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		05/04/19 20:40	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.19	ug/L	-		05/04/19 20:40	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		05/04/19 20:40	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		05/04/19 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		70 - 121		05/04/19 20:40	1
4-Bromofluorobenzene (Surr)	73		59 - 120		05/04/19 20:40	1
Toluene-d8 (Surr)	101		70 - 123		05/04/19 20:40	1
Dibromofluoromethane (Surr)	123		75 - 128		05/04/19 20:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Client Sample ID: MW-120_042319

Lab Sample ID: 240-111623-2

Date Collected: 04/23/19 13:30

Matrix: Water

Date Received: 04/26/19 09:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/29/19 15:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		04/29/19 15:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/06/19 14:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/06/19 14:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/06/19 14:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/06/19 14:14	1
Trichloroethene	3.7		1.0	0.10	ug/L			05/06/19 14:14	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/06/19 14:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		70 - 121		05/06/19 14:14	1
4-Bromofluorobenzene (Surr)	79		59 - 120		05/06/19 14:14	1
Toluene-d8 (Surr)	103		70 - 123		05/06/19 14:14	1
Dibromofluoromethane (Surr)	125		75 - 128		05/06/19 14:14	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Client Sample ID: MW-113_042319

Lab Sample ID: 240-111623-3

Date Collected: 04/23/19 13:26

Matrix: Water

Date Received: 04/26/19 09:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/29/19 15:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		63 - 125		04/29/19 15:34	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/04/19 21:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/04/19 21:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/04/19 21:24	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.19	ug/L			05/04/19 21:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/04/19 21:24	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/04/19 21:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		70 - 121		05/04/19 21:24	1
4-Bromofluorobenzene (Surr)	76		59 - 120		05/04/19 21:24	1
Toluene-d8 (Surr)	102		70 - 123		05/04/19 21:24	1
Dibromofluoromethane (Surr)	132	X	75 - 128		05/04/19 21:24	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Client Sample ID: MW-124_042319

Lab Sample ID: 240-111623-4

Date Collected: 04/23/19 15:08

Matrix: Water

Date Received: 04/26/19 09:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U F2	2.0	0.86	ug/L			04/29/19 15:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 125		04/29/19 15:59	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/04/19 21:46	1
cis-1,2-Dichloroethene	1.7		1.0	0.16	ug/L			05/04/19 21:46	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/04/19 21:46	1
trans-1,2-Dichloroethene	0.19	J *	1.0	0.19	ug/L			05/04/19 21:46	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/04/19 21:46	1
Vinyl chloride	0.32	J	1.0	0.20	ug/L			05/04/19 21:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 121		05/04/19 21:46	1
4-Bromofluorobenzene (Surr)	75		59 - 120		05/04/19 21:46	1
Toluene-d8 (Surr)	102		70 - 123		05/04/19 21:46	1
Dibromofluoromethane (Surr)	124		75 - 128		05/04/19 21:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-111623-5

Date Collected: 04/23/19 00:00

Matrix: Water

Date Received: 04/26/19 09:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/04/19 22:08	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/04/19 22:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/04/19 22:08	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.19	ug/L			05/04/19 22:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/04/19 22:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/04/19 22:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		70 - 121		05/04/19 22:08	1
4-Bromofluorobenzene (Surr)	75		59 - 120		05/04/19 22:08	1
Toluene-d8 (Surr)	98		70 - 123		05/04/19 22:08	1
Dibromofluoromethane (Surr)	126		75 - 128		05/04/19 22:08	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
240-111598-E-5 MS	Matrix Spike	96	102	112	117
240-111598-H-5 MSD	Matrix Spike Duplicate	93	101	110	115
240-111623-1	MW-114_042319	114	73	101	123
240-111623-2	MW-120_042319	109	79	103	125
240-111623-3	MW-113_042319	119	76	102	132 X
240-111623-4	MW-124_042319	112	75	102	124
240-111623-5	TRIP BLANK	118	75	98	126
LCS 240-379663/4	Lab Control Sample	100	109	112	121
LCS 240-379783/4	Lab Control Sample	92	100	110	114
MB 240-379663/6	Method Blank	116	80	107	128
MB 240-379783/6	Method Blank	111	81	108	127

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-111623-1	MW-114_042319	104
240-111623-2	MW-120_042319	106
240-111623-3	MW-113_042319	108
240-111623-4	MW-124_042319	105
240-111623-4 MS	MW-124_042319	103
240-111623-4 MSD	MW-124_042319	107
LCS 240-378674/7	Lab Control Sample	99
MB 240-378674/5	Method Blank	104

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-379663/6
Matrix: Water
Analysis Batch: 379663

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/04/19 14:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/04/19 14:07	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/04/19 14:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/04/19 14:07	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/04/19 14:07	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/04/19 14:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 121		05/04/19 14:07	1
4-Bromofluorobenzene (Surr)	80		59 - 120		05/04/19 14:07	1
Toluene-d8 (Surr)	107		70 - 123		05/04/19 14:07	1
Dibromofluoromethane (Surr)	128		75 - 128		05/04/19 14:07	1

Lab Sample ID: LCS 240-379663/4
Matrix: Water
Analysis Batch: 379663

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	11.8		ug/L		118	65 - 139
cis-1,2-Dichloroethene	10.0	12.1		ug/L		121	76 - 128
Tetrachloroethene	10.0	11.0		ug/L		110	74 - 130
trans-1,2-Dichloroethene	10.0	13.6	*	ug/L		136	78 - 133
Trichloroethene	10.0	9.71		ug/L		97	76 - 125
Vinyl chloride	10.0	13.8		ug/L		138	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		70 - 121
4-Bromofluorobenzene (Surr)	109		59 - 120
Toluene-d8 (Surr)	112		70 - 123
Dibromofluoromethane (Surr)	121		75 - 128

Lab Sample ID: MB 240-379783/6
Matrix: Water
Analysis Batch: 379783

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/06/19 13:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			05/06/19 13:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			05/06/19 13:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			05/06/19 13:01	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			05/06/19 13:01	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			05/06/19 13:01	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		70 - 121		05/06/19 13:01	1
4-Bromofluorobenzene (Surr)	81		59 - 120		05/06/19 13:01	1
Toluene-d8 (Surr)	108		70 - 123		05/06/19 13:01	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-379783/6
Matrix: Water
Analysis Batch: 379783

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	127		75 - 128		05/06/19 13:01	1

Lab Sample ID: LCS 240-379783/4
Matrix: Water
Analysis Batch: 379783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits	
1,1-Dichloroethene	10.0	9.62		ug/L		96	65 - 139	
cis-1,2-Dichloroethene	10.0	10.6		ug/L		106	76 - 128	
Tetrachloroethene	10.0	10.2		ug/L		102	74 - 130	
trans-1,2-Dichloroethene	10.0	11.4		ug/L		114	78 - 133	
Trichloroethene	10.0	9.09		ug/L		91	76 - 125	
Vinyl chloride	10.0	9.96		ug/L		100	58 - 143	

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	92		70 - 121
4-Bromofluorobenzene (Surr)	100		59 - 120
Toluene-d8 (Surr)	110		70 - 123
Dibromofluoromethane (Surr)	114		75 - 128

Lab Sample ID: 240-111598-E-5 MS
Matrix: Water
Analysis Batch: 379783

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits	
1,1-Dichloroethene	10	U	100	87.9		ug/L		88	53 - 140	
cis-1,2-Dichloroethene	10	U	100	102		ug/L		102	64 - 130	
Tetrachloroethene	10	U	100	97.6		ug/L		98	51 - 136	
trans-1,2-Dichloroethene	10	U	100	112		ug/L		112	68 - 133	
Trichloroethene	10	U	100	86.6		ug/L		87	55 - 131	
Vinyl chloride	10	U	100	101		ug/L		101	43 - 154	

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
4-Bromofluorobenzene (Surr)	102		59 - 120
Toluene-d8 (Surr)	112		70 - 123
Dibromofluoromethane (Surr)	117		75 - 128

Lab Sample ID: 240-111598-H-5 MSD
Matrix: Water
Analysis Batch: 379783

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits		RPD	
											RPD	Limit
1,1-Dichloroethene	10	U	100	97.2		ug/L		97	53 - 140	10	35	
cis-1,2-Dichloroethene	10	U	100	109		ug/L		109	64 - 130	6	21	
Tetrachloroethene	10	U	100	102		ug/L		102	51 - 136	4	23	
trans-1,2-Dichloroethene	10	U	100	118		ug/L		118	68 - 133	5	24	
Trichloroethene	10	U	100	91.3		ug/L		91	55 - 131	5	23	

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-111598-H-5 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 379783

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	10	U	100	112		ug/L		112	43 - 154	10	29
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	93		70 - 121								
4-Bromofluorobenzene (Surr)	101		59 - 120								
Toluene-d8 (Surr)	110		70 - 123								
Dibromofluoromethane (Surr)	115		75 - 128								

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-378674/5

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 378674

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			04/29/19 12:09	1
Surrogate	MB %Recovery	MB Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	104		63 - 125						
							Prepared	Analyzed	Dil Fac
								04/29/19 12:09	1

Lab Sample ID: LCS 240-378674/7

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 378674

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	99		63 - 125				

Lab Sample ID: 240-111623-4 MS

Client Sample ID: MW-124_042319

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 378674

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U F2	10.0	9.70		ug/L		97	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	103		63 - 125						

Lab Sample ID: 240-111623-4 MSD

Client Sample ID: MW-124_042319

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 378674

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U F2	10.0	11.4	F2	ug/L		114	52 - 129	16	13

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-111623-4 MSD
Matrix: Water
Analysis Batch: 378674

Client Sample ID: MW-124_042319
Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	107		63 - 125

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

GC/MS VOA

Analysis Batch: 378674

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-111623-1	MW-114_042319	Total/NA	Water	8260B SIM	
240-111623-2	MW-120_042319	Total/NA	Water	8260B SIM	
240-111623-3	MW-113_042319	Total/NA	Water	8260B SIM	
240-111623-4	MW-124_042319	Total/NA	Water	8260B SIM	
MB 240-378674/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-378674/7	Lab Control Sample	Total/NA	Water	8260B SIM	
240-111623-4 MS	MW-124_042319	Total/NA	Water	8260B SIM	
240-111623-4 MSD	MW-124_042319	Total/NA	Water	8260B SIM	

Analysis Batch: 379663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-111623-1	MW-114_042319	Total/NA	Water	8260B	
240-111623-3	MW-113_042319	Total/NA	Water	8260B	
240-111623-4	MW-124_042319	Total/NA	Water	8260B	
240-111623-5	TRIP BLANK	Total/NA	Water	8260B	
MB 240-379663/6	Method Blank	Total/NA	Water	8260B	
LCS 240-379663/4	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 379783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-111623-2	MW-120_042319	Total/NA	Water	8260B	
MB 240-379783/6	Method Blank	Total/NA	Water	8260B	
LCS 240-379783/4	Lab Control Sample	Total/NA	Water	8260B	
240-111598-E-5 MS	Matrix Spike	Total/NA	Water	8260B	
240-111598-H-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Client Sample ID: MW-114_042319

Lab Sample ID: 240-111623-1

Date Collected: 04/23/19 15:25

Matrix: Water

Date Received: 04/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	379663	05/04/19 20:40	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	378674	04/29/19 14:42	SAM	TAL CAN

Client Sample ID: MW-120_042319

Lab Sample ID: 240-111623-2

Date Collected: 04/23/19 13:30

Matrix: Water

Date Received: 04/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	379783	05/06/19 14:14	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	378674	04/29/19 15:08	SAM	TAL CAN

Client Sample ID: MW-113_042319

Lab Sample ID: 240-111623-3

Date Collected: 04/23/19 13:26

Matrix: Water

Date Received: 04/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	379663	05/04/19 21:24	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	378674	04/29/19 15:34	SAM	TAL CAN

Client Sample ID: MW-124_042319

Lab Sample ID: 240-111623-4

Date Collected: 04/23/19 15:08

Matrix: Water

Date Received: 04/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	379663	05/04/19 21:46	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	378674	04/29/19 15:59	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-111623-5

Date Collected: 04/23/19 00:00

Matrix: Water

Date Received: 04/26/19 09:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	379663	05/04/19 22:08	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203631

Job ID: 240-111623-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



MICHIGAN
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7-4/012

Chain of Custody Record

TestAmerica

TestAmerica Laboratory location: N Canton — 4101 Shuffel Street NW North Canton, OH 44721 / 330-491-9396

Company Name: Arcadis
 Address: 28550 Cabot Drive, Suite 500
 City/State/Zip: Novi, MI, 48377
 Phone: 248-994-2240
 Project Name: Ford LTP
 Project Number: MI001454.0003
 PO # MI001454.0003

Client Contact: Arcadis
 Client Project Manager: Kris Himsley
 Telephone: 248-994-2240
 Email: kris@himsley.com

Regulatory program: DW NPDES RCRA Other

Site Contact: Arcadis
 Site Contact Name: CATLIN O'NEILL
 Telephone: 248-994-2240
 Email: catlin@arcadis.com

Lab Contact: Mike DelMonico
 Telephone: 330-497-9396

COC No. _____ of _____ COC

For lab use only:
 Walk-in cooler
 Lab sampling
 Job/SDC No.

Sample Specific Notes / Special Instructions:

Sample Identification	Sample Date	Sample Time	Matrix				Containers & Preservatives				Analyses				Sample Specific Notes / Special Instructions				
			Air	Water	Soil	Other	H2SO4	HNO3	HCl	NaOH	Asst	Other	1,1-DCE 8260B	1,2-DCE 8260B		Trans-1,2-DCE 8260B	PCE 8260B	TCE 8260B	Vinyl Chloride 8260B
MW-114_042319	4/23/19	1525	X				X					X	X	X	X	X	X	X	6 VOAS
MW-120_042319	4/23/19	1330	X				X					X	X	X	X	X	X	X	6 VOAS
MW-113_042319	4/23/19	1326	X				X					X	X	X	X	X	X	X	6 VOAS
MW-124_042319	4/23/19	1508	X				X					X	X	X	X	X	X	X	6 VOAS
TRIP BLANK	4/23/19		X				X												1 NOA

Shipping/Tracking No. _____

Method of Shipping/Carrier: _____

131 is additional from 1301
 3 weeks
 2 weeks
 1 week
 2 days
 1 day

Analysis turnaround time: _____

Sample Disposal (A fee may be assessed if samples are returned longer than 1 month)
 Return to Client Dispose By Lab Archive For _____ Months

Possible Hazard Identification
 Non-Hazard Inflammable Corrosive Toxic Unknown

Special Instructions/QC Requirements & Comments:

Submit all results through Geotitles at im@testametrics.com, Geotitles #82200631
 Geotitles Paperless

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[Signature]	Arcadis	4/23/19 1700	NM Cold Storage	Arcadis	4/23/19 1700
[Signature]	Arcadis	4/25/19 1330	[Signature]	TestAmerica	4/25/19 1330
[Signature]	TestAmerica	4/25/19 1430	[Signature]	TestAmerica	4/26/19 900

Barcode: 240-111623 Chain of Custody

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TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 111623

Client Arcadis Site Name _____ Cooler unpacked by: [Signature]
 Cooler Received on 4-26-19 Opened on 4-26-19
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 7A Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None
 See Multiple Cooler Form

- Cooler temperature upon receipt
 IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. 1.4 °C Corrected Cooler Temp. 1.2 °C
 IR GUN #36 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
- Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Are these work share samples? Yes No
- If yes, Questions 12-16 have been checked at the originating laboratory.
- Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738
- Were VOAs on the COC? Yes No NA
- Were air bubbles >6 mm in any VOA vials? ● Larger than this. Yes No NA
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 55320 Yes No
- Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES
 Samples processed by: COZ / M.S.

18. SAMPLE CONDITION
 Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



May 09, 2019

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: MI001454.0002/3/4.00002/2B/3B
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 111623-1
Sample date: 2019-04-23
Report received by CADENA: 2019-05-09
Initial Data Verification completed by CADENA: 2019-05-09
Number of Samples:5
Sample Matrices: Water
Test Categories: GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

LCS - GCMS VOC QC batch 379663 LCS recovery was outlying biased high for the following analyte: TRANS-1,2-DICHLOROETHENE. The following client sample results should be considered to be estimated and qualified with J flags: -004.

GCMS VOC sample -003 SURROGATE recoveries were outliers biased high for at least 1 surrogate. Associated client sample results were non-detect so qualification was not required based on this high bias QC outlier.

GCMS VOC QC batch MS/MSD issues as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

GCMS VOC SIM sample -004 MS or MSD recoveries but not both or RPD only were outliers for 1,4-DIOXANE so client sample results were not qualified based on this QC outlier alone.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 111623-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401116231	MW-114_042319	4/23/2019	3:25:00	X	X	
2401116232	MW-120_042319	4/23/2019	1:30:00	X	X	
2401116233	MW-113_042319	4/23/2019	1:26:00	X	X	
2401116234	MW-124_042319	4/23/2019	3:08:00	X	X	
2401116235	TRIP BLANK	4/23/2019	12:00:00	X		

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 111623-1

Sample Name: MW-124_042319

Lab Sample ID: 2401116234

Sample Date: 4/23/2019

Analyte	Cas No.	Result	Report		Units	Valid
			Limit	Qualifier		
GC/MS VOC						
<u>OSW-8260B</u>						
trans-1,2-Dichloroethene	156-60-5	0.19	1.0	ug/l	J	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 111623-1

Analyte	Cas No.	Sample Name: MW-114_042319				Sample Name: MW-120_042319				Sample Name: MW-113_042319				Sample Name: MW-124_042319				Sample Name: TRIP BLANK			
		Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid
GC/MS VOC																					
<u>OSW-8260B</u>																					
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	1.7	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.19	1.0	ug/l	J	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	3.7	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.32	1.0	ug/l	J	ND	1.0	ug/l	---
<u>OSW-8260BBSim</u>																					
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---				

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-124598-1
Client Project/Site: Ford LTP

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
1/21/2020 10:21:05 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Job ID: 240-124598-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP

Report Number: 240-124598-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/7/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-203S_122719 (240-124598-1), TRIP BLANK (240-124598-2), MW-203_122719 (240-124598-3), MW-204S_122719 (240-124598-4) and DUP-03 (240-124598-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/09/2020.

cis-1,2-Dichloroethene was detected in method blank MB 240-418363/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Samples MW-203S_122719 (240-124598-1)[1.67X], MW-203_122719 (240-124598-3)[40X], MW-204S_122719 (240-124598-4)[1.67X] and DUP-03 (240-124598-5)[40X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-124598-1	MW-203S_122719	Water	12/27/19 10:06	01/07/20 09:20	
240-124598-2	TRIP BLANK	Water	12/27/19 00:00	01/07/20 09:20	
240-124598-3	MW-203_122719	Water	12/27/19 11:12	01/07/20 09:20	
240-124598-4	MW-204S_122719	Water	12/27/19 13:07	01/07/20 09:20	
240-124598-5	DUP-03	Water	12/27/19 00:00	01/07/20 09:20	

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Client Sample ID: MW-203S_122719

Lab Sample ID: 240-124598-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.0	J B	1.7	0.27	ug/L	1.67		8260B	Total/NA
trans-1,2-Dichloroethene	1.0	J	1.7	0.32	ug/L	1.67		8260B	Total/NA
Trichloroethene	43		1.7	0.17	ug/L	1.67		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-124598-2

No Detections.

Client Sample ID: MW-203_122719

Lab Sample ID: 240-124598-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	35	J B	40	6.4	ug/L	40		8260B	Total/NA
trans-1,2-Dichloroethene	29	J	40	7.6	ug/L	40		8260B	Total/NA
Trichloroethene	670		40	4.0	ug/L	40		8260B	Total/NA

Client Sample ID: MW-204S_122719

Lab Sample ID: 240-124598-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	17	B	1.7	0.27	ug/L	1.67		8260B	Total/NA
trans-1,2-Dichloroethene	1.8		1.7	0.32	ug/L	1.67		8260B	Total/NA
Trichloroethene	37		1.7	0.17	ug/L	1.67		8260B	Total/NA

Client Sample ID: DUP-03

Lab Sample ID: 240-124598-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	31	J B	40	6.4	ug/L	40		8260B	Total/NA
trans-1,2-Dichloroethene	24	J	40	7.6	ug/L	40		8260B	Total/NA
Trichloroethene	710		40	4.0	ug/L	40		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Client Sample ID: MW-203S_122719

Lab Sample ID: 240-124598-1

Date Collected: 12/27/19 10:06

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	J B	1.7	0.27	ug/L			01/09/20 13:58	1.67
trans-1,2-Dichloroethene	1.0	J	1.7	0.32	ug/L			01/09/20 13:58	1.67
Trichloroethene	43		1.7	0.17	ug/L			01/09/20 13:58	1.67
Vinyl chloride	1.7	U	1.7	0.33	ug/L			01/09/20 13:58	1.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	123		75 - 130		01/09/20 13:58	1.67
4-Bromofluorobenzene (Surr)	91		47 - 134		01/09/20 13:58	1.67
Toluene-d8 (Surr)	88		69 - 122		01/09/20 13:58	1.67
Dibromofluoromethane (Surr)	106		78 - 129		01/09/20 13:58	1.67

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-124598-2

Date Collected: 12/27/19 00:00

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/09/20 14:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 14:20	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 14:20	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 14:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		75 - 130		01/09/20 14:20	1
4-Bromofluorobenzene (Surr)	88		47 - 134		01/09/20 14:20	1
Toluene-d8 (Surr)	84		69 - 122		01/09/20 14:20	1
Dibromofluoromethane (Surr)	99		78 - 129		01/09/20 14:20	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Client Sample ID: MW-203_122719

Lab Sample ID: 240-124598-3

Date Collected: 12/27/19 11:12

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	35	J B	40	6.4	ug/L			01/09/20 14:43	40
trans-1,2-Dichloroethene	29	J	40	7.6	ug/L			01/09/20 14:43	40
Trichloroethene	670		40	4.0	ug/L			01/09/20 14:43	40
Vinyl chloride	40	U	40	8.0	ug/L			01/09/20 14:43	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	124		75 - 130		01/09/20 14:43	40
4-Bromofluorobenzene (Surr)	88		47 - 134		01/09/20 14:43	40
Toluene-d8 (Surr)	75		69 - 122		01/09/20 14:43	40
Dibromofluoromethane (Surr)	110		78 - 129		01/09/20 14:43	40

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Client Sample ID: MW-204S_122719

Lab Sample ID: 240-124598-4

Date Collected: 12/27/19 13:07

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	17	B	1.7	0.27	ug/L			01/09/20 15:05	1.67
trans-1,2-Dichloroethene	1.8		1.7	0.32	ug/L			01/09/20 15:05	1.67
Trichloroethene	37		1.7	0.17	ug/L			01/09/20 15:05	1.67
Vinyl chloride	1.7	U	1.7	0.33	ug/L			01/09/20 15:05	1.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		75 - 130		01/09/20 15:05	1.67
4-Bromofluorobenzene (Surr)	91		47 - 134		01/09/20 15:05	1.67
Toluene-d8 (Surr)	87		69 - 122		01/09/20 15:05	1.67
Dibromofluoromethane (Surr)	101		78 - 129		01/09/20 15:05	1.67

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Client Sample ID: DUP-03

Lab Sample ID: 240-124598-5

Date Collected: 12/27/19 00:00

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	31	J B	40	6.4	ug/L			01/09/20 15:27	40
trans-1,2-Dichloroethene	24	J	40	7.6	ug/L			01/09/20 15:27	40
Trichloroethene	710		40	4.0	ug/L			01/09/20 15:27	40
Vinyl chloride	40	U	40	8.0	ug/L			01/09/20 15:27	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		75 - 130		01/09/20 15:27	40
4-Bromofluorobenzene (Surr)	86		47 - 134		01/09/20 15:27	40
Toluene-d8 (Surr)	86		69 - 122		01/09/20 15:27	40
Dibromofluoromethane (Surr)	102		78 - 129		01/09/20 15:27	40

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-124598-1	MW-203S_122719	123	91	88	106
240-124598-2	TRIP BLANK	113	88	84	99
240-124598-3	MW-203_122719	124	88	75	110
240-124598-4	MW-204S_122719	117	91	87	101
240-124598-5	DUP-03	122	86	86	102
240-124600-F-1 MSD	Matrix Spike Duplicate	121	94	90	105
240-124600-H-1 MS	Matrix Spike	113	92	83	96
LCS 240-418363/4	Lab Control Sample	115	95	92	100
MB 240-418363/6	Method Blank	116	80	79	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-418363/6
Matrix: Water
Analysis Batch: 418363

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	0.450	J	1.0	0.16	ug/L			01/09/20 12:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 12:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 12:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 12:06	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	116		75 - 130		01/09/20 12:06	1
4-Bromofluorobenzene (Surr)	80		47 - 134		01/09/20 12:06	1
Toluene-d8 (Surr)	79		69 - 122		01/09/20 12:06	1
Dibromofluoromethane (Surr)	98		78 - 129		01/09/20 12:06	1

Lab Sample ID: LCS 240-418363/4
Matrix: Water
Analysis Batch: 418363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
cis-1,2-Dichloroethene	10.0	11.3		ug/L		113	75 - 124
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.41		ug/L		94	71 - 121
Vinyl chloride	10.0	8.01		ug/L		80	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	115		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	100		78 - 129

Lab Sample ID: 240-124600-F-1 MSD
Matrix: Water
Analysis Batch: 418363

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
cis-1,2-Dichloroethene	1.0	U	10.0	11.0		ug/L		110	68 - 121	15	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	69 - 126	18	35
Trichloroethene	1.0	U	10.0	8.33		ug/L		83	56 - 124	1	35
Vinyl chloride	1.0	U	10.0	7.74		ug/L		77	49 - 136	9	35

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	121		75 - 130
4-Bromofluorobenzene (Surr)	94		47 - 134
Toluene-d8 (Surr)	90		69 - 122
Dibromofluoromethane (Surr)	105		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-124600-H-1 MS

Matrix: Water

Analysis Batch: 418363

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	1.0	U	10.0	9.43		ug/L		94	68 - 121
trans-1,2-Dichloroethene	1.0	U	10.0	8.51		ug/L		85	69 - 126
Trichloroethene	1.0	U	10.0	8.43		ug/L		84	56 - 124
Vinyl chloride	1.0	U	10.0	7.08		ug/L		71	49 - 136

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	113		75 - 130
4-Bromofluorobenzene (Surr)	92		47 - 134
Toluene-d8 (Surr)	83		69 - 122
Dibromofluoromethane (Surr)	96		78 - 129

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

GC/MS VOA

Analysis Batch: 418363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-124598-1	MW-203S_122719	Total/NA	Water	8260B	
240-124598-2	TRIP BLANK	Total/NA	Water	8260B	
240-124598-3	MW-203_122719	Total/NA	Water	8260B	
240-124598-4	MW-204S_122719	Total/NA	Water	8260B	
240-124598-5	DUP-03	Total/NA	Water	8260B	
MB 240-418363/6	Method Blank	Total/NA	Water	8260B	
LCS 240-418363/4	Lab Control Sample	Total/NA	Water	8260B	
240-124600-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-124600-H-1 MS	Matrix Spike	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Client Sample ID: MW-203S_122719

Lab Sample ID: 240-124598-1

Date Collected: 12/27/19 10:06

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1.67	418363	01/09/20 13:58	LEE	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-124598-2

Date Collected: 12/27/19 00:00

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	418363	01/09/20 14:20	LEE	TAL CAN

Client Sample ID: MW-203_122719

Lab Sample ID: 240-124598-3

Date Collected: 12/27/19 11:12

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		40	418363	01/09/20 14:43	LEE	TAL CAN

Client Sample ID: MW-204S_122719

Lab Sample ID: 240-124598-4

Date Collected: 12/27/19 13:07

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1.67	418363	01/09/20 15:05	LEE	TAL CAN

Client Sample ID: DUP-03

Lab Sample ID: 240-124598-5

Date Collected: 12/27/19 00:00

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		40	418363	01/09/20 15:27	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124598-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-20

Project Manager: Kristoffer Hinskey

Email: Kristoffer.Hinskey@Arcadis.com
Tel/Fax: 269-579-5402

Site Contact: Caitlin Cisco

Lab Contact: Mike DelMonico

COC No: 1 of 1 COCs

Sampler: ~~John Lee~~ Madison Overley

For Lab Use Only:

Walk-in Client:

Lab Sampling:

Job / SDG No.:

Sample Specific Notes:

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS

TAT if different from Below
 2 weeks
 1 week
 2 days
 1 day

Sample Date	Sample Time	Sample Type (G=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	VC via Method 8260	GIS-1,2-DCE 8260	Trans-1,2-DCE 8260	TCF via Method 8260
12/27/2019	1006	G	GW	3	N	N	X	X	X	X
-	-	-	GW	17 μ g	-	-	X	X	X	X
12/27/19	1112	G	GW	3	N	N	X	X	X	X
12/27/19	1307	G	GW	3	N	N	X	X	X	X
12/27/19	-	G	GW	3	N	N	X	X	X	X



Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5=NaOH; 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments: Submit all results through Cadena at kim.tomalia@cadena.com cadena #E203631

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:	Relinquished by:	Company:	Date/Time:
<i>[Signature]</i>	Arcadis	12/27/19 1430	Nov Cold Storage	Arcadis	12/27/19 1430			
<i>[Signature]</i>	Arcadis	1/6/20 1315	ETA-MI	ETA-MI	1-6-20 13:15			
<i>[Signature]</i>	ETA-MI	1-7-20 1345	TA	TA	1-7-20 970			



Canton Facility

Client Arcadis Site Name
Cooler Received on 1-7-20 Opened on 1-7-20
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Cooler unpacked by:

[Signature]

Receipt After-hours: Drop-off Date/Time Storage Location

TestAmerica Cooler # 171 Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other
COOLANT: Wet Ice Blue Ice Dry Ice Water None

- 1. Cooler temperature upon receipt
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 2-3 °C Corrected Cooler Temp. 3.0 °C
IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

18. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.
Sample(s) were received in a broken container.
Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.
Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:

DATA VERIFICATION REPORT



January 21, 2020

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30016346.0002B
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 124598-1
Sample date: 2019-12-27
Report received by CADENA: 2020-01-21
Initial Data Verification completed by CADENA: 2020-01-21

Number of Samples:5
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

MBK - GCMS VOC QC batch 418363 method blank had a detection below the RL for the following analyte: CIS-1,2-DICHLOROETHENE. The following client sample results should be considered to be non-detect at the RL and qualified with UB flags: -001, -003, -005.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 124598-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	Comment
2401245981	MW-203S_122719	12/27/2019	10:06:00	X	
2401245982	TRIP BLANK	12/27/2019	12:00:00	X	
2401245983	MW-203_122719	12/27/2019	11:12:00	X	
2401245984	MW-204S_122719	12/27/2019	1:07:00	X	
2401245985	DUP-03	12/27/2019	12:00:00	X	

Qualified Results Summary

CADENA Project ID: E203631
Laboratory: TestAmerica - North Canton
Laboratory Submittal: 124598-1

Sample Name:	MW-203S_122719	MW-203_122719	DUP-03
Lab Sample ID:	2401245981	2401245983	2401245985
Sample Date:	12/27/2019	12/27/2019	12/27/2019

Analyte	Cas No.	MW-203S_122719				MW-203_122719				DUP-03			
		Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC													
<u>OSW-8260B</u>													
cis-1,2-Dichloroethene	156-59-2	1.0	1.7	ug/l	UB	35	40	ug/l	UB	31	40	ug/l	UB

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 124598-1

Sample Name: MW-203S_122719	TRIP BLANK	MW-203_122719	MW-204S_122719	DUP-03
Lab Sample ID: 2401245981	2401245982	2401245983	2401245984	2401245985
Sample Date: 12/27/2019	12/27/2019	12/27/2019	12/27/2019	12/27/2019

Analyte	Cas No.	MW-203S_122719				TRIP BLANK				MW-203_122719				MW-204S_122719				DUP-03			
		Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid

GC/MS VOC

OSW-8260B

cis-1,2-Dichloroethene	156-59-2	1.0	1.7	ug/l	UB	ND	1.0	ug/l	---	35	40	ug/l	UB	17	1.7	ug/l	---	31	40	ug/l	UB
trans-1,2-Dichloroethene	156-60-5	1.0	1.7	ug/l	J	ND	1.0	ug/l	---	29	40	ug/l	J	1.8	1.7	ug/l	---	24	40	ug/l	J
Trichloroethene	79-01-6	43	1.7	ug/l	---	ND	1.0	ug/l	---	670	40	ug/l	---	37	1.7	ug/l	---	710	40	ug/l	---
Vinyl chloride	75-01-4	ND	1.7	ug/l	---	ND	1.0	ug/l	---	ND	40	ug/l	---	ND	1.7	ug/l	---	ND	40	ug/l	---

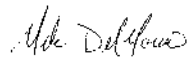
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-124599-1
Client Project/Site: Ford LTP

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
1/21/2020 10:22:08 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Job ID: 240-124599-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP

Report Number: 240-124599-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/7/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-206_010320 (240-124599-1), TRIP BLANK (240-124599-2), MW-206S_010320 (240-124599-3), MW-205_010320 (240-124599-4) and MW-204_010320 (240-124599-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/09/2020.

cis-1,2-Dichloroethene was detected in method blank MB 240-418363/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Samples MW-206_010320 (240-124599-1)[66.67X] and MW-204_010320 (240-124599-5)[2.5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

- 1
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- 13
- 14

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-124599-1	MW-206_010320	Water	01/03/20 10:37	01/07/20 09:20	
240-124599-2	TRIP BLANK	Water	01/03/20 00:00	01/07/20 09:20	
240-124599-3	MW-206S_010320	Water	01/03/20 11:41	01/07/20 09:20	
240-124599-4	MW-205_010320	Water	01/03/20 13:34	01/07/20 09:20	
240-124599-5	MW-204_010320	Water	01/03/20 15:01	01/07/20 09:20	

- 1
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- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Client Sample ID: MW-206_010320

Lab Sample ID: 240-124599-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	59	J B	67	11	ug/L	66.67		8260B	Total/NA
trans-1,2-Dichloroethene	97		67	13	ug/L	66.67		8260B	Total/NA
Trichloroethene	1200		67	6.7	ug/L	66.67		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-124599-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.38	J B	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-206S_010320

Lab Sample ID: 240-124599-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.71	J	1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: MW-205_010320

Lab Sample ID: 240-124599-4

No Detections.

Client Sample ID: MW-204_010320

Lab Sample ID: 240-124599-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.3	J B	2.5	0.40	ug/L	2.5		8260B	Total/NA
trans-1,2-Dichloroethene	1.7	J	2.5	0.48	ug/L	2.5		8260B	Total/NA
Trichloroethene	61		2.5	0.25	ug/L	2.5		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Client Sample ID: MW-206_010320

Lab Sample ID: 240-124599-1

Date Collected: 01/03/20 10:37

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	59	J B	67	11	ug/L			01/09/20 15:50	66.67
trans-1,2-Dichloroethene	97		67	13	ug/L			01/09/20 15:50	66.67
Trichloroethene	1200		67	6.7	ug/L			01/09/20 15:50	66.67
Vinyl chloride	67	U	67	13	ug/L			01/09/20 15:50	66.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		75 - 130		01/09/20 15:50	66.67
4-Bromofluorobenzene (Surr)	82		47 - 134		01/09/20 15:50	66.67
Toluene-d8 (Surr)	84		69 - 122		01/09/20 15:50	66.67
Dibromofluoromethane (Surr)	98		78 - 129		01/09/20 15:50	66.67

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-124599-2

Date Collected: 01/03/20 00:00

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.38	J B	1.0	0.16	ug/L			01/09/20 16:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 16:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 16:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 16:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		75 - 130		01/09/20 16:12	1
4-Bromofluorobenzene (Surr)	95		47 - 134		01/09/20 16:12	1
Toluene-d8 (Surr)	91		69 - 122		01/09/20 16:12	1
Dibromofluoromethane (Surr)	108		78 - 129		01/09/20 16:12	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Client Sample ID: MW-206S_010320

Lab Sample ID: 240-124599-3

Date Collected: 01/03/20 11:41

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/09/20 16:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 16:34	1
Trichloroethene	0.71	J	1.0	0.10	ug/L			01/09/20 16:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 16:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 130		01/09/20 16:34	1
4-Bromofluorobenzene (Surr)	94		47 - 134		01/09/20 16:34	1
Toluene-d8 (Surr)	94		69 - 122		01/09/20 16:34	1
Dibromofluoromethane (Surr)	101		78 - 129		01/09/20 16:34	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Client Sample ID: MW-205_010320

Lab Sample ID: 240-124599-4

Date Collected: 01/03/20 13:34

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/09/20 16:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 16:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 16:57	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		75 - 130		01/09/20 16:57	1
4-Bromofluorobenzene (Surr)	102		47 - 134		01/09/20 16:57	1
Toluene-d8 (Surr)	84		69 - 122		01/09/20 16:57	1
Dibromofluoromethane (Surr)	106		78 - 129		01/09/20 16:57	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Client Sample ID: MW-204_010320

Lab Sample ID: 240-124599-5

Date Collected: 01/03/20 15:01

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	2.3	J B	2.5	0.40	ug/L			01/09/20 17:19	2.5
trans-1,2-Dichloroethene	1.7	J	2.5	0.48	ug/L			01/09/20 17:19	2.5
Trichloroethene	61		2.5	0.25	ug/L			01/09/20 17:19	2.5
Vinyl chloride	2.5	U	2.5	0.50	ug/L			01/09/20 17:19	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		75 - 130		01/09/20 17:19	2.5
4-Bromofluorobenzene (Surr)	91		47 - 134		01/09/20 17:19	2.5
Toluene-d8 (Surr)	95		69 - 122		01/09/20 17:19	2.5
Dibromofluoromethane (Surr)	106		78 - 129		01/09/20 17:19	2.5

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-124599-1	MW-206_010320	116	82	84	98
240-124599-2	TRIP BLANK	117	95	91	108
240-124599-3	MW-206S_010320	110	94	94	101
240-124599-4	MW-205_010320	114	102	84	106
240-124599-5	MW-204_010320	114	91	95	106
240-124600-F-1 MSD	Matrix Spike Duplicate	121	94	90	105
240-124600-H-1 MS	Matrix Spike	113	92	83	96
LCS 240-418363/4	Lab Control Sample	115	95	92	100
MB 240-418363/6	Method Blank	116	80	79	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-418363/6
Matrix: Water
Analysis Batch: 418363

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	0.450	J	1.0	0.16	ug/L			01/09/20 12:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 12:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 12:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 12:06	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	116		75 - 130		01/09/20 12:06	1
4-Bromofluorobenzene (Surr)	80		47 - 134		01/09/20 12:06	1
Toluene-d8 (Surr)	79		69 - 122		01/09/20 12:06	1
Dibromofluoromethane (Surr)	98		78 - 129		01/09/20 12:06	1

Lab Sample ID: LCS 240-418363/4
Matrix: Water
Analysis Batch: 418363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
cis-1,2-Dichloroethene	10.0	11.3		ug/L		113	75 - 124
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.41		ug/L		94	71 - 121
Vinyl chloride	10.0	8.01		ug/L		80	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	115		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	100		78 - 129

Lab Sample ID: 240-124600-F-1 MSD
Matrix: Water
Analysis Batch: 418363

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MSD MSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier		Result	Qualifier						
cis-1,2-Dichloroethene	1.0	U	10.0	11.0		ug/L		110	68 - 121	15	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	69 - 126	18	35
Trichloroethene	1.0	U	10.0	8.33		ug/L		83	56 - 124	1	35
Vinyl chloride	1.0	U	10.0	7.74		ug/L		77	49 - 136	9	35

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	121		75 - 130
4-Bromofluorobenzene (Surr)	94		47 - 134
Toluene-d8 (Surr)	90		69 - 122
Dibromofluoromethane (Surr)	105		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-124600-H-1 MS

Matrix: Water

Analysis Batch: 418363

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	1.0	U	10.0	9.43		ug/L		94	68 - 121
trans-1,2-Dichloroethene	1.0	U	10.0	8.51		ug/L		85	69 - 126
Trichloroethene	1.0	U	10.0	8.43		ug/L		84	56 - 124
Vinyl chloride	1.0	U	10.0	7.08		ug/L		71	49 - 136

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	113		75 - 130
4-Bromofluorobenzene (Surr)	92		47 - 134
Toluene-d8 (Surr)	83		69 - 122
Dibromofluoromethane (Surr)	96		78 - 129

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

GC/MS VOA

Analysis Batch: 418363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-124599-1	MW-206_010320	Total/NA	Water	8260B	
240-124599-2	TRIP BLANK	Total/NA	Water	8260B	
240-124599-3	MW-206S_010320	Total/NA	Water	8260B	
240-124599-4	MW-205_010320	Total/NA	Water	8260B	
240-124599-5	MW-204_010320	Total/NA	Water	8260B	
MB 240-418363/6	Method Blank	Total/NA	Water	8260B	
LCS 240-418363/4	Lab Control Sample	Total/NA	Water	8260B	
240-124600-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-124600-H-1 MS	Matrix Spike	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Client Sample ID: MW-206_010320

Lab Sample ID: 240-124599-1

Date Collected: 01/03/20 10:37

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		66.67	418363	01/09/20 15:50	LEE	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-124599-2

Date Collected: 01/03/20 00:00

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	418363	01/09/20 16:12	LEE	TAL CAN

Client Sample ID: MW-206S_010320

Lab Sample ID: 240-124599-3

Date Collected: 01/03/20 11:41

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	418363	01/09/20 16:34	LEE	TAL CAN

Client Sample ID: MW-205_010320

Lab Sample ID: 240-124599-4

Date Collected: 01/03/20 13:34

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	418363	01/09/20 16:57	LEE	TAL CAN

Client Sample ID: MW-204_010320

Lab Sample ID: 240-124599-5

Date Collected: 01/03/20 15:01

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	418363	01/09/20 17:19	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124599-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-20

Chain of Custody Record



Environmental Testing
TestAmerica

TestAmerica Laboratories, Inc. d/b/a Eurofins TestAmerica

Regulatory Program: DW MPDES RCRA Other:

Client Contact
Arcadis of Michigan LLC
28550 Cabot Drive, Ste. 500
Novi, MI 48377
(248) 994-2240 Phone
(248) 994-2241 FAX
Project Name: Ford LTP
Site: Ford LTP
PO # 30016342.0001C

Project Manager: Kristoffer Hinskey
Email: Kristoffer.Hinskey@Arcadis.com
Tel/Fax: 269-579-5402

Analysis Turnaround Time
 CALENDAR DAYS WORKING DAYS
TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Site Contact: Caitlin Cisco
Lab Contact: Mike DelMonico
Carrier: _____
COC No: _____ of _____ COCs
Sampler: John-Lust, Madison Cleaveland
For Lab Use Only:
Walk-in Client: _____
Lab Sampling: _____
Job / SDG No.: _____

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	VC Via Method 8260	cls-1,2-DCE 8260	trans-1,2-DCE 8260	TCE Via Method 8260	Sample Specific Notes
MW-206-010320	1/3/20	1037	G	GW	3	N	N	X	X	X	X	
Trip Blank												
MW-206S-010320	1/3/20	1141	G	GW	3	N	N	X	X	X	X	
MW-205-010320	1/3/20	1334										
MW-204-010320	1/3/20	1501										



Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other _____
1,2,1,2,1,2,1,2,1,2,1,2

Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
 Non-Hazard Reclaimable Skin Irritant Poison B Unknown

Return to Client Archive for _____ Months

Special Instructions/QC Requirements & Comments:
Submit all results through Cadena at kim.tomalia@cadena.com cadena #E203631

Custody Seal No.: _____
Relinquished by: [Signature] Company: Arcadis Date/Time: 1/3/20/1608
Relinquished by: [Signature] Company: Arcadis Date/Time: 1/6/2020/1315
Relinquished by: [Signature] Company: ETA-mi Date/Time: 1-7-20 1345

Received by: [Signature] Company: Arcadis Date/Time: 1/3/20/1608
Received by: [Signature] Company: ETA Date/Time: 1-6-20 1315
Received by Laboratory by: [Signature] Company: ETA Date/Time: 1-7-20 920


Therm ID No.: _____
Cooler Temp. (°C): Obs'd: _____



Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility


Login # : 124599

Client Arcadis Site Name _____
 Cooler Received on 1-7-20 Opened on 1-7-20
 FedEx: 1st Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Cooler unpacked by:


Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 2-3 °C Corrected Cooler Temp. 3.0 °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes NO
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes NO
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:
AC

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



January 21, 2020

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30016346.0002B
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 124599-1
Sample date: 2020-01-03
Report received by CADENA: 2020-01-21
Initial Data Verification completed by CADENA: 2020-01-21
Number of Samples:5
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

MBK - GCMS VOC QC batch 418363 method blank had a detection below the RL for the following analyte: CIS-1,2-DICHLOROETHENE. The following client sample results should be considered to be non-detect at the RL and qualified with UB flags: -001, -005.

TBK - GCMS VOC QC batch 418363 trip blank had a detection below the RL for the following analyte: CIS-1,2-DICHLOROETHENE. The following client sample results should be considered to be non-detect at the RL and qualified with UB flags: -001, -005.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 124599-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	Comment
2401245991	MW-206_010320	1/3/2020	10:37:00	X	
2401245992	TRIP BLANK	1/3/2020	12:00:00	X	
2401245993	MW-206S_010320	1/3/2020	11:41:00	X	
2401245994	MW-205_010320	1/3/2020	1:34:00	X	
2401245995	MW-204_010320	1/3/2020	3:01:00	X	

Qualified Results Summary

Reportable Results Only

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 124599-1

Sample Name: MW-206_010320 MW-204_010320
Lab Sample ID: 2401245991 2401245995
Sample Date: 1/3/2020 1/3/2020

Analyte	Cas No.	Report		Units	Valid	Report		Units	Valid	
		Result	Limit		Qualifier	Result	Limit		Qualifier	
GC/MS VOC										
<u>OSW-8260B</u>										
cis-1,2-Dichloroethene	156-59-2	59	67	ug/l	UB	2.3	2.5	ug/l	UB	

Analytical Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 124599-1

Sample Name: MW-206_010320	TRIP BLANK	MW-206S_010320	MW-205_010320	MW-204_010320
Lab Sample ID: 2401245991	2401245992	2401245993	2401245994	2401245995
Sample Date: 1/3/2020	1/3/2020	1/3/2020	1/3/2020	1/3/2020

Analyte	Cas No.	MW-206_010320				TRIP BLANK				MW-206S_010320				MW-205_010320				MW-204_010320			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier

GC/MS VOC

OSW-8260B

cis-1,2-Dichloroethene	156-59-2	59	67	ug/l	UB	0.38	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	2.3	2.5	ug/l	UB
trans-1,2-Dichloroethene	156-60-5	97	67	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	1.7	2.5	ug/l	J
Trichloroethene	79-01-6	1200	67	ug/l	---	ND	1.0	ug/l	---	0.71	1.0	ug/l	J	ND	1.0	ug/l	---	61	2.5	ug/l	---
Vinyl chloride	75-01-4	ND	67	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	2.5	ug/l	---

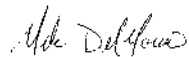
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-124600-1
Client Project/Site: Ford LTP

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
1/21/2020 10:25:15 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Job ID: 240-124600-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP

Report Number: 240-124600-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 1/7/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-205S_123019 (240-124600-1), TRIP BLANK (240-124600-2), MW-202S_123019 (240-124600-3) and MW-202_123019 (240-124600-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 01/09/2020.

cis-1,2-Dichloroethene was detected in method blank MB 240-418363/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

- 1
- 2
- 3
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- 5
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- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-124600-1	MW-205S_123019	Water	12/30/19 10:16	01/07/20 09:20	
240-124600-2	TRIP BLANK	Water	12/30/19 00:00	01/07/20 09:20	
240-124600-3	MW-202S_123019	Water	12/30/19 11:43	01/07/20 09:20	
240-124600-4	MW-202_123019	Water	12/30/19 13:18	01/07/20 09:20	

- 1
- 2
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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Client Sample ID: MW-205S_123019

Lab Sample ID: 240-124600-1

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-124600-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.30	J B	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-202S_123019

Lab Sample ID: 240-124600-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.30	J B	1.0	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: MW-202_123019

Lab Sample ID: 240-124600-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Client Sample ID: MW-205S_123019

Lab Sample ID: 240-124600-1

Date Collected: 12/30/19 10:16

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/09/20 17:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 17:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 17:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 17:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		75 - 130		01/09/20 17:41	1
4-Bromofluorobenzene (Surr)	84		47 - 134		01/09/20 17:41	1
Toluene-d8 (Surr)	87		69 - 122		01/09/20 17:41	1
Dibromofluoromethane (Surr)	100		78 - 129		01/09/20 17:41	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-124600-2

Date Collected: 12/30/19 00:00

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.30	J B	1.0	0.16	ug/L			01/09/20 18:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 18:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 18:48	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 18:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		75 - 130		01/09/20 18:48	1
4-Bromofluorobenzene (Surr)	82		47 - 134		01/09/20 18:48	1
Toluene-d8 (Surr)	87		69 - 122		01/09/20 18:48	1
Dibromofluoromethane (Surr)	97		78 - 129		01/09/20 18:48	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Client Sample ID: MW-202S_123019

Lab Sample ID: 240-124600-3

Date Collected: 12/30/19 11:43

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.30	J B	1.0	0.16	ug/L			01/09/20 19:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 19:11	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 19:11	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 19:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		75 - 130		01/09/20 19:11	1
4-Bromofluorobenzene (Surr)	118		47 - 134		01/09/20 19:11	1
Toluene-d8 (Surr)	90		69 - 122		01/09/20 19:11	1
Dibromofluoromethane (Surr)	98		78 - 129		01/09/20 19:11	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Client Sample ID: MW-202_123019

Lab Sample ID: 240-124600-4

Date Collected: 12/30/19 13:18

Matrix: Water

Date Received: 01/07/20 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			01/09/20 19:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 19:33	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 19:33	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 19:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		75 - 130		01/09/20 19:33	1
4-Bromofluorobenzene (Surr)	86		47 - 134		01/09/20 19:33	1
Toluene-d8 (Surr)	88		69 - 122		01/09/20 19:33	1
Dibromofluoromethane (Surr)	95		78 - 129		01/09/20 19:33	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(75-130)	(47-134)	(69-122)	(78-129)
240-124600-1	MW-205S_123019	118	84	87	100
240-124600-1 MS	MW-205SMS_123019	113	92	83	96
240-124600-1 MSD	MW-205SMSD_123019	121	94	90	105
240-124600-2	TRIP BLANK	113	82	87	97
240-124600-3	MW-202S_123019	121	118	90	98
240-124600-4	MW-202_123019	118	86	88	95
LCS 240-418363/4	Lab Control Sample	115	95	92	100
MB 240-418363/6	Method Blank	116	80	79	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-418363/6
Matrix: Water
Analysis Batch: 418363

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	0.450	J	1.0	0.16	ug/L			01/09/20 12:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			01/09/20 12:06	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			01/09/20 12:06	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/09/20 12:06	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	116		75 - 130		01/09/20 12:06	1
4-Bromofluorobenzene (Surr)	80		47 - 134		01/09/20 12:06	1
Toluene-d8 (Surr)	79		69 - 122		01/09/20 12:06	1
Dibromofluoromethane (Surr)	98		78 - 129		01/09/20 12:06	1

Lab Sample ID: LCS 240-418363/4
Matrix: Water
Analysis Batch: 418363

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
cis-1,2-Dichloroethene	10.0	11.3		ug/L		113	75 - 124
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	9.41		ug/L		94	71 - 121
Vinyl chloride	10.0	8.01		ug/L		80	61 - 134

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	115		75 - 130
4-Bromofluorobenzene (Surr)	95		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	100		78 - 129

Lab Sample ID: 240-124600-1 MS
Matrix: Water
Analysis Batch: 418363

Client Sample ID: MW-205SMS_123019
Prep Type: Total/NA

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
cis-1,2-Dichloroethene	1.0	U	10.0	9.43		ug/L		94	68 - 121
trans-1,2-Dichloroethene	1.0	U	10.0	8.51		ug/L		85	69 - 126
Trichloroethene	1.0	U	10.0	8.43		ug/L		84	56 - 124
Vinyl chloride	1.0	U	10.0	7.08		ug/L		71	49 - 136

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	113		75 - 130
4-Bromofluorobenzene (Surr)	92		47 - 134
Toluene-d8 (Surr)	83		69 - 122
Dibromofluoromethane (Surr)	96		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-124600-1 MSD

Client Sample ID: MW-205SMSD_123019

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 418363

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
cis-1,2-Dichloroethene	1.0	U	10.0	11.0		ug/L		110	68 - 121	15	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	69 - 126	18	35
Trichloroethene	1.0	U	10.0	8.33		ug/L		83	56 - 124	1	35
Vinyl chloride	1.0	U	10.0	7.74		ug/L		77	49 - 136	9	35

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	121		75 - 130
4-Bromofluorobenzene (Surr)	94		47 - 134
Toluene-d8 (Surr)	90		69 - 122
Dibromofluoromethane (Surr)	105		78 - 129

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

GC/MS VOA

Analysis Batch: 418363

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-124600-1	MW-205S_123019	Total/NA	Water	8260B	
240-124600-2	TRIP BLANK	Total/NA	Water	8260B	
240-124600-3	MW-202S_123019	Total/NA	Water	8260B	
240-124600-4	MW-202_123019	Total/NA	Water	8260B	
MB 240-418363/6	Method Blank	Total/NA	Water	8260B	
LCS 240-418363/4	Lab Control Sample	Total/NA	Water	8260B	
240-124600-1 MS	MW-205SMS_123019	Total/NA	Water	8260B	
240-124600-1 MSD	MW-205SMSD_123019	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Client Sample ID: MW-205S_123019

Lab Sample ID: 240-124600-1

Date Collected: 12/30/19 10:16

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	418363	01/09/20 17:41	LEE	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-124600-2

Date Collected: 12/30/19 00:00

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	418363	01/09/20 18:48	LEE	TAL CAN

Client Sample ID: MW-202S_123019

Lab Sample ID: 240-124600-3

Date Collected: 12/30/19 11:43

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	418363	01/09/20 19:11	LEE	TAL CAN

Client Sample ID: MW-202_123019

Lab Sample ID: 240-124600-4

Date Collected: 12/30/19 13:18

Matrix: Water

Date Received: 01/07/20 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	418363	01/09/20 19:33	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP

Job ID: 240-124600-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-20

Regulatory Program: DW NPDES RCRA Other:

Project Manager: Kristoffer Hinskey

Email: Kristoffer.Hinskey@Arcadis.com
Tel/Fax: 269-579-5402

Analysis Turnaround Time

CALENDAR DAYS WORKING DAYS
TAT if different from Below _____
 2 weeks
 1 week
 2 days
 1 day

Client Contact
Arcadis of Michigan LLC
28550 Cabot Drive, Ste. 500
Novi, MI 48377
(248) 994-2240 Phone
(248) 994-2241 FAX
Project Name: Ford LTP
Site: Ford LTP
P.O.# 30016342.0001C

Site Contact: Caitlin Cisco
Lab Contact: Mike DelMonico

Carrier:

For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

COC No: _____ of _____ COCs
Sampler: *Mike DelMonico / Madison Cleveland*

Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	VC via Method 8260	cls-1,2-DCE 8260	Trans-1,2-DCE 8260	TCE via Method 8260	Sample Specific Notes:
MW-205S_123019 Trip Blank	12/30/19	1016	G	GW	1	N	X	X	X	X	X	MS/MSD
MW-207S_123019	12/30/19	1143	G	GW	3	N	X	X	X	X	X	
MW-202_123019	12/30/19	1318	G	GW	3	N	X	X	X	X	X	



Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

Special Instructions/QC Requirements & Comments:

Relinquished by:	Company:	Date/Time:	Relinquished by:	Company:	Date/Time:	Relinquished by:	Company:	Date/Time:	Relinquished by:	Company:	Date/Time:
<i>Matthew Woodman</i>	Arcadis	12/30/19/1500	<i>Matthew Woodman</i>	Arcadis	12/30/19/1500	<i>Matthew Woodman</i>	Arcadis	12/30/19/1500	<i>Matthew Woodman</i>	Arcadis	12/30/19/1500
<i>Matthew Woodman</i>	Arcadis	12/30/20/1315	<i>Matthew Woodman</i>	Arcadis	12/30/20/1315	<i>Matthew Woodman</i>	Arcadis	12/30/20/1315	<i>Matthew Woodman</i>	Arcadis	12/30/20/1315
<i>Matthew Woodman</i>	Arcadis	1-7-20 1315	<i>Matthew Woodman</i>	Arcadis	1-7-20 1315	<i>Matthew Woodman</i>	Arcadis	1-7-20 1315	<i>Matthew Woodman</i>	Arcadis	1-7-20 1315



**Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility**

Login # : 174620

Client Arcaadis Site Name _____
Cooler Received on 1-7-20 Opened on 1-7-20
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Cooler unpacked by:

[Signature]

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____


TestAmerica Cooler # TH Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Water Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 2-3 °C Corrected Cooler Temp. 3.0 °C
IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA  ← Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

[Signature]

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



January 21, 2020

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30016346.0002B
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 124600-1
Sample date: 2019-12-30
Report received by CADENA: 2020-01-21
Initial Data Verification completed by CADENA: 2020-01-21
Number of Samples:4
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

MBK - GCMS VOC QC batch 418363 method blank had a detection below the RL for the following analyte: CIS-1,2-DICHLOROETHENE. The following client sample results should be considered to be non-detect at the RL and qualified with UB flags: -003.

TBK - GCMS VOC QC batch 418363 trip blank had a detection below the RL for the following analyte: CIS-1,2-DICHLOROETHENE. The following client sample results should be considered to be non-detect at the RL and qualified with UB flags: -003.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 124600-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	Comment
2401246001	MW-205S_123019	12/30/2019	10:16:00	X	
2401246002	TRIP BLANK	12/30/2019	12:00:00	X	
2401246003	MW-202S_123019	12/30/2019	11:43:00	X	
2401246004	MW-202_123019	12/30/2019	1:18:00	X	

Qualified Results Summary

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 124600-1

Sample Name: MW-202S_123019

Lab Sample ID: 2401246003

Sample Date: 12/30/2019

Analyte	Cas No.	Result	Report		Units	Valid
			Limit	Qualifier		
GC/MS VOC						
<u>OSW-8260B</u>						
cis-1,2-Dichloroethene	156-59-2	0.30	1.0	ug/l	UB	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 124600-1

Sample Name: MW-205S_123019	TRIP BLANK	MW-202S_123019	MW-202_123019
Lab Sample ID: 2401246001	2401246002	2401246003	2401246004
Sample Date: 12/30/2019	12/30/2019	12/30/2019	12/30/2019

Analyte	Cas No.	MW-205S_123019				TRIP BLANK				MW-202S_123019				MW-202_123019			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
GC/MS VOC																	
<u>OSW-8260B</u>																	
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	0.30	1.0	ug/l	J	0.30	1.0	ug/l	UB	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-126009-1
Client Project/Site: Ford LTP Off Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/13/2020 8:46:15 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
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Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Job ID: 240-126009-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Off Site

Report Number: 240-126009-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/8/2020 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126009-1), MW-206_020620 (240-126009-2) and MW-206S_020620 (240-126009-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/11/2020.

Sample MW-206_020620 (240-126009-2)[66.67X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126009-1	TRIP BLANK	Water	02/06/20 00:00	02/08/20 09:35	
240-126009-2	MW-206_020620	Water	02/06/20 10:01	02/08/20 09:35	
240-126009-3	MW-206S_020620	Water	02/06/20 11:56	02/08/20 09:35	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126009-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.22	J	1.0	0.16	ug/L	1		8260B	Total/NA
Trichloroethene	0.12	J	1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: MW-206_020620

Lab Sample ID: 240-126009-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	29	J	67	11	ug/L	66.67		8260B	Total/NA
trans-1,2-Dichloroethene	71		67	13	ug/L	66.67		8260B	Total/NA
Trichloroethene	950		67	6.7	ug/L	66.67		8260B	Total/NA

Client Sample ID: MW-206S_020620

Lab Sample ID: 240-126009-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.23	J	1.0	0.10	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126009-1

Date Collected: 02/06/20 00:00

Matrix: Water

Date Received: 02/08/20 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.22	J	1.0	0.16	ug/L			02/11/20 19:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/11/20 19:27	1
Trichloroethene	0.12	J	1.0	0.10	ug/L			02/11/20 19:27	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/11/20 19:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		02/11/20 19:27	1
4-Bromofluorobenzene (Surr)	75		47 - 134		02/11/20 19:27	1
Toluene-d8 (Surr)	84		69 - 122		02/11/20 19:27	1
Dibromofluoromethane (Surr)	85		78 - 129		02/11/20 19:27	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Client Sample ID: MW-206_020620

Lab Sample ID: 240-126009-2

Date Collected: 02/06/20 10:01

Matrix: Water

Date Received: 02/08/20 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	29	J	67	11	ug/L			02/11/20 19:49	66.67
trans-1,2-Dichloroethene	71		67	13	ug/L			02/11/20 19:49	66.67
Trichloroethene	950		67	6.7	ug/L			02/11/20 19:49	66.67
Vinyl chloride	67	U	67	13	ug/L			02/11/20 19:49	66.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		75 - 130		02/11/20 19:49	66.67
4-Bromofluorobenzene (Surr)	73		47 - 134		02/11/20 19:49	66.67
Toluene-d8 (Surr)	85		69 - 122		02/11/20 19:49	66.67
Dibromofluoromethane (Surr)	87		78 - 129		02/11/20 19:49	66.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Client Sample ID: MW-206S_020620

Lab Sample ID: 240-126009-3

Date Collected: 02/06/20 11:56

Matrix: Water

Date Received: 02/08/20 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/11/20 20:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/11/20 20:10	1
Trichloroethene	0.23	J	1.0	0.10	ug/L			02/11/20 20:10	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/11/20 20:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		02/11/20 20:10	1
4-Bromofluorobenzene (Surr)	71		47 - 134		02/11/20 20:10	1
Toluene-d8 (Surr)	85		69 - 122		02/11/20 20:10	1
Dibromofluoromethane (Surr)	84		78 - 129		02/11/20 20:10	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(75-130)	(47-134)	(69-122)	(78-129)
240-125887-A-1 MS	Matrix Spike	90	82	86	93
240-125887-A-1 MSD	Matrix Spike Duplicate	73 X	66	72	76 X
240-126009-1	TRIP BLANK	89	75	84	85
240-126009-2	MW-206_020620	91	73	85	87
240-126009-3	MW-206S_020620	89	71	85	84
LCS 240-422316/4	Lab Control Sample	86	75	83	90
MB 240-422316/7	Method Blank	94	71	85	90

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-422316/7
Matrix: Water
Analysis Batch: 422316

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/11/20 12:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/11/20 12:31	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/11/20 12:31	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/11/20 12:31	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		02/11/20 12:31	1
4-Bromofluorobenzene (Surr)	71		47 - 134		02/11/20 12:31	1
Toluene-d8 (Surr)	85		69 - 122		02/11/20 12:31	1
Dibromofluoromethane (Surr)	90		78 - 129		02/11/20 12:31	1

Lab Sample ID: LCS 240-422316/4
Matrix: Water
Analysis Batch: 422316

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.5		ug/L		105	73 - 129
cis-1,2-Dichloroethene	10.0	10.8		ug/L		108	75 - 124
Tetrachloroethene	10.0	10.4		ug/L		104	70 - 125
trans-1,2-Dichloroethene	10.0	10.4		ug/L		104	74 - 130
Trichloroethene	10.0	10.7		ug/L		107	71 - 121
Vinyl chloride	10.0	7.70		ug/L		77	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		75 - 130
4-Bromofluorobenzene (Surr)	75		47 - 134
Toluene-d8 (Surr)	83		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

Lab Sample ID: 240-125887-A-1 MS
Matrix: Water
Analysis Batch: 422316

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	110		50.0	151		ug/L		81	68 - 121
Tetrachloroethene	5.0	U	50.0	43.2		ug/L		86	52 - 129
trans-1,2-Dichloroethene	1.3	J	50.0	45.2		ug/L		88	69 - 126
Trichloroethene	25		50.0	70.7		ug/L		92	56 - 124
Vinyl chloride	13		50.0	58.3		ug/L		90	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		75 - 130
4-Bromofluorobenzene (Surr)	82		47 - 134
Toluene-d8 (Surr)	86		69 - 122
Dibromofluoromethane (Surr)	93		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125887-A-1 MSD

Matrix: Water

Analysis Batch: 422316

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier				Limits			
cis-1,2-Dichloroethene	110		50.0	148		ug/L		75	68 - 121	2		35
Tetrachloroethene	5.0	U	50.0	46.5		ug/L		93	52 - 129	7		35
trans-1,2-Dichloroethene	1.3	J	50.0	45.5		ug/L		89	69 - 126	1		35
Trichloroethene	25		50.0	70.6		ug/L		92	56 - 124	0		35
Vinyl chloride	13		50.0	52.2		ug/L		78	49 - 136	11		35
MSD MSD												
Surrogate	%Recovery	Qualifier	Limits									
1,2-Dichloroethane-d4 (Surr)	73	X	75 - 130									
4-Bromofluorobenzene (Surr)	66		47 - 134									
Toluene-d8 (Surr)	72		69 - 122									
Dibromofluoromethane (Surr)	76	X	78 - 129									



QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

GC/MS VOA

Analysis Batch: 422316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126009-1	TRIP BLANK	Total/NA	Water	8260B	
240-126009-2	MW-206_020620	Total/NA	Water	8260B	
240-126009-3	MW-206S_020620	Total/NA	Water	8260B	
MB 240-422316/7	Method Blank	Total/NA	Water	8260B	
LCS 240-422316/4	Lab Control Sample	Total/NA	Water	8260B	
240-125887-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-125887-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126009-1

Date Collected: 02/06/20 00:00

Matrix: Water

Date Received: 02/08/20 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422316	02/11/20 19:27	LEE	TAL CAN

Client Sample ID: MW-206_020620

Lab Sample ID: 240-126009-2

Date Collected: 02/06/20 10:01

Matrix: Water

Date Received: 02/08/20 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		66.67	422316	02/11/20 19:49	LEE	TAL CAN

Client Sample ID: MW-206S_020620

Lab Sample ID: 240-126009-3

Date Collected: 02/06/20 11:56

Matrix: Water

Date Received: 02/08/20 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422316	02/11/20 20:10	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126009-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20 *
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Regulatory Program: DW NPDES RCRA Other:

Client Project Manager: Kris Hinskey
Tel/Fax: 248-994-2240

Client Contact: ARCADIS of Michigan, 26550 Cabot Drive Suite 500, Novi, Michigan 48377
Phone: (248)-994-2240, FAX: (248)-994-2241
Project Name: Ford LTP Off-Site, Site: Ford LTP, P O # 30042006.0402.02

Site Contact: Julia McClafferty, Date: 2/6/2020
Lab Contact: Mike DeMonico, Carrier:

Analysis Turnaround Time: CALENDAR DAYS WORKING DAYS
TAT if different from Below 3 Day
 2 weeks 1 week 2 days 1 day

Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.
2/6/20	1001	G	W	1
	1156	G	GW	3
				3

Sample Identification	Sample Specific Notes
TRIP BLANK	
MW-206_020620	
MW-206S-020620	3 VOPS for 8260B



Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample

Non-Hazard Flammable Skin Irritant Poison 5 Unknown

Special Instructions/QC Requirements & Comments: Submit all results through Cadena at: lromalia@cademaco.com, Cadena #E203631 Level IV Reporting requested

Custody Seals Intact	Yes	No	Custody Seal No.	Company	Date/Time	Received by	Company	Cor'd	Therm ID No.
				ARCADIS	2/6/20/1230	BRADY TAYLOR	ARCADIS		2/6/20/1230
				ARCADIS	2/6/20/1640	Matthew Woodman	ARCADIS		2/6/20/1640
				ARCADIS	2/6/20/1820	ARCADIS WILLIAMS	ARCADIS		2/6/20/1820
				ARCADIS	2/7/20/1030	Molly Musson	ETAC-MI		2/7/20/1030
				ETAC-MI	2/7/20/1445	Molly Musson	ETAC		2-8-20 935



Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 126609

Client Arcadis of Michigan Site Name _____
 Cooler Received on 2-8-20 Opened on 2-8-20
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Cooler unpacked by: [Signature]

Receipt After-hours: Drop-off Date/Time _____ **Storage Location** _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 2.7 °C Corrected Cooler Temp. 3.4 °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 7 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
 13. Were VOAs on the COC? Yes No
 14. Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: MS

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 13, 2020

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30042006.0402.02
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 126009-1
Sample date: 2020-02-06
Report received by CADENA: 2020-02-13
Initial Data Verification completed by CADENA: 2020-02-13
Number of Samples:3
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

GCMS VOC non-client MS/MSD surrogate recovery outliers did not result in qualification of client sample data.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 126009-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	Comment
2401260091	TRIP BLANK	2/6/2020	12:00:00	X	
2401260092	MW-206_020620	2/6/2020	10:01:00	X	
2401260093	MW-206S_020620	2/6/2020	11:56:00	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126009-1

Sample Name:	TRIP BLANK	MW-206_020620	MW-206S_020620
Lab Sample ID:	2401260091	2401260092	2401260093
Sample Date:	2/6/2020	2/6/2020	2/6/2020

Analyte	Cas No.	TRIP BLANK				MW-206_020620				MW-206S_020620			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier

GC/MS VOC

OSW-8260B

cis-1,2-Dichloroethene	156-59-2	0.22	1.0	ug/l	J	29	67	ug/l	J	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	71	67	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	0.12	1.0	ug/l	J	950	67	ug/l	---	0.23	1.0	ug/l	J
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	67	ug/l	---	ND	1.0	ug/l	---


ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-126010-1
Client Project/Site: Ford LTP Off Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

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Authorized for release by:
2/13/2020 4:09:00 PM

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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Job ID: 240-126010-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Off Site

Report Number: 240-126010-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/8/2020 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126010-1), MW-202S_020620 (240-126010-2) and MW-202_020620 (240-126010-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/11/2020 and 02/12/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126010-1	TRIP BLANK	Water	02/06/20 00:00	02/08/20 09:35	
240-126010-2	MW-202S_020620	Water	02/06/20 09:45	02/08/20 09:35	
240-126010-3	MW-202_020620	Water	02/06/20 10:55	02/08/20 09:35	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126010-1

No Detections.

Client Sample ID: MW-202S_020620

Lab Sample ID: 240-126010-2

No Detections.

Client Sample ID: MW-202_020620

Lab Sample ID: 240-126010-3

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126010-1

Date Collected: 02/06/20 00:00

Matrix: Water

Date Received: 02/08/20 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/11/20 20:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/11/20 20:32	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/11/20 20:32	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/11/20 20:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		02/11/20 20:32	1
4-Bromofluorobenzene (Surr)	74		47 - 134		02/11/20 20:32	1
Toluene-d8 (Surr)	87		69 - 122		02/11/20 20:32	1
Dibromofluoromethane (Surr)	88		78 - 129		02/11/20 20:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Client Sample ID: MW-202S_020620

Lab Sample ID: 240-126010-2

Date Collected: 02/06/20 09:45

Matrix: Water

Date Received: 02/08/20 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/11/20 20:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/11/20 20:54	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/11/20 20:54	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/11/20 20:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		75 - 130		02/11/20 20:54	1
4-Bromofluorobenzene (Surr)	70		47 - 134		02/11/20 20:54	1
Toluene-d8 (Surr)	82		69 - 122		02/11/20 20:54	1
Dibromofluoromethane (Surr)	85		78 - 129		02/11/20 20:54	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Client Sample ID: MW-202_020620

Lab Sample ID: 240-126010-3

Date Collected: 02/06/20 10:55

Matrix: Water

Date Received: 02/08/20 09:35

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/12/20 12:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/12/20 12:04	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/12/20 12:04	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/12/20 12:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		02/12/20 12:04	1
4-Bromofluorobenzene (Surr)	68		47 - 134		02/12/20 12:04	1
Toluene-d8 (Surr)	80		69 - 122		02/12/20 12:04	1
Dibromofluoromethane (Surr)	83		78 - 129		02/12/20 12:04	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(75-130)	(47-134)	(69-122)	(78-129)
240-125887-A-1 MS	Matrix Spike	90	82	86	93
240-125887-A-1 MSD	Matrix Spike Duplicate	73 X	66	72	76 X
240-125946-A-3 MSD	Matrix Spike Duplicate	82	75	80	89
240-125946-C-3 MS	Matrix Spike	85	75	82	89
240-126010-1	TRIP BLANK	93	74	87	88
240-126010-2	MW-202S_020620	90	70	82	85
240-126010-3	MW-202_020620	89	68	80	83
LCS 240-422316/4	Lab Control Sample	86	75	83	90
LCS 240-422496/4	Lab Control Sample	83	76	82	89
MB 240-422316/7	Method Blank	94	71	85	90
MB 240-422496/7	Method Blank	89	69	81	84

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-422316/7
Matrix: Water
Analysis Batch: 422316

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/11/20 12:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/11/20 12:31	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/11/20 12:31	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/11/20 12:31	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	94		75 - 130		02/11/20 12:31	1
4-Bromofluorobenzene (Surr)	71		47 - 134		02/11/20 12:31	1
Toluene-d8 (Surr)	85		69 - 122		02/11/20 12:31	1
Dibromofluoromethane (Surr)	90		78 - 129		02/11/20 12:31	1

Lab Sample ID: LCS 240-422316/4
Matrix: Water
Analysis Batch: 422316

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	10.0	10.5		ug/L		105	73 - 129
cis-1,2-Dichloroethene	10.0	10.8		ug/L		108	75 - 124
Tetrachloroethene	10.0	10.4		ug/L		104	70 - 125
trans-1,2-Dichloroethene	10.0	10.4		ug/L		104	74 - 130
Trichloroethene	10.0	10.7		ug/L		107	71 - 121
Vinyl chloride	10.0	7.70		ug/L		77	61 - 134

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	86		75 - 130
4-Bromofluorobenzene (Surr)	75		47 - 134
Toluene-d8 (Surr)	83		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

Lab Sample ID: 240-125887-A-1 MS
Matrix: Water
Analysis Batch: 422316

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike Added	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier		Result	Qualifier				
cis-1,2-Dichloroethene	110		50.0	151		ug/L		81	68 - 121
Tetrachloroethene	5.0	U	50.0	43.2		ug/L		86	52 - 129
trans-1,2-Dichloroethene	1.3	J	50.0	45.2		ug/L		88	69 - 126
Trichloroethene	25		50.0	70.7		ug/L		92	56 - 124
Vinyl chloride	13		50.0	58.3		ug/L		90	49 - 136

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	90		75 - 130
4-Bromofluorobenzene (Surr)	82		47 - 134
Toluene-d8 (Surr)	86		69 - 122
Dibromofluoromethane (Surr)	93		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125887-A-1 MSD

Matrix: Water

Analysis Batch: 422316

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	110		50.0	148		ug/L		75	68 - 121	2	35
Tetrachloroethene	5.0	U	50.0	46.5		ug/L		93	52 - 129	7	35
trans-1,2-Dichloroethene	1.3	J	50.0	45.5		ug/L		89	69 - 126	1	35
Trichloroethene	25		50.0	70.6		ug/L		92	56 - 124	0	35
Vinyl chloride	13		50.0	52.2		ug/L		78	49 - 136	11	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	73	X	75 - 130
4-Bromofluorobenzene (Surr)	66		47 - 134
Toluene-d8 (Surr)	72		69 - 122
Dibromofluoromethane (Surr)	76	X	78 - 129

Lab Sample ID: MB 240-422496/7

Matrix: Water

Analysis Batch: 422496

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/12/20 11:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/12/20 11:42	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/12/20 11:42	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/12/20 11:42	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		02/12/20 11:42	1
4-Bromofluorobenzene (Surr)	69		47 - 134		02/12/20 11:42	1
Toluene-d8 (Surr)	81		69 - 122		02/12/20 11:42	1
Dibromofluoromethane (Surr)	84		78 - 129		02/12/20 11:42	1

Lab Sample ID: LCS 240-422496/4

Matrix: Water

Analysis Batch: 422496

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	12.1		ug/L		121	73 - 129
cis-1,2-Dichloroethene	10.0	11.2		ug/L		112	75 - 124
Tetrachloroethene	10.0	11.1		ug/L		111	70 - 125
trans-1,2-Dichloroethene	10.0	10.9		ug/L		109	74 - 130
Trichloroethene	10.0	11.4		ug/L		114	71 - 121
Vinyl chloride	10.0	8.73		ug/L		87	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	76		47 - 134
Toluene-d8 (Surr)	82		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-125946-A-3 MSD

Matrix: Water

Analysis Batch: 422496

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	9.71		ug/L		97	64 - 132	9	35
cis-1,2-Dichloroethene	0.21	J	10.0	9.32		ug/L		91	68 - 121	2	35
Tetrachloroethene	1.0	U	10.0	8.42		ug/L		84	52 - 129	1	35
Trichloroethene	1.0	U	10.0	8.76		ug/L		88	56 - 124	2	35
Vinyl chloride	1.0	U	10.0	7.93		ug/L		79	49 - 136	5	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	82		75 - 130
4-Bromofluorobenzene (Surr)	75		47 - 134
Toluene-d8 (Surr)	80		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-125946-C-3 MS

Matrix: Water

Analysis Batch: 422496

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	8.84		ug/L		88	64 - 132
cis-1,2-Dichloroethene	0.21	J	10.0	9.53		ug/L		93	68 - 121
Tetrachloroethene	1.0	U	10.0	8.33		ug/L		83	52 - 129
Trichloroethene	1.0	U	10.0	8.92		ug/L		89	56 - 124
Vinyl chloride	1.0	U	10.0	7.55		ug/L		75	49 - 136

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	85		75 - 130
4-Bromofluorobenzene (Surr)	75		47 - 134
Toluene-d8 (Surr)	82		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

GC/MS VOA

Analysis Batch: 422316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126010-1	TRIP BLANK	Total/NA	Water	8260B	
240-126010-2	MW-202S_020620	Total/NA	Water	8260B	
MB 240-422316/7	Method Blank	Total/NA	Water	8260B	
LCS 240-422316/4	Lab Control Sample	Total/NA	Water	8260B	
240-125887-A-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-125887-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 422496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126010-3	MW-202_020620	Total/NA	Water	8260B	
MB 240-422496/7	Method Blank	Total/NA	Water	8260B	
LCS 240-422496/4	Lab Control Sample	Total/NA	Water	8260B	
240-125946-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-125946-C-3 MS	Matrix Spike	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126010-1

Date Collected: 02/06/20 00:00

Matrix: Water

Date Received: 02/08/20 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422316	02/11/20 20:32	LEE	TAL CAN

Client Sample ID: MW-202S_020620

Lab Sample ID: 240-126010-2

Date Collected: 02/06/20 09:45

Matrix: Water

Date Received: 02/08/20 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422316	02/11/20 20:54	LEE	TAL CAN

Client Sample ID: MW-202_020620

Lab Sample ID: 240-126010-3

Date Collected: 02/06/20 10:55

Matrix: Water

Date Received: 02/08/20 09:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422496	02/12/20 12:04	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126010-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

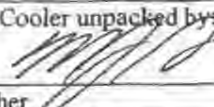
* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility


Login # : 26010

Client Arcadis of Michigan Site Name _____
 Cooler Received on 2-8-20 Opened on 2-8-20
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Cooler unpacked by:


Receipt After-hours: Drop-off Date/Time _____ Storage Location _____


TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None _____ Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 2.7 °C Corrected Cooler Temp. 3.4 °C
 IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 7 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
 12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
 13. Were VOAs on the COC? Yes No
 14. Were air bubbles >6 mm in any VOA vials?  ← Larger than this. Yes No NA
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:


18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 13, 2020

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30042006.0402.02
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 126010-1
Sample date: 2020-02-06
Report received by CADENA: 2020-02-13
Initial Data Verification completed by CADENA: 2020-02-13
Number of Samples:3
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

GCMS VOC non-client MS/MSD surrogate recovery outliers did not result in qualification of client sample data.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 126010-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	Comment
2401260101	TRIP BLANK	2/6/2020	12:00:00	X	
2401260102	MW-202S_020620	2/6/2020	9:45:00	X	
2401260103	MW-202_020620	2/6/2020	10:55:00	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126010-1

Sample Name:	TRIP BLANK	MW-202S_020620	MW-202_020620
Lab Sample ID:	2401260101	2401260102	2401260103
Sample Date:	2/6/2020	2/6/2020	2/6/2020

Analyte	Cas No.	TRIP BLANK				MW-202S_020620				MW-202_020620			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier

GC/MS VOC

OSW-8260B

cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---

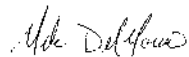
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-126101-1
Client Project/Site: Ford LTP Off Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/14/2020 1:18:38 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

LINKS

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results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Job ID: 240-126101-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Off Site

Report Number: 240-126101-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/11/2020 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.9° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126101-1), MW-203S_020720 (240-126101-2) and MW-203_020720 (240-126101-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/12/2020.

Samples MW-203S_020720 (240-126101-2)[1.67X] and MW-203_020720 (240-126101-3)[40X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

- 1
- 2
- 3
- 4
- 5
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- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126101-1	TRIP BLANK	Water	02/07/20 00:00	02/11/20 08:40	
240-126101-2	MW-203S_020720	Water	02/07/20 10:00	02/11/20 08:40	
240-126101-3	MW-203_020720	Water	02/07/20 10:50	02/11/20 08:40	

- 1
- 2
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- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126101-1

No Detections.

Client Sample ID: MW-203S_020720

Lab Sample ID: 240-126101-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.0	J	1.7	0.27	ug/L	1.67		8260B	Total/NA
trans-1,2-Dichloroethene	2.3		1.7	0.32	ug/L	1.67		8260B	Total/NA
Trichloroethene	44		1.7	0.17	ug/L	1.67		8260B	Total/NA

Client Sample ID: MW-203_020720

Lab Sample ID: 240-126101-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
trans-1,2-Dichloroethene	21	J	40	7.6	ug/L	40		8260B	Total/NA
Trichloroethene	670		40	4.0	ug/L	40		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126101-1

Date Collected: 02/07/20 00:00

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/12/20 14:20	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/12/20 14:20	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/12/20 14:20	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/12/20 14:20	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		75 - 130		02/12/20 14:20	1
4-Bromofluorobenzene (Surr)	69		47 - 134		02/12/20 14:20	1
Toluene-d8 (Surr)	89		69 - 122		02/12/20 14:20	1
Dibromofluoromethane (Surr)	119		78 - 129		02/12/20 14:20	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Client Sample ID: MW-203S_020720

Lab Sample ID: 240-126101-2

Date Collected: 02/07/20 10:00

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	J	1.7	0.27	ug/L			02/12/20 16:43	1.67
trans-1,2-Dichloroethene	2.3		1.7	0.32	ug/L			02/12/20 16:43	1.67
Trichloroethene	44		1.7	0.17	ug/L			02/12/20 16:43	1.67
Vinyl chloride	1.7	U	1.7	0.33	ug/L			02/12/20 16:43	1.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		75 - 130		02/12/20 16:43	1.67
4-Bromofluorobenzene (Surr)	68		47 - 134		02/12/20 16:43	1.67
Toluene-d8 (Surr)	90		69 - 122		02/12/20 16:43	1.67
Dibromofluoromethane (Surr)	122		78 - 129		02/12/20 16:43	1.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Client Sample ID: MW-203_020720

Lab Sample ID: 240-126101-3

Date Collected: 02/07/20 10:50

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	40	U	40	6.4	ug/L			02/12/20 17:07	40
trans-1,2-Dichloroethene	21	J	40	7.6	ug/L			02/12/20 17:07	40
Trichloroethene	670		40	4.0	ug/L			02/12/20 17:07	40
Vinyl chloride	40	U	40	8.0	ug/L			02/12/20 17:07	40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	118		75 - 130		02/12/20 17:07	40
4-Bromofluorobenzene (Surr)	67		47 - 134		02/12/20 17:07	40
Toluene-d8 (Surr)	91		69 - 122		02/12/20 17:07	40
Dibromofluoromethane (Surr)	128		78 - 129		02/12/20 17:07	40

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-126095-D-3 MS	Matrix Spike	98	103	101	104
240-126095-E-3 MSD	Matrix Spike Duplicate	95	99	99	102
240-126101-1	TRIP BLANK	103	69	89	119
240-126101-2	MW-203S_020720	114	68	90	122
240-126101-3	MW-203_020720	118	67	91	128
LCS 240-422522/4	Lab Control Sample	95	97	105	103
MB 240-422522/7	Method Blank	106	71	90	118

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-422522/7
Matrix: Water
Analysis Batch: 422522

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/12/20 13:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/12/20 13:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/12/20 13:57	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/12/20 13:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 130		02/12/20 13:57	1
4-Bromofluorobenzene (Surr)	71		47 - 134		02/12/20 13:57	1
Toluene-d8 (Surr)	90		69 - 122		02/12/20 13:57	1
Dibromofluoromethane (Surr)	118		78 - 129		02/12/20 13:57	1

Lab Sample ID: LCS 240-422522/4
Matrix: Water
Analysis Batch: 422522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.4		ug/L		104	73 - 129
cis-1,2-Dichloroethene	10.0	10.3		ug/L		103	75 - 124
Tetrachloroethene	10.0	10.4		ug/L		104	70 - 125
trans-1,2-Dichloroethene	10.0	11.4		ug/L		114	74 - 130
Trichloroethene	10.0	10.4		ug/L		104	71 - 121
Vinyl chloride	10.0	7.92		ug/L		79	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	97		47 - 134
Toluene-d8 (Surr)	105		69 - 122
Dibromofluoromethane (Surr)	103		78 - 129

Lab Sample ID: 240-126095-D-3 MS
Matrix: Water
Analysis Batch: 422522

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.62		ug/L		96	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	9.74		ug/L		97	68 - 121
Tetrachloroethene	1.0	U	10.0	9.82		ug/L		98	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.9		ug/L		109	69 - 126
Trichloroethene	1.0	U	10.0	9.62		ug/L		96	56 - 124
Vinyl chloride	1.0	U	10.0	7.23		ug/L		72	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		75 - 130
4-Bromofluorobenzene (Surr)	103		47 - 134
Toluene-d8 (Surr)	101		69 - 122
Dibromofluoromethane (Surr)	104		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-126095-E-3 MSD

Matrix: Water

Analysis Batch: 422522

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	9.65		ug/L		97	64 - 132	0	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.88		ug/L		99	68 - 121	1	35
Tetrachloroethene	1.0	U	10.0	9.50		ug/L		95	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	11.1		ug/L		111	69 - 126	2	35
Trichloroethene	1.0	U	10.0	9.49		ug/L		95	56 - 124	1	35
Vinyl chloride	1.0	U	10.0	7.56		ug/L		76	49 - 136	5	35

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	99		69 - 122
Dibromofluoromethane (Surr)	102		78 - 129



QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

GC/MS VOA

Analysis Batch: 422522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126101-1	TRIP BLANK	Total/NA	Water	8260B	
240-126101-2	MW-203S_020720	Total/NA	Water	8260B	
240-126101-3	MW-203_020720	Total/NA	Water	8260B	
MB 240-422522/7	Method Blank	Total/NA	Water	8260B	
LCS 240-422522/4	Lab Control Sample	Total/NA	Water	8260B	
240-126095-D-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-126095-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126101-1

Date Collected: 02/07/20 00:00

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422522	02/12/20 14:20	LRW	TAL CAN

Client Sample ID: MW-203S_020720

Lab Sample ID: 240-126101-2

Date Collected: 02/07/20 10:00

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1.67	422522	02/12/20 16:43	LRW	TAL CAN

Client Sample ID: MW-203_020720

Lab Sample ID: 240-126101-3

Date Collected: 02/07/20 10:50

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		40	422522	02/12/20 17:07	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126101-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton



Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : 126701
Canton Facility

Client Arcoadis Site Name _____ Cooler unpacked by: [Signature]
Cooler Received on 2-11-20 Opened on 2-11-20
FedEx: 1st Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____
Receipt After-hours: Drop-off Date/Time _____ **Storage Location** _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None _____

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 1.2 °C Corrected Cooler Temp. 1.9 °C
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: AL

18. SAMPLE CONDITION
Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION
Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____
VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 14, 2020

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30042006.0402.02
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 126101-1
Sample date: 2020-02-07
Report received by CADENA: 2020-02-14
Initial Data Verification completed by CADENA: 2020-02-14
Number of Samples:3
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 126101-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	Comment
2401261011	TRIP BLANK	2/7/2020	12:00:00	X	
2401261012	MW-203S_020720	2/7/2020	10:00:00	X	
2401261013	MW-203_020720	2/7/2020	10:50:00	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126101-1

Sample Name:	TRIP BLANK	MW-203S_020720	MW-203_020720
Lab Sample ID:	2401261011	2401261012	2401261013
Sample Date:	2/7/2020	2/7/2020	2/7/2020

Analyte	Cas No.	TRIP BLANK				MW-203S_020720				MW-203_020720			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier

GC/MS VOC

OSW-8260B

cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	1.0	1.7	ug/l	J	ND	40	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	2.3	1.7	ug/l	---	21	40	ug/l	J
Trichloroethene	79-01-6	ND	1.0	ug/l	---	44	1.7	ug/l	---	670	40	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.7	ug/l	---	ND	40	ug/l	---

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-126102-1
Client Project/Site: Ford LTP Off Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/14/2020 1:27:53 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
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Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Job ID: 240-126102-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Off Site

Report Number: 240-126102-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/11/2020 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126102-1), MW-205_020720 (240-126102-2), MW-205S_020720 (240-126102-3), MW-204S_020720 (240-126102-4) and MW-204_020720 (240-126102-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/12/2020.

Samples MW-204S_020720 (240-126102-4)[1.67X] and MW-204_020720 (240-126102-5)[2.5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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- 10
- 11
- 12
- 13
- 14

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126102-1	TRIP BLANK	Water	02/07/20 00:00	02/11/20 08:40	
240-126102-2	MW-205_020720	Water	02/07/20 10:31	02/11/20 08:40	
240-126102-3	MW-205S_020720	Water	02/07/20 12:25	02/11/20 08:40	
240-126102-4	MW-204S_020720	Water	02/07/20 13:29	02/11/20 08:40	
240-126102-5	MW-204_020720	Water	02/07/20 14:30	02/11/20 08:40	

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- 2
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- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126102-1

No Detections.

Client Sample ID: MW-205_020720

Lab Sample ID: 240-126102-2

No Detections.

Client Sample ID: MW-205S_020720

Lab Sample ID: 240-126102-3

No Detections.

Client Sample ID: MW-204S_020720

Lab Sample ID: 240-126102-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	7.5		1.7	0.27	ug/L	1.67		8260B	Total/NA
trans-1,2-Dichloroethene	0.70	J	1.7	0.32	ug/L	1.67		8260B	Total/NA
Trichloroethene	21		1.7	0.17	ug/L	1.67		8260B	Total/NA

Client Sample ID: MW-204_020720

Lab Sample ID: 240-126102-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	67		2.5	0.25	ug/L	2.5		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126102-1

Date Collected: 02/07/20 00:00

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/12/20 14:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/12/20 14:44	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/12/20 14:44	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/12/20 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		75 - 130		02/12/20 14:44	1
4-Bromofluorobenzene (Surr)	68		47 - 134		02/12/20 14:44	1
Toluene-d8 (Surr)	88		69 - 122		02/12/20 14:44	1
Dibromofluoromethane (Surr)	119		78 - 129		02/12/20 14:44	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Client Sample ID: MW-205_020720

Lab Sample ID: 240-126102-2

Date Collected: 02/07/20 10:31

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/12/20 15:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/12/20 15:08	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/12/20 15:08	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/12/20 15:08	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 130		02/12/20 15:08	1
4-Bromofluorobenzene (Surr)	66		47 - 134		02/12/20 15:08	1
Toluene-d8 (Surr)	88		69 - 122		02/12/20 15:08	1
Dibromofluoromethane (Surr)	114		78 - 129		02/12/20 15:08	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Client Sample ID: MW-205S_020720

Lab Sample ID: 240-126102-3

Date Collected: 02/07/20 12:25

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/12/20 15:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/12/20 15:32	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/12/20 15:32	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/12/20 15:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 130		02/12/20 15:32	1
4-Bromofluorobenzene (Surr)	70		47 - 134		02/12/20 15:32	1
Toluene-d8 (Surr)	90		69 - 122		02/12/20 15:32	1
Dibromofluoromethane (Surr)	121		78 - 129		02/12/20 15:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Client Sample ID: MW-204S_020720

Lab Sample ID: 240-126102-4

Date Collected: 02/07/20 13:29

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	7.5		1.7	0.27	ug/L			02/12/20 15:56	1.67
trans-1,2-Dichloroethene	0.70	J	1.7	0.32	ug/L			02/12/20 15:56	1.67
Trichloroethene	21		1.7	0.17	ug/L			02/12/20 15:56	1.67
Vinyl chloride	1.7	U	1.7	0.33	ug/L			02/12/20 15:56	1.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	114		75 - 130		02/12/20 15:56	1.67
4-Bromofluorobenzene (Surr)	69		47 - 134		02/12/20 15:56	1.67
Toluene-d8 (Surr)	89		69 - 122		02/12/20 15:56	1.67
Dibromofluoromethane (Surr)	125		78 - 129		02/12/20 15:56	1.67

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Client Sample ID: MW-204_020720

Lab Sample ID: 240-126102-5

Date Collected: 02/07/20 14:30

Matrix: Water

Date Received: 02/11/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	2.5	U	2.5	0.40	ug/L			02/12/20 16:20	2.5
trans-1,2-Dichloroethene	2.5	U	2.5	0.48	ug/L			02/12/20 16:20	2.5
Trichloroethene	67		2.5	0.25	ug/L			02/12/20 16:20	2.5
Vinyl chloride	2.5	U	2.5	0.50	ug/L			02/12/20 16:20	2.5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 130		02/12/20 16:20	2.5
4-Bromofluorobenzene (Surr)	66		47 - 134		02/12/20 16:20	2.5
Toluene-d8 (Surr)	90		69 - 122		02/12/20 16:20	2.5
Dibromofluoromethane (Surr)	119		78 - 129		02/12/20 16:20	2.5

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-126095-D-3 MS	Matrix Spike	98	103	101	104
240-126095-E-3 MSD	Matrix Spike Duplicate	95	99	99	102
240-126102-1	TRIP BLANK	109	68	88	119
240-126102-2	MW-205_020720	110	66	88	114
240-126102-3	MW-205S_020720	110	70	90	121
240-126102-4	MW-204S_020720	114	69	89	125
240-126102-5	MW-204_020720	111	66	90	119
LCS 240-422522/4	Lab Control Sample	95	97	105	103
MB 240-422522/7	Method Blank	106	71	90	118

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-422522/7
Matrix: Water
Analysis Batch: 422522

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/12/20 13:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/12/20 13:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/12/20 13:57	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/12/20 13:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 130		02/12/20 13:57	1
4-Bromofluorobenzene (Surr)	71		47 - 134		02/12/20 13:57	1
Toluene-d8 (Surr)	90		69 - 122		02/12/20 13:57	1
Dibromofluoromethane (Surr)	118		78 - 129		02/12/20 13:57	1

Lab Sample ID: LCS 240-422522/4
Matrix: Water
Analysis Batch: 422522

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.4		ug/L		104	73 - 129
cis-1,2-Dichloroethene	10.0	10.3		ug/L		103	75 - 124
Tetrachloroethene	10.0	10.4		ug/L		104	70 - 125
trans-1,2-Dichloroethene	10.0	11.4		ug/L		114	74 - 130
Trichloroethene	10.0	10.4		ug/L		104	71 - 121
Vinyl chloride	10.0	7.92		ug/L		79	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		75 - 130
4-Bromofluorobenzene (Surr)	97		47 - 134
Toluene-d8 (Surr)	105		69 - 122
Dibromofluoromethane (Surr)	103		78 - 129

Lab Sample ID: 240-126095-D-3 MS
Matrix: Water
Analysis Batch: 422522

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.62		ug/L		96	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	9.74		ug/L		97	68 - 121
Tetrachloroethene	1.0	U	10.0	9.82		ug/L		98	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.9		ug/L		109	69 - 126
Trichloroethene	1.0	U	10.0	9.62		ug/L		96	56 - 124
Vinyl chloride	1.0	U	10.0	7.23		ug/L		72	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		75 - 130
4-Bromofluorobenzene (Surr)	103		47 - 134
Toluene-d8 (Surr)	101		69 - 122
Dibromofluoromethane (Surr)	104		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-126095-E-3 MSD

Matrix: Water

Analysis Batch: 422522

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
1,1-Dichloroethene	1.0	U	10.0	9.65		ug/L		97	64 - 132	0	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.88		ug/L		99	68 - 121	1	35
Tetrachloroethene	1.0	U	10.0	9.50		ug/L		95	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	11.1		ug/L		111	69 - 126	2	35
Trichloroethene	1.0	U	10.0	9.49		ug/L		95	56 - 124	1	35
Vinyl chloride	1.0	U	10.0	7.56		ug/L		76	49 - 136	5	35
MSD MSD											
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	95		75 - 130								
4-Bromofluorobenzene (Surr)	99		47 - 134								
Toluene-d8 (Surr)	99		69 - 122								
Dibromofluoromethane (Surr)	102		78 - 129								



QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

GC/MS VOA

Analysis Batch: 422522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126102-1	TRIP BLANK	Total/NA	Water	8260B	
240-126102-2	MW-205_020720	Total/NA	Water	8260B	
240-126102-3	MW-205S_020720	Total/NA	Water	8260B	
240-126102-4	MW-204S_020720	Total/NA	Water	8260B	
240-126102-5	MW-204_020720	Total/NA	Water	8260B	
MB 240-422522/7	Method Blank	Total/NA	Water	8260B	
LCS 240-422522/4	Lab Control Sample	Total/NA	Water	8260B	
240-126095-D-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-126095-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126102-1

Date Collected: 02/07/20 00:00

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422522	02/12/20 14:44	LRW	TAL CAN

Client Sample ID: MW-205_020720

Lab Sample ID: 240-126102-2

Date Collected: 02/07/20 10:31

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422522	02/12/20 15:08	LRW	TAL CAN

Client Sample ID: MW-205S_020720

Lab Sample ID: 240-126102-3

Date Collected: 02/07/20 12:25

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	422522	02/12/20 15:32	LRW	TAL CAN

Client Sample ID: MW-204S_020720

Lab Sample ID: 240-126102-4

Date Collected: 02/07/20 13:29

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1.67	422522	02/12/20 15:56	LRW	TAL CAN

Client Sample ID: MW-204_020720

Lab Sample ID: 240-126102-5

Date Collected: 02/07/20 14:30

Matrix: Water

Date Received: 02/11/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2.5	422522	02/12/20 16:20	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off Site

Job ID: 240-126102-1

Laboratory: Eurofins TestAmerica, Canton

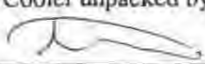

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton



Eurofins TestAmerica Canton Sample Receipt Form/Narrative		Login # : <u>126103</u>
Canton Facility		
Client <u>ARCADIS</u>	Site Name _____	Cooler unpacked by: 
Cooler Received on <u>2-11-20</u>	Opened on <u>2-11-20</u>	
FedEx: 1 st <input checked="" type="checkbox"/> Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____		
Receipt After-hours: Drop-off Date/Time _____		Storage Location _____
TestAmerica Cooler # <u>TA</u>	Foam Box _____	Client Cooler _____
Packing material used: Bubble Wrap _____ Foam _____ Plastic Bag _____ None _____ Other _____		
COOLANT: Wet Ice _____ Blue Ice _____ Dry Ice _____ Water _____ None _____		
1. Cooler temperature upon receipt		<input type="checkbox"/> See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. <u>0.4</u> °C Corrected Cooler Temp. <u>1.1</u> °C		
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C		
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u>		Yes No
-Were the seals on the outside of the cooler(s) signed & dated?		Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?		Yes <input checked="" type="checkbox"/> No
-Were tamper/custody seals intact and uncompromised?		Yes No NA
3. Shippers' packing slip attached to the cooler(s)?		Yes No
4. Did custody papers accompany the sample(s)?		Yes No
5. Were the custody papers relinquished & signed in the appropriate place?		Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC?		Yes <input checked="" type="checkbox"/> No
7. Did all bottles arrive in good condition (Unbroken)?		Yes No
8. Could all bottle labels be reconciled with the COC?		Yes No
9. Were correct bottle(s) used for the test(s) indicated?		Yes No
10. Sufficient quantity received to perform indicated analyses?		Yes No
11. Are these work share samples?		Yes <input checked="" type="checkbox"/> No
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?		Yes No <input checked="" type="checkbox"/> NA pH Strip Lot# <u>HC995364</u>
13. Were VOAs on the COC?		<input checked="" type="checkbox"/> Yes No
14. Were air bubbles >6 mm in any VOA vials?  Larger than this.		Yes <input checked="" type="checkbox"/> No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____		<input checked="" type="checkbox"/> Yes No
16. Was a LL Hg or Me Hg trip blank present?		Yes <input checked="" type="checkbox"/> No
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____		
Concerning _____		

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by: <u>At</u>
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>	
18. SAMPLE CONDITION	
Sample(s) _____ were received after the recommended holding time had expired.	
Sample(s) _____ were received in a broken container.	
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
19. SAMPLE PRESERVATION	
Sample(s) _____ were further preserved in the laboratory.	
Time preserved: _____ Preservative(s) added/Lot number(s): _____	
VOA Sample Preservation - Date/Time VOAs Frozen: _____	

DATA VERIFICATION REPORT

February 14, 2020

Kris Hinskey
Arcadis Inc
10559 Citation Ave
Suite 100
Brighton, MI 48116

CADENA project ID: E203631
Project: Ford Livonia Transmission Project - OFF-SITE - Soil Gas and Groundwater
Project number: 30042006.0402.02
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 126102-1
Sample date: 2020-02-07
Report received by CADENA: 2020-02-14
Initial Data Verification completed by CADENA: 2020-02-14
Number of Samples:5
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203631

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 126102-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	Comment
2401261021	TRIP BLANK	2/7/2020	12:00:00	X	
2401261022	MW-205_020720	2/7/2020	10:31:00	X	
2401261023	MW-205S_020720	2/7/2020	12:25:00	X	
2401261024	MW-204S_020720	2/7/2020	1:29:00	X	
2401261025	MW-204_020720	2/7/2020	2:30:00	X	

Analytical Results Summary

Reportable Results Only


CADENA Project ID: E203631

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126102-1

Sample Name: TRIP BLANK	MW-205_020720	MW-205S_020720	MW-204S_020720	MW-204_020720
Lab Sample ID: 2401261021	2401261022	2401261023	2401261024	2401261025
Sample Date: 2/7/2020	2/7/2020	2/7/2020	2/7/2020	2/7/2020

Analyte	Cas No.	MW-205_020720				MW-205S_020720				MW-204S_020720				MW-204_020720							
		Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid				
GC/MS VOC																					
<u>OSW-8260B</u>																					
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	7.5	1.7	ug/l	---	ND	2.5	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.70	1.7	ug/l	J	ND	2.5	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	21	1.7	ug/l	---	67	2.5	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.7	ug/l	---	ND	2.5	ug/l	---



February 20, 2018

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE GROUND WATER
Project number: MI001386.0001.00002
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 91358-1
Sample date: 2018-02-06 2018-02-07
Report received by CADENA: 2018-02-19
Initial Data Verification completed by CADENA: 2018-02-20

The following minor QC exceptions or missing information were noted:

MBK - GCMS VOC QC batch 314579, 314918, 314760 method blanks had detections below the RL for the following analytes: METHYLENE CHLORIDE. The following client sample results should be considered to be non-detect at the RL and qualified with UB flags: METHYLENE CHLORIDE - samples -001, -002, -003, -008, -016, -017.

LCS - GCMS VOC QC batch 314579 LCS recoveries were outliers biased high for the following analytes: CHLOROMETHANE, TOLUENE. The following client sample results should be considered to be estimated and qualified with J flags: TOLUENE - sample -005.

GCMS VOC QC batch 314760, 314579, 3149118 MS/MSD recovery outliers or sample duplicate RPD outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS-SIM VOC QC batch MS/MSD recovery outliers or sample duplicate RPD outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

GCMS-SIM VOC sample -017 SURROGATE recoveries were outliers biased high for at least 1 surrogate. Associated client sample results were non-detect so qualification was not required based on these high bias QC outliers.

GCMS VOC Analytical batch CCV STANDARD response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

16 Water sample(s) and 1 trip blank were analyzed for GCMS VOC and GCMS-SIM VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

Qualifiers added during verification have been added to the electronic data which is available for download from the CADENA CLMS. Refer to the attached table of analytical results that have been qualified during verification.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 91358-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring
240913581	MW-65-020618	2/6/2018	5:02:00	X	X
2409135810	MW-28-020718	2/7/2018	12:57:00	X	X
2409135811	MW-58-020718	2/7/2018	4:57:00	X	X
2409135812	MW-55-020718	2/7/2018	1:52:00	X	X
2409135813	MW-54-020718	2/7/2018	3:07:00	X	X
2409135814	MW-53-020718	2/7/2018	4:02:00	X	X
2409135815	MW-63-020718	2/7/2018	5:05:00	X	X
2409135816	PW-16-01-020718	2/7/2018	3:55:00	X	X
2409135817	TW-16-01-020718	2/7/2018	2:55:00	X	X
240913582	MW-44-020618	2/6/2018	4:07:00	X	X
240913583	MW-22-020618	2/6/2018	3:02:00	X	X
240913584	MW-62-020618	2/6/2018	12:56:00	X	X
240913585	MW-15-59D-020618	2/6/2018	12:12:00	X	X
240913586	MW-15-60D-020618	2/6/2018	10:27:00	X	X
240913587	MW-15-61D-020618	2/6/2018	2:32:00	X	X
240913588	MW-23-020618	2/6/2018	4:02:00	X	X
240913589	TRIP BLANK	2/6/2018	12:00:00	X	

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 91358-1

Sample Name:	MW-65-020618	MW-28-020718	MW-58-020718
Lab Sample ID:	240913581	2409135810	2409135811
Sample Date:	2/6/2018	2/7/2018	2/7/2018

Analyte	Cas No.	Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																	
<u>OSW-8260B</u>																	
1,1,1-Trichloroethane	71-55-6	ND	2.0	ug/l	---	25	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethane	75-34-3	ND	2.0	ug/l	---	10	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethene	75-35-4	ND	2.0	ug/l	---	0.90	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trimethylbenzene	526-73-8	ND	10	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
1,2,4-Trichlorobenzene	120-82-1	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromoethane	106-93-4	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloroethane	107-06-2	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloropropane	78-87-5	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
2-Butanone (MEK)	78-93-3	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
2-Hexanone	591-78-6	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Acetone	67-64-1	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Benzene	71-43-2	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromodichloromethane	75-27-4	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromoform	75-25-2	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromomethane	74-83-9	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Carbon disulfide	75-15-0	ND	10	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Carbon tetrachloride	56-23-5	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chlorobenzene	108-90-7	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroethane	75-00-3	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroform	67-66-3	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloromethane	74-87-3	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	4.1	2.0	ug/l	---	0.50	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,3-Dichloropropene	10061-01-5	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Cyclohexane	110-82-7	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dibromochloromethane	124-48-1	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Diethyl ether	60-29-7	ND	4.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
Ethylbenzene	100-41-4	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Isopropylbenzene	98-82-8	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methyl acetate	79-20-9	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Methyl tert-butyl ether	1634-04-4	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylcyclohexane	108-87-2	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylene Chloride	75-09-2	1.5	10	ug/l	UB	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Styrene	100-42-5	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Toluene	108-88-3	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	2.0	ug/l	---	0.45	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichlorofluoromethane	75-69-4	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	36	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Xylenes, Total	1330-20-7	ND	4.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
<u>OSW-8260BBSim</u>																	
1,4-Dioxane	123-91-1	3.4	2.0	ug/l	---	ND	2.0	ug/l	---	9.6	2.0	ug/l	---	9.6	2.0	ug/l	---

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 91358-1

Sample Name: MW-55-020718	MW-54-020718	MW-53-020718
Lab Sample ID: 2409135812	2409135813	2409135814
Sample Date: 2/7/2018	2/7/2018	2/7/2018

Analyte	Cas No.	Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																	
<u>OSW-8260B</u>																	
1,1,1-Trichloroethane	71-55-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethane	75-34-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trimethylbenzene	526-73-8	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
1,2,4-Trichlorobenzene	120-82-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromoethane	106-93-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloroethane	107-06-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloropropane	78-87-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
2-Butanone (MEK)	78-93-3	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
2-Hexanone	591-78-6	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Acetone	67-64-1	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Benzene	71-43-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromodichloromethane	75-27-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromoform	75-25-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromomethane	74-83-9	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Carbon disulfide	75-15-0	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Carbon tetrachloride	56-23-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chlorobenzene	108-90-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroethane	75-00-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroform	67-66-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloromethane	74-87-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,3-Dichloropropene	10061-01-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Cyclohexane	110-82-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dibromochloromethane	124-48-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Diethyl ether	60-29-7	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
Ethylbenzene	100-41-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Isopropylbenzene	98-82-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methyl acetate	79-20-9	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Methyl tert-butyl ether	1634-04-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylcyclohexane	108-87-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylene Chloride	75-09-2	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Styrene	100-42-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Toluene	108-88-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichlorofluoromethane	75-69-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	1.2	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Xylenes, Total	1330-20-7	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
<u>OSW-8260BBSim</u>																	
1,4-Dioxane	123-91-1	0.96	2.0	ug/l	J	2.7	2.0	ug/l	---	1.1	2.0	ug/l	---				J

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 91358-1

Sample Name: MW-63-020718	PW-16-01-020718	TW-16-01-020718
Lab Sample ID: 2409135815	2409135816	2409135817
Sample Date: 2/7/2018	2/7/2018	2/7/2018

Analyte	Cas No.	Report				Report				Report			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
GC/MS VOC													
<u>OSW-8260B</u>													
1,1,1-Trichloroethane	71-55-6	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,1-Dichloroethane	75-34-3	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,2,3-Trimethylbenzene	526-73-8	ND	5.0	ug/l	---	ND	71	ug/l	---	ND	170	ug/l	---
1,2,4-Trichlorobenzene	120-82-1	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,2-Dibromoethane	106-93-4	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,2-Dichloroethane	107-06-2	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,2-Dichloropropane	78-87-5	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
2-Butanone (MEK)	78-93-3	ND	10	ug/l	---	ND	140	ug/l	---	ND	330	ug/l	---
2-Hexanone	591-78-6	ND	10	ug/l	---	ND	140	ug/l	---	ND	330	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	10	ug/l	---	ND	140	ug/l	---	ND	330	ug/l	---
Acetone	67-64-1	ND	10	ug/l	---	ND	140	ug/l	---	ND	330	ug/l	---
Benzene	71-43-2	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Bromodichloromethane	75-27-4	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Bromoform	75-25-2	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Bromomethane	74-83-9	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Carbon disulfide	75-15-0	ND	5.0	ug/l	---	ND	71	ug/l	---	ND	170	ug/l	---
Carbon tetrachloride	56-23-5	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Chlorobenzene	108-90-7	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Chloroethane	75-00-3	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Chloroform	67-66-3	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Chloromethane	74-87-3	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
cis-1,2-Dichloroethene	156-59-2	1.7	1.0	ug/l	---	82	14	ug/l	---	34	33	ug/l	---
cis-1,3-Dichloropropene	10061-01-5	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Cyclohexane	110-82-7	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Dibromochloromethane	124-48-1	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Diethyl ether	60-29-7	ND	2.0	ug/l	---	ND	29	ug/l	---	ND	67	ug/l	---
Ethylbenzene	100-41-4	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Isopropylbenzene	98-82-8	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Methyl acetate	79-20-9	ND	10	ug/l	---	ND	140	ug/l	---	ND	330	ug/l	---
Methyl tert-butyl ether	1634-04-4	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Methylcyclohexane	108-87-2	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Methylene Chloride	75-09-2	ND	5.0	ug/l	---	11	71	ug/l	UB	23	170	ug/l	UB
Styrene	100-42-5	0.23	1.0	ug/l	J	ND	14	ug/l	---	ND	33	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Toluene	108-88-3	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	5.4	14	ug/l	J	ND	33	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Trichlorofluoromethane	75-69-4	ND	1.0	ug/l	---	ND	14	ug/l	---	ND	33	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	160	14	ug/l	---	380	33	ug/l	---
Xylenes, Total	1330-20-7	ND	2.0	ug/l	---	ND	29	ug/l	---	ND	67	ug/l	---
<u>OSW-8260BBSim</u>													
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	0.76	2.0	ug/l	J	ND	2.0	ug/l	---

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 91358-1

Sample Name:	MW-44-020618	MW-22-020618	MW-62-020618
Lab Sample ID:	240913582	240913583	240913584
Sample Date:	2/6/2018	2/6/2018	2/6/2018

Analyte	Cas No.	Report				Report				Report			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
GC/MS VOC													
<u>OSW-8260B</u>													
1,1,1-Trichloroethane	71-55-6	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethane	75-34-3	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethene	75-35-4	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trimethylbenzene	526-73-8	ND	33	ug/l	---	ND	710	ug/l	---	ND	5.0	ug/l	---
1,2,4-Trichlorobenzene	120-82-1	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromoethane	106-93-4	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloroethane	107-06-2	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloropropane	78-87-5	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
2-Butanone (MEK)	78-93-3	ND	67	ug/l	---	ND	1400	ug/l	---	ND	10	ug/l	---
2-Hexanone	591-78-6	ND	67	ug/l	---	ND	1400	ug/l	---	ND	10	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	67	ug/l	---	ND	1400	ug/l	---	ND	10	ug/l	---
Acetone	67-64-1	ND	67	ug/l	---	ND	1400	ug/l	---	ND	10	ug/l	---
Benzene	71-43-2	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Bromodichloromethane	75-27-4	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Bromoform	75-25-2	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Bromomethane	74-83-9	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Carbon disulfide	75-15-0	ND	33	ug/l	---	ND	710	ug/l	---	ND	5.0	ug/l	---
Carbon tetrachloride	56-23-5	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Chlorobenzene	108-90-7	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Chloroethane	75-00-3	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Chloroform	67-66-3	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Chloromethane	74-87-3	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	6.7	ug/l	---	200	140	ug/l	---	0.30	1.0	ug/l	J
cis-1,3-Dichloropropene	10061-01-5	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Cyclohexane	110-82-7	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Dibromochloromethane	124-48-1	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Diethyl ether	60-29-7	ND	13	ug/l	---	ND	290	ug/l	---	ND	2.0	ug/l	---
Ethylbenzene	100-41-4	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Isopropylbenzene	98-82-8	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Methyl acetate	79-20-9	ND	67	ug/l	---	ND	1400	ug/l	---	ND	10	ug/l	---
Methyl tert-butyl ether	1634-04-4	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Methylcyclohexane	108-87-2	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Methylene Chloride	75-09-2	4.1	33	ug/l	UB	120	710	ug/l	UB	ND	5.0	ug/l	---
Styrene	100-42-5	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Toluene	108-88-3	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Trichlorofluoromethane	75-69-4	ND	6.7	ug/l	---	ND	140	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	210	6.7	ug/l	---	1500	140	ug/l	---	1.3	1.0	ug/l	---
Xylenes, Total	1330-20-7	ND	13	ug/l	---	ND	290	ug/l	---	ND	2.0	ug/l	---
<u>OSW-8260BBSim</u>													
1,4-Dioxane	123-91-1	9.0	2.0	ug/l	---	22	2.0	ug/l	---	2.1	2.0	ug/l	---

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 91358-1

Sample Name: MW-15-59D-020618	MW-15-60D-020618	MW-15-61D-020618
Lab Sample ID: 240913585	240913586	240913587
Sample Date: 2/6/2018	2/6/2018	2/6/2018

Analyte	Cas No.	Report				Report				Report			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
GC/MS VOC													
<u>OSW-8260B</u>													
1,1,1-Trichloroethane	71-55-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethane	75-34-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trimethylbenzene	526-73-8	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
1,2,4-Trichlorobenzene	120-82-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromoethane	106-93-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloroethane	107-06-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloropropane	78-87-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
2-Butanone (MEK)	78-93-3	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
2-Hexanone	591-78-6	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Acetone	67-64-1	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Benzene	71-43-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromodichloromethane	75-27-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromoform	75-25-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromomethane	74-83-9	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Carbon disulfide	75-15-0	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Carbon tetrachloride	56-23-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chlorobenzene	108-90-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroethane	75-00-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroform	67-66-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloromethane	74-87-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,3-Dichloropropene	10061-01-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Cyclohexane	110-82-7	0.76	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dibromochloromethane	124-48-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Diethyl ether	60-29-7	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
Ethylbenzene	100-41-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Isopropylbenzene	98-82-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methyl acetate	79-20-9	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Methyl tert-butyl ether	1634-04-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylcyclohexane	108-87-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylene Chloride	75-09-2	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Styrene	100-42-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Toluene	108-88-3	0.31	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichlorofluoromethane	75-69-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Xylenes, Total	1330-20-7	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
<u>OSW-8260BBSim</u>													
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 91358-1

Sample Name: MW-23-020618 TRIP BLANK
 Lab Sample ID: 240913588 240913589
 Sample Date: 2/6/2018 2/6/2018

Analyte	Cas No.	Report			Valid Qualifier	Report			Valid Qualifier	
		Result	Limit	Units		Result	Limit	Units		
GC/MS VOC										
<u>OSW-8260B</u>										
1,1,1-Trichloroethane	71-55-6	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,1,2,2-Tetrachloroethane	79-34-5	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,1,2-Trichloroethane	79-00-5	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,1-Dichloroethane	75-34-3	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,1-Dichloroethene	75-35-4	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,2,3-Trimethylbenzene	526-73-8	ND	5000	ug/l	---	ND	5.0	ug/l	---	
1,2,4-Trichlorobenzene	120-82-1	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,2,4-Trimethylbenzene	95-63-6	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,2-Dibromo-3-Chloropropane	96-12-8	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,2-Dibromoethane	106-93-4	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,2-Dichlorobenzene	95-50-1	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,2-Dichloroethane	107-06-2	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,2-Dichloropropane	78-87-5	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,3,5-Trimethylbenzene	108-67-8	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,3-Dichlorobenzene	541-73-1	ND	1000	ug/l	---	ND	1.0	ug/l	---	
1,4-Dichlorobenzene	106-46-7	ND	1000	ug/l	---	ND	1.0	ug/l	---	
2-Butanone (MEK)	78-93-3	ND	10000	ug/l	---	ND	10	ug/l	---	
2-Hexanone	591-78-6	ND	10000	ug/l	---	ND	10	ug/l	---	
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	10000	ug/l	---	ND	10	ug/l	---	
Acetone	67-64-1	ND	10000	ug/l	---	ND	10	ug/l	---	
Benzene	71-43-2	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Bromodichloromethane	75-27-4	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Bromoform	75-25-2	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Bromomethane	74-83-9	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Carbon disulfide	75-15-0	ND	5000	ug/l	---	ND	5.0	ug/l	---	
Carbon tetrachloride	56-23-5	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Chlorobenzene	108-90-7	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Chloroethane	75-00-3	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Chloroform	67-66-3	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Chloromethane	74-87-3	ND	1000	ug/l	---	ND	1.0	ug/l	---	
cis-1,2-Dichloroethene	156-59-2	33000	1000	ug/l	---	ND	1.0	ug/l	---	
cis-1,3-Dichloropropene	10061-01-5	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Cyclohexane	110-82-7	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Dibromochloromethane	124-48-1	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Dichlorodifluoromethane	75-71-8	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Diethyl ether	60-29-7	ND	2000	ug/l	---	ND	2.0	ug/l	---	
Ethylbenzene	100-41-4	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Isopropylbenzene	98-82-8	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Methyl acetate	79-20-9	ND	10000	ug/l	---	ND	10	ug/l	---	
Methyl tert-butyl ether	1634-04-4	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Methylcyclohexane	108-87-2	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Methylene Chloride	75-09-2	750	5000	ug/l	UB	ND	5.0	ug/l	---	
Styrene	100-42-5	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Tetrachloroethene	127-18-4	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Toluene	108-88-3	ND	1000	ug/l	---	ND	1.0	ug/l	---	
trans-1,2-Dichloroethene	156-60-5	1800	1000	ug/l	---	ND	1.0	ug/l	---	
trans-1,3-Dichloropropene	10061-02-6	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Trichloroethene	79-01-6	11000	1000	ug/l	---	ND	1.0	ug/l	---	
Trichlorofluoromethane	75-69-4	ND	1000	ug/l	---	ND	1.0	ug/l	---	
Vinyl chloride	75-01-4	820	1000	ug/l	J	ND	1.0	ug/l	---	
Xylenes, Total	1330-20-7	ND	2000	ug/l	---	ND	2.0	ug/l	---	
<u>OSW-8260BBSim</u>										
1,4-Dioxane	123-91-1	ND	20	ug/l	---					



REVISED REPORT: June 15, 2018

REVISION SUMMARY: GCMS VOC target analyte lists were expanded to include full list VOC results.

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE GROUND WATER

Project number: MI001454.0004.00001, MI001386.0001.00002

Client project scope reference: Sample COC only was used to define project analytical requirements.

Laboratory: TestAmerica - North Canton

Laboratory submittal: 95780-1

Sample date: 2018-05-15 2018-05-14

Report received by CADENA: 2018-06-15

Initial Data Verification completed by CADENA: 2018-06-15

The following minor QC exceptions or missing information were noted:

MBK - METHOD BLANKS had detections BELOW the Reporting Limit (RL) for these analytes. The listed client sample results had concentrations LESS than 5X the method blank levels so client sample results reported below the RL are considered non-detect at the RL and qualified with UB flags and results greater than the RL are non-detect at the sample concentration reported and qualified with B flags :

GCMS VOC - QC batch 328712:

ACETONE - UB flags - samples -001, -002, -003.

1,4-DICHLOROBENZENE, 1,2,4-TRICHLOROBENZENE - qualification not required.

GCMS VOC - QC batch 328778:

ACETONE - UB flag - sample -006.

METHYLCYCLOHEXANE - UB flag - samples -005, -006.

1,4-DICHLOROBENZENE, 1,2,4-TRICHLOROBENZENE, METHYLENE CHLORIDE - qualification not required.

LCS - LCS recoveries were outliers biased LOW for these analytes (or one LCS and the associated LCS/LCSD RPD). The listed client sample results should be considered to be estimated and qualified with J flags if detected or UJ flags if non-detect: .

GCMS VOC - QC batch 328754 - MTBE - UJ flag - sample -004.

MS/MSD recovery outliers or sample duplicate RPD outliers were not determined using a client sample from this submittal for the test and QC batch noted so qualification was not required based on these sample-specific QC outliers:

GCMS VOC - QC batch 328712.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

6 Water sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

Qualifiers added during verification have been added to the electronic data which is available for download from the CADENA CLMS. Refer to the attached table of analytical results that have been qualified during verification.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 95780-1

Sample Name: MW-67_051418	MW-29_051418	MW-19_051418
Lab Sample ID: 240957801	240957802	240957803
Sample Date: 5/14/2018	5/14/2018	5/14/2018

Analyte	Cas No.	Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																	
<u>OSW-8260B</u>																	
1,1,1-Trichloroethane	71-55-6	0.94	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethane	75-34-3	0.25	1.0	ug/l	J	ND	1.0	ug/l	---	3.6	1.0	ug/l	---	3.6	1.0	ug/l	---
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trimethylbenzene	526-73-8																
1,2,4-Trichlorobenzene	120-82-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromoethane	106-93-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloroethane	107-06-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.36	1.0	ug/l	J	0.36	1.0	ug/l	J
1,2-Dichloropropane	78-87-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dioxane	123-91-1	ND	50	ug/l	---	ND	50	ug/l	---	130	50	ug/l	---	130	50	ug/l	---
2-Butanone (MEK)	78-93-3	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
2-Hexanone	591-78-6	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Acetone	67-64-1	3.5	10	ug/l	UB	4.4	10	ug/l	UB	3.2	10	ug/l	UB	3.2	10	ug/l	UB
Benzene	71-43-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromodichloromethane	75-27-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromoform	75-25-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromomethane	74-83-9	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Carbon disulfide	75-15-0	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Carbon tetrachloride	56-23-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chlorobenzene	108-90-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroethane	75-00-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	1.7	1.0	ug/l	---	1.7	1.0	ug/l	---
Chloroform	67-66-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloromethane	74-87-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	5.7	1.0	ug/l	---	ND	1.0	ug/l	---	0.71	1.0	ug/l	J	0.71	1.0	ug/l	J
cis-1,3-Dichloropropene	10061-01-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Cyclohexane	110-82-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dibromochloromethane	124-48-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Diethyl ether	60-29-7	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
Ethylbenzene	100-41-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Isopropylbenzene	98-82-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methyl acetate	79-20-9	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Methyl tert-butyl ether	1634-04-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylcyclohexane	108-87-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylene Chloride	75-09-2	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Styrene	100-42-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Toluene	108-88-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	0.75	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	57	1.0	ug/l	---	ND	1.0	ug/l	---	0.91	1.0	ug/l	J	0.91	1.0	ug/l	J
Trichlorofluoromethane	75-69-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	1.3	1.0	ug/l	---	ND	1.0	ug/l	---	1.3	1.0	ug/l	---	1.3	1.0	ug/l	---
Xylenes, Total	1330-20-7	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
<u>OSW-8260BBSim</u>																	
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	0.47	2.0	ug/l	J	140	2.0	ug/l	---	140	2.0	ug/l	---

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 95780-1

Sample Name: MW-26_051518	MW-15-61D_051518	MW-15-59D_051518
Lab Sample ID: 240957804	240957805	240957806
Sample Date: 5/15/2018	5/15/2018	5/15/2018

Analyte	Cas No.	Report			Valid Qualifier	Report			Valid Qualifier	Report			Valid Qualifier
		Result	Limit	Units		Result	Limit	Units		Result	Limit	Units	
GC/MS VOC													
<u>OSW-8260B</u>													
1,1,1-Trichloroethane	71-55-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethane	75-34-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trimethylbenzene	526-73-8	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
1,2,4-Trichlorobenzene	120-82-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromoethane	106-93-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloroethane	107-06-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloropropane	78-87-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dioxane	123-91-1	ND	50	ug/l	---	ND	50	ug/l	---	ND	50	ug/l	---
2-Butanone (MEK)	78-93-3	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
2-Hexanone	591-78-6	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Acetone	67-64-1	ND	10	ug/l	---	12	10	ug/l	---	3.3	10	ug/l	UB
Benzene	71-43-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromodichloromethane	75-27-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromoform	75-25-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromomethane	74-83-9	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Carbon disulfide	75-15-0	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Carbon tetrachloride	56-23-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chlorobenzene	108-90-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroethane	75-00-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroform	67-66-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloromethane	74-87-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,3-Dichloropropene	10061-01-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Cyclohexane	110-82-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.69	1.0	ug/l	J
Dibromochloromethane	124-48-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Diethyl ether	60-29-7	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
Ethylbenzene	100-41-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Isopropylbenzene	98-82-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methyl acetate	79-20-9	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Methyl tert-butyl ether	1634-04-4	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylcyclohexane	108-87-2	ND	1.0	ug/l	---	0.47	1.0	ug/l	UB	0.62	1.0	ug/l	UB
Methylene Chloride	75-09-2	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Styrene	100-42-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Toluene	108-88-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichlorofluoromethane	75-69-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Xylenes, Total	1330-20-7	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
<u>OSW-8260BBSim</u>													
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-99738-1

Client Project/Site: Ford LTP Livonia MI - E203728

For:

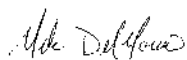
ARCADIS U.S., Inc.

28550 Cabot Drive

Suite 500

Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:

8/24/2018 10:29:02 AM

Michael DelMonico, Project Manager I

(330)497-9396

michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Job ID: 240-99738-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-99738-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 8/10/2018 8:45 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.4° C and 1.8° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TW-16-04-080818 (240-99738-1), TW-16-03-080818 (240-99738-2), MW-26-080918 (240-99738-3) and MW-15-59D-080918 (240-99738-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/21/2018 and 08/22/2018.

1,4-Dioxane failed the recovery criteria high for LCS 240-341822/5. Refer to the QC report for details.

1,1-Dichloroethene and Trichloroethene failed the recovery criteria low for the MS of sample 240-99672-11 in batch 240-341822.

Several analytes exceeded the RPD limit for the MSD of sample 240-99672-11 in batch 240-341822. Refer to the QC report for details.

Samples TW-16-04-080818 (240-99738-1)[2X] and TW-16-03-080818 (240-99738-2)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The laboratory control sample (LCS) for analytical batch 240-341822 recovered outside control limits for the following analyte: 1,4-Dioxane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported:

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Job ID: 240-99738-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

TW-16-04-080818 (240-99738-1) and (LCS 240-341822/5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples TW-16-04-080818 (240-99738-1), TW-16-03-080818 (240-99738-2), MW-26-080918 (240-99738-3) and MW-15-59D-080918 (240-99738-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 08/16/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-99738-1	TW-16-04-080818	Water	08/08/18 12:32	08/10/18 08:45
240-99738-2	TW-16-03-080818	Water	08/08/18 14:20	08/10/18 08:45
240-99738-3	MW-26-080918	Water	08/09/18 11:15	08/10/18 08:45
240-99738-4	MW-15-59D-080918	Water	08/09/18 10:10	08/10/18 08:45

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-04-080818

Lab Sample ID: 240-99738-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.2	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
Acetone	5.5	J	10	5.4	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	21		1.0	0.16	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.50	J	1.0	0.17	ug/L	1		8260B	Total/NA
Vinyl chloride	63		2.0	0.40	ug/L	2		8260B	Total/NA

Client Sample ID: TW-16-03-080818

Lab Sample ID: 240-99738-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.0	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	36		2.0	0.32	ug/L	2		8260B	Total/NA
1,1-Dichloroethane	0.44	J	2.0	0.34	ug/L	2		8260B	Total/NA
Vinyl chloride	76		2.0	0.40	ug/L	2		8260B	Total/NA

Client Sample ID: MW-26-080918

Lab Sample ID: 240-99738-3

No Detections.

Client Sample ID: MW-15-59D-080918

Lab Sample ID: 240-99738-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyclohexane	0.43	J	1.0	0.24	ug/L	1		8260B	Total/NA
Toluene	0.17	J	1.0	0.14	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-04-080818

Lab Sample ID: 240-99738-1

Date Collected: 08/08/18 12:32

Matrix: Water

Date Received: 08/10/18 08:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.2	J	2.0	0.86	ug/L			08/16/18 20:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125					08/16/18 20:25	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	5.5	J	10	5.4	ug/L			08/21/18 18:05	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 18:05	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 18:05	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 18:05	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 18:05	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 18:05	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 18:05	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 18:05	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 18:05	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 18:05	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 18:05	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 18:05	1
cis-1,2-Dichloroethene	21		1.0	0.16	ug/L			08/21/18 18:05	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 18:05	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/21/18 18:05	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 18:05	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 18:05	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 18:05	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 18:05	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 18:05	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 18:05	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 18:05	1
1,1-Dichloroethane	0.50	J	1.0	0.17	ug/L			08/21/18 18:05	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 18:05	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 18:05	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 18:05	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 18:05	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 18:05	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 18:05	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 18:05	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 18:05	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 18:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 18:05	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 18:05	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 18:05	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 18:05	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 18:05	1
Toluene	1.0	U	1.0	0.14	ug/L			08/21/18 18:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 18:05	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 18:05	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 18:05	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 18:05	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 18:05	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-04-080818

Lab Sample ID: 240-99738-1

Date Collected: 08/08/18 12:32

Matrix: Water

Date Received: 08/10/18 08:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 18:05	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 18:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 18:05	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 18:05	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 18:05	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 18:05	1
Vinyl chloride	63		2.0	0.40	ug/L			08/22/18 16:27	2
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 18:05	1
1,4-Dioxane	50	U *	50	13	ug/L			08/21/18 18:05	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 18:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	109		69 - 120		08/21/18 18:05	1
4-Bromofluorobenzene (Surr)	86		69 - 120		08/22/18 16:27	2
Dibromofluoromethane (Surr)	110		69 - 124		08/21/18 18:05	1
Dibromofluoromethane (Surr)	82		69 - 124		08/22/18 16:27	2
1,2-Dichloroethane-d4 (Surr)	121		61 - 138		08/21/18 18:05	1
1,2-Dichloroethane-d4 (Surr)	76		61 - 138		08/22/18 16:27	2
Toluene-d8 (Surr)	111		73 - 120		08/21/18 18:05	1
Toluene-d8 (Surr)	83		73 - 120		08/22/18 16:27	2

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-03-080818

Lab Sample ID: 240-99738-2

Date Collected: 08/08/18 14:20

Matrix: Water

Date Received: 08/10/18 08:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.0	J	2.0	0.86	ug/L			08/16/18 20:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125					08/16/18 20:50	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	20	U	20	11	ug/L			08/22/18 16:50	2
Benzene	2.0	U	2.0	0.26	ug/L			08/22/18 16:50	2
Bromodichloromethane	2.0	U	2.0	0.34	ug/L			08/22/18 16:50	2
Bromoform	2.0	U	2.0	1.5	ug/L			08/22/18 16:50	2
Bromomethane	2.0	U	2.0	0.84	ug/L			08/22/18 16:50	2
2-Butanone (MEK)	20	U	20	2.3	ug/L			08/22/18 16:50	2
Carbon disulfide	10	U	10	0.56	ug/L			08/22/18 16:50	2
Carbon tetrachloride	2.0	U	2.0	0.52	ug/L			08/22/18 16:50	2
Chlorobenzene	2.0	U	2.0	0.28	ug/L			08/22/18 16:50	2
Chloroethane	2.0	U	2.0	1.7	ug/L			08/22/18 16:50	2
Chloroform	2.0	U	2.0	0.26	ug/L			08/22/18 16:50	2
Chloromethane	2.0	U	2.0	0.40	ug/L			08/22/18 16:50	2
cis-1,2-Dichloroethene	36		2.0	0.32	ug/L			08/22/18 16:50	2
cis-1,3-Dichloropropene	2.0	U	2.0	1.2	ug/L			08/22/18 16:50	2
Cyclohexane	2.0	U	2.0	0.48	ug/L			08/22/18 16:50	2
Dibromochloromethane	2.0	U	2.0	0.78	ug/L			08/22/18 16:50	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	1.8	ug/L			08/22/18 16:50	2
1,2-Dibromoethane	2.0	U	2.0	0.24	ug/L			08/22/18 16:50	2
1,2-Dichlorobenzene	2.0	U	2.0	0.30	ug/L			08/22/18 16:50	2
1,3-Dichlorobenzene	2.0	U	2.0	0.30	ug/L			08/22/18 16:50	2
1,4-Dichlorobenzene	2.0	U	2.0	0.32	ug/L			08/22/18 16:50	2
Dichlorodifluoromethane	2.0	U	2.0	0.70	ug/L			08/22/18 16:50	2
1,1-Dichloroethane	0.44	J	2.0	0.34	ug/L			08/22/18 16:50	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			08/22/18 16:50	2
1,1-Dichloroethene	2.0	U	2.0	0.38	ug/L			08/22/18 16:50	2
1,2-Dichloropropane	2.0	U	2.0	0.30	ug/L			08/22/18 16:50	2
Ethylbenzene	2.0	U	2.0	0.22	ug/L			08/22/18 16:50	2
2-Hexanone	20	U	20	1.1	ug/L			08/22/18 16:50	2
Isopropylbenzene	2.0	U	2.0	0.18	ug/L			08/22/18 16:50	2
Methyl acetate	20	U	20	3.4	ug/L			08/22/18 16:50	2
Methylcyclohexane	2.0	U	2.0	0.66	ug/L			08/22/18 16:50	2
Methylene Chloride	10	U	10	5.2	ug/L			08/22/18 16:50	2
4-Methyl-2-pentanone (MIBK)	20	U	20	0.84	ug/L			08/22/18 16:50	2
Methyl tert-butyl ether	2.0	U	2.0	0.14	ug/L			08/22/18 16:50	2
Styrene	2.0	U	2.0	0.20	ug/L			08/22/18 16:50	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.26	ug/L			08/22/18 16:50	2
Tetrachloroethene	2.0	U	2.0	0.30	ug/L			08/22/18 16:50	2
Toluene	2.0	U	2.0	0.28	ug/L			08/22/18 16:50	2
trans-1,2-Dichloroethene	2.0	U	2.0	0.38	ug/L			08/22/18 16:50	2
trans-1,3-Dichloropropene	2.0	U	2.0	1.3	ug/L			08/22/18 16:50	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.52	ug/L			08/22/18 16:50	2
1,1,1-Trichloroethane	2.0	U	2.0	0.48	ug/L			08/22/18 16:50	2
1,1,2-Trichloroethane	2.0	U	2.0	0.18	ug/L			08/22/18 16:50	2

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-03-080818

Lab Sample ID: 240-99738-2

Date Collected: 08/08/18 14:20

Matrix: Water

Date Received: 08/10/18 08:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	2.0	U	2.0	0.20	ug/L			08/22/18 16:50	2
Trichlorofluoromethane	2.0	U	2.0	0.90	ug/L			08/22/18 16:50	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.82	ug/L			08/22/18 16:50	2
1,2,3-Trimethylbenzene	10	U	10	0.28	ug/L			08/22/18 16:50	2
1,2,4-Trimethylbenzene	2.0	U	2.0	0.14	ug/L			08/22/18 16:50	2
1,3,5-Trimethylbenzene	2.0	U	2.0	0.24	ug/L			08/22/18 16:50	2
Vinyl chloride	76		2.0	0.40	ug/L			08/22/18 16:50	2
Xylenes, Total	4.0	U	4.0	0.30	ug/L			08/22/18 16:50	2
1,4-Dioxane	100	U	100	25	ug/L			08/22/18 16:50	2
Diethyl ether	4.0	U	4.0	0.38	ug/L			08/22/18 16:50	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		69 - 120		08/22/18 16:50	2
Dibromofluoromethane (Surr)	84		69 - 124		08/22/18 16:50	2
1,2-Dichloroethane-d4 (Surr)	78		61 - 138		08/22/18 16:50	2
Toluene-d8 (Surr)	83		73 - 120		08/22/18 16:50	2

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: MW-26-080918

Lab Sample ID: 240-99738-3

Date Collected: 08/09/18 11:15

Matrix: Water

Date Received: 08/10/18 08:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/16/18 21:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125					08/16/18 21:15	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/21/18 22:31	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 22:31	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 22:31	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 22:31	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 22:31	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 22:31	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 22:31	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 22:31	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 22:31	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 22:31	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 22:31	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 22:31	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/21/18 22:31	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 22:31	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/21/18 22:31	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 22:31	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 22:31	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 22:31	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 22:31	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 22:31	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 22:31	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 22:31	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/21/18 22:31	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 22:31	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 22:31	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 22:31	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 22:31	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 22:31	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 22:31	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 22:31	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 22:31	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 22:31	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 22:31	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 22:31	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 22:31	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 22:31	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 22:31	1
Toluene	1.0	U	1.0	0.14	ug/L			08/21/18 22:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 22:31	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 22:31	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 22:31	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 22:31	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 22:31	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: MW-26-080918

Lab Sample ID: 240-99738-3

Date Collected: 08/09/18 11:15

Matrix: Water

Date Received: 08/10/18 08:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 22:31	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 22:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 22:31	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 22:31	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 22:31	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 22:31	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/21/18 22:31	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 22:31	1
1,4-Dioxane	50	U	50	13	ug/L			08/21/18 22:31	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 22:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	95		69 - 120		08/21/18 22:31	1
Dibromofluoromethane (Surr)	103		69 - 124		08/21/18 22:31	1
1,2-Dichloroethane-d4 (Surr)	104		61 - 138		08/21/18 22:31	1
Toluene-d8 (Surr)	97		73 - 120		08/21/18 22:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: MW-15-59D-080918

Lab Sample ID: 240-99738-4

Date Collected: 08/09/18 10:10

Matrix: Water

Date Received: 08/10/18 08:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/16/18 21:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125					08/16/18 21:40	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/21/18 22:53	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 22:53	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 22:53	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 22:53	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 22:53	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 22:53	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 22:53	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 22:53	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 22:53	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 22:53	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 22:53	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 22:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/21/18 22:53	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 22:53	1
Cyclohexane	0.43	J	1.0	0.24	ug/L			08/21/18 22:53	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 22:53	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 22:53	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 22:53	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 22:53	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 22:53	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 22:53	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 22:53	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/21/18 22:53	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 22:53	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 22:53	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 22:53	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 22:53	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 22:53	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 22:53	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 22:53	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 22:53	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 22:53	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 22:53	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 22:53	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 22:53	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 22:53	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 22:53	1
Toluene	0.17	J	1.0	0.14	ug/L			08/21/18 22:53	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 22:53	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 22:53	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 22:53	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 22:53	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 22:53	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: MW-15-59D-080918

Lab Sample ID: 240-99738-4

Date Collected: 08/09/18 10:10

Matrix: Water

Date Received: 08/10/18 08:45

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 22:53	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 22:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 22:53	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 22:53	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 22:53	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 22:53	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/21/18 22:53	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 22:53	1
1,4-Dioxane	50	U	50	13	ug/L			08/21/18 22:53	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 22:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		69 - 120					08/21/18 22:53	1
Dibromofluoromethane (Surr)	111		69 - 124					08/21/18 22:53	1
1,2-Dichloroethane-d4 (Surr)	105		61 - 138					08/21/18 22:53	1
Toluene-d8 (Surr)	99		73 - 120					08/21/18 22:53	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (69-120)	DBFM (69-124)	DCA (61-138)	TOL (73-120)
240-99672-B-11 MS	Matrix Spike	110	109	118	108
240-99672-B-11 MSD	Matrix Spike Duplicate	112	112	122	112
240-99738-1	TW-16-04-080818	109	110	121	111
240-99738-1	TW-16-04-080818	86	82	76	83
240-99738-2	TW-16-03-080818	85	84	78	83
240-99738-3	MW-26-080918	95	103	104	97
240-99738-4	MW-15-59D-080918	92	111	105	99
240-99856-B-1 MS	Matrix Spike	90	85	79	83
240-99856-B-1 MSD	Matrix Spike Duplicate	88	85	82	83
240-99857-E-3 MS	Matrix Spike	100	105	101	104
240-99857-E-3 MSD	Matrix Spike Duplicate	103	102	100	107
LCS 240-341822/5	Lab Control Sample	112	108	119	111
LCS 240-341894/4	Lab Control Sample	99	104	98	104
LCS 240-342020/5	Lab Control Sample	97	92	86	91
MB 240-341822/8	Method Blank	111	108	123	109
MB 240-341894/6	Method Blank	92	106	102	99
MB 240-342020/8	Method Blank	87	82	78	82

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-99738-1	TW-16-04-080818	102
240-99738-2	TW-16-03-080818	104
240-99738-3	MW-26-080918	102
240-99738-4	MW-15-59D-080918	104
500-149833-C-4 MS	Matrix Spike	103
500-149833-C-4 MSD	Matrix Spike Duplicate	102
LCS 240-341200/4	Lab Control Sample	98
MB 240-341200/5	Method Blank	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-341822/8

Matrix: Water

Analysis Batch: 341822

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/21/18 12:41	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 12:41	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 12:41	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 12:41	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 12:41	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 12:41	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 12:41	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 12:41	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 12:41	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 12:41	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 12:41	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 12:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/21/18 12:41	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 12:41	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/21/18 12:41	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 12:41	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 12:41	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 12:41	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 12:41	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 12:41	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 12:41	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 12:41	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/21/18 12:41	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 12:41	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 12:41	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 12:41	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 12:41	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 12:41	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 12:41	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 12:41	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 12:41	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 12:41	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 12:41	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 12:41	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 12:41	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 12:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 12:41	1
Toluene	1.0	U	1.0	0.14	ug/L			08/21/18 12:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 12:41	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 12:41	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 12:41	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 12:41	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 12:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 12:41	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 12:41	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 12:41	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 12:41	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 12:41	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-341822/8
Matrix: Water
Analysis Batch: 341822

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 12:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/21/18 12:41	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 12:41	1
1,4-Dioxane	50	U	50	13	ug/L			08/21/18 12:41	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 12:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	111		69 - 120		08/21/18 12:41	1
Dibromofluoromethane (Surr)	108		69 - 124		08/21/18 12:41	1
1,2-Dichloroethane-d4 (Surr)	123		61 - 138		08/21/18 12:41	1
Toluene-d8 (Surr)	109		73 - 120		08/21/18 12:41	1

Lab Sample ID: LCS 240-341822/5
Matrix: Water
Analysis Batch: 341822

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	49.4		ug/L		124	35 - 131
Benzene	20.0	20.1		ug/L		100	79 - 120
Bromodichloromethane	20.0	18.6		ug/L		93	79 - 125
Bromoform	20.0	17.3		ug/L		87	55 - 145
Bromomethane	20.0	16.4		ug/L		82	17 - 158
2-Butanone (MEK)	40.0	43.4		ug/L		109	43 - 149
Carbon disulfide	20.0	18.9		ug/L		95	49 - 141
Carbon tetrachloride	20.0	17.5		ug/L		88	55 - 171
Chlorobenzene	20.0	18.9		ug/L		95	80 - 120
Chloroethane	20.0	18.8		ug/L		94	10 - 149
Chloroform	20.0	19.8		ug/L		99	80 - 120
Chloromethane	20.0	19.5		ug/L		98	59 - 124
cis-1,2-Dichloroethene	20.0	19.2		ug/L		96	77 - 120
cis-1,3-Dichloropropene	20.0	19.5		ug/L		97	75 - 120
Cyclohexane	20.0	20.1		ug/L		100	66 - 135
Dibromochloromethane	20.0	18.5		ug/L		93	64 - 129
1,2-Dibromo-3-Chloropropane	20.0	20.1		ug/L		101	50 - 130
1,2-Dibromoethane	20.0	19.5		ug/L		98	80 - 120
1,2-Dichlorobenzene	20.0	19.5		ug/L		97	80 - 120
1,3-Dichlorobenzene	20.0	19.4		ug/L		97	80 - 120
1,4-Dichlorobenzene	20.0	19.0		ug/L		95	80 - 120
Dichlorodifluoromethane	20.0	15.5		ug/L		77	42 - 141
1,1-Dichloroethane	20.0	21.3		ug/L		106	74 - 120
1,2-Dichloroethane	20.0	20.2		ug/L		101	68 - 133
1,1-Dichloroethene	20.0	21.4		ug/L		107	65 - 127
1,2-Dichloropropane	20.0	20.7		ug/L		104	78 - 127
Ethylbenzene	20.0	19.9		ug/L		100	80 - 120
2-Hexanone	40.0	48.5		ug/L		121	28 - 169
Isopropylbenzene	20.0	20.8		ug/L		104	80 - 128
Methyl acetate	40.0	42.5		ug/L		106	63 - 137
Methylcyclohexane	20.0	19.9		ug/L		100	63 - 141

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-341822/5

Matrix: Water

Analysis Batch: 341822

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	20.0	19.7		ug/L		98	64 - 140
4-Methyl-2-pentanone (MIBK)	40.0	45.1		ug/L		113	53 - 144
Methyl tert-butyl ether	20.0	20.7		ug/L		104	73 - 120
Styrene	20.0	20.1		ug/L		101	80 - 121
1,1,2,2-Tetrachloroethane	20.0	22.8		ug/L		114	58 - 122
Tetrachloroethene	20.0	18.0		ug/L		90	80 - 122
Toluene	20.0	20.4		ug/L		102	78 - 120
trans-1,2-Dichloroethene	20.0	21.1		ug/L		105	74 - 124
trans-1,3-Dichloropropene	20.0	19.3		ug/L		96	67 - 120
1,2,4-Trichlorobenzene	20.0	18.5		ug/L		92	34 - 141
1,1,1-Trichloroethane	20.0	19.7		ug/L		99	64 - 147
1,1,2-Trichloroethane	20.0	21.2		ug/L		106	76 - 121
Trichloroethene	20.0	17.3		ug/L		86	76 - 124
Trichlorofluoromethane	20.0	16.3		ug/L		82	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	17.4		ug/L		87	65 - 144
1,2,4-Trimethylbenzene	20.0	20.7		ug/L		103	80 - 120
1,3,5-Trimethylbenzene	20.0	21.2		ug/L		106	79 - 120
Vinyl chloride	20.0	20.4		ug/L		102	65 - 124
Xylenes, Total	40.0	39.4		ug/L		99	80 - 120
1,4-Dioxane	400	776 *		ug/L		194	35 - 134
Diethyl ether	20.0	20.9		ug/L		105	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene (Surr)	112		69 - 120
Dibromofluoromethane (Surr)	108		69 - 124
1,2-Dichloroethane-d4 (Surr)	119		61 - 138
Toluene-d8 (Surr)	111		73 - 120

Lab Sample ID: 240-99672-B-11 MS

Matrix: Water

Analysis Batch: 341822

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	100	U F2	400	237		ug/L		59	19 - 133
Benzene	10	U	200	204		ug/L		102	69 - 127
Bromodichloromethane	10	U	200	185		ug/L		92	75 - 128
Bromoform	10	U F2	200	144		ug/L		72	61 - 135
Bromomethane	10	U	200	113		ug/L		56	10 - 148
2-Butanone (MEK)	100	U	400	347		ug/L		87	34 - 153
Carbon disulfide	50	U	200	186		ug/L		93	46 - 143
Carbon tetrachloride	10	U	200	178		ug/L		89	53 - 175
Chlorobenzene	10	U	200	178		ug/L		89	76 - 120
Chloroethane	10	U	200	125		ug/L		63	10 - 141
Chloroform	10	U	200	207		ug/L		104	74 - 125
Chloromethane	10	U	200	188		ug/L		94	34 - 127
cis-1,2-Dichloroethene	180		200	377		ug/L		97	69 - 127
cis-1,3-Dichloropropene	10	U	200	184		ug/L		92	68 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-99672-B-11 MS

Matrix: Water

Analysis Batch: 341822

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
Dibromochloromethane	10	U	200	170		ug/L		85	62 - 131
1,1-Dichloroethane	5.4	J	200	225		ug/L		110	69 - 122
1,2-Dichloroethane	10	U	200	200		ug/L		100	64 - 138
1,1-Dichloroethene	120	F2 F1	200	227	F1	ug/L		55	62 - 127
1,2-Dichloropropane	10	U	200	206		ug/L		103	72 - 131
Ethylbenzene	10	U	200	184		ug/L		92	72 - 121
2-Hexanone	100	U F2	400	355		ug/L		89	21 - 184
Methylene Chloride	50	U	200	206		ug/L		103	52 - 137
4-Methyl-2-pentanone (MIBK)	100	U F2	400	358		ug/L		89	53 - 147
Styrene	10	U	200	187		ug/L		94	74 - 125
1,1,2,2-Tetrachloroethane	10	U	200	201		ug/L		100	51 - 123
Tetrachloroethene	140		200	290		ug/L		73	69 - 126
Toluene	10	U	200	193		ug/L		97	69 - 125
trans-1,2-Dichloroethene	10	U	200	219		ug/L		109	66 - 131
trans-1,3-Dichloropropene	10	U	200	175		ug/L		87	59 - 120
1,1,1-Trichloroethane	10	U	200	197		ug/L		99	57 - 156
1,1,2-Trichloroethane	10	U	200	199		ug/L		99	68 - 127
Trichloroethene	430	F1	200	568	F1	ug/L		67	68 - 129
Trichlorofluoromethane	10	U	200	115		ug/L		57	28 - 172
Vinyl chloride	5.8	J	200	172		ug/L		83	55 - 123
Xylenes, Total	20	U	400	364		ug/L		91	71 - 122

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	110		69 - 120
Dibromofluoromethane (Surr)	109		69 - 124
1,2-Dichloroethane-d4 (Surr)	118		61 - 138
Toluene-d8 (Surr)	108		73 - 120

Lab Sample ID: 240-99672-B-11 MSD

Matrix: Water

Analysis Batch: 341822

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier						
Acetone	100	U F2	400	501	F2	ug/L		125	19 - 133	72	35
Benzene	10	U	200	217		ug/L		108	69 - 127	6	10
Bromodichloromethane	10	U	200	200		ug/L		100	75 - 128	8	13
Bromoform	10	U F2	200	171	F2	ug/L		85	61 - 135	17	13
Bromomethane	10	U	200	144		ug/L		72	10 - 148	24	35
2-Butanone (MEK)	100	U	400	438		ug/L		110	34 - 153	23	23
Carbon disulfide	50	U	200	203		ug/L		102	46 - 143	9	18
Carbon tetrachloride	10	U	200	187		ug/L		93	53 - 175	5	17
Chlorobenzene	10	U	200	196		ug/L		98	76 - 120	10	12
Chloroethane	10	U	200	138		ug/L		69	10 - 141	9	35
Chloroform	10	U	200	220		ug/L		110	74 - 125	6	11
Chloromethane	10	U	200	195		ug/L		97	34 - 127	4	25
cis-1,2-Dichloroethene	180		200	403		ug/L		110	69 - 127	7	11
cis-1,3-Dichloropropene	10	U	200	191		ug/L		96	68 - 120	4	13
Dibromochloromethane	10	U	200	191		ug/L		96	62 - 131	12	15

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-99672-B-11 MSD
Matrix: Water
Analysis Batch: 341822

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethane	5.4	J	200	244		ug/L		119	69 - 122	8	11
1,2-Dichloroethane	10	U	200	215		ug/L		107	64 - 138	7	11
1,1-Dichloroethene	120	F2 F1	200	321	F2	ug/L		102	62 - 127	34	14
1,2-Dichloropropane	10	U	200	215		ug/L		108	72 - 131	4	12
Ethylbenzene	10	U	200	198		ug/L		99	72 - 121	7	15
2-Hexanone	100	U F2	400	455	F2	ug/L		114	21 - 184	25	12
Methylene Chloride	50	U	200	218		ug/L		109	52 - 137	6	12
4-Methyl-2-pentanone (MIBK)	100	U F2	400	439	F2	ug/L		110	53 - 147	20	16
Styrene	10	U	200	206		ug/L		103	74 - 125	9	14
1,1,2,2-Tetrachloroethane	10	U	200	234		ug/L		117	51 - 123	15	17
Tetrachloroethene	140		200	321		ug/L		88	69 - 126	10	18
Toluene	10	U	200	213		ug/L		106	69 - 125	10	14
trans-1,2-Dichloroethene	10	U	200	229		ug/L		115	66 - 131	5	11
trans-1,3-Dichloropropene	10	U	200	191		ug/L		95	59 - 120	9	14
1,1,1-Trichloroethane	10	U	200	207		ug/L		104	57 - 156	5	13
1,1,2-Trichloroethane	10	U	200	219		ug/L		109	68 - 127	9	11
Trichloroethene	430	F1	200	602		ug/L		84	68 - 129	6	12
Trichlorofluoromethane	10	U	200	118		ug/L		59	28 - 172	3	26
Vinyl chloride	5.8	J	200	171		ug/L		83	55 - 123	1	12
Xylenes, Total	20	U	400	409		ug/L		102	71 - 122	12	14

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	112		69 - 120
Dibromofluoromethane (Surr)	112		69 - 124
1,2-Dichloroethane-d4 (Surr)	122		61 - 138
Toluene-d8 (Surr)	112		73 - 120

Lab Sample ID: MB 240-341894/6
Matrix: Water
Analysis Batch: 341894

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/21/18 21:25	1
Benzene	1.0	U	1.0	0.13	ug/L			08/21/18 21:25	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/21/18 21:25	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/21/18 21:25	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/21/18 21:25	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/21/18 21:25	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/21/18 21:25	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/21/18 21:25	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/21/18 21:25	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/21/18 21:25	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/21/18 21:25	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/21/18 21:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/21/18 21:25	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/21/18 21:25	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/21/18 21:25	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/21/18 21:25	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-341894/6
Matrix: Water
Analysis Batch: 341894

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/21/18 21:25	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/21/18 21:25	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 21:25	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/21/18 21:25	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/21/18 21:25	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/21/18 21:25	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/21/18 21:25	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/21/18 21:25	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 21:25	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/21/18 21:25	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/21/18 21:25	1
2-Hexanone	10	U	10	0.54	ug/L			08/21/18 21:25	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/21/18 21:25	1
Methyl acetate	10	U	10	1.7	ug/L			08/21/18 21:25	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/21/18 21:25	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/21/18 21:25	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/21/18 21:25	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/21/18 21:25	1
Styrene	1.0	U	1.0	0.10	ug/L			08/21/18 21:25	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/21/18 21:25	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/21/18 21:25	1
Toluene	1.0	U	1.0	0.14	ug/L			08/21/18 21:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/21/18 21:25	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/21/18 21:25	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/21/18 21:25	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/21/18 21:25	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/21/18 21:25	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/21/18 21:25	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/21/18 21:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/21/18 21:25	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/21/18 21:25	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/21/18 21:25	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/21/18 21:25	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/21/18 21:25	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/21/18 21:25	1
1,4-Dioxane	50	U	50	13	ug/L			08/21/18 21:25	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/21/18 21:25	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	92		69 - 120		08/21/18 21:25	1
Dibromofluoromethane (Surr)	106		69 - 124		08/21/18 21:25	1
1,2-Dichloroethane-d4 (Surr)	102		61 - 138		08/21/18 21:25	1
Toluene-d8 (Surr)	99		73 - 120		08/21/18 21:25	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-341894/4

Matrix: Water

Analysis Batch: 341894

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	15.7		ug/L		78	35 - 131
Benzene	10.0	9.51		ug/L		95	79 - 120
Bromodichloromethane	10.0	9.45		ug/L		94	79 - 125
Bromoform	10.0	9.47		ug/L		95	55 - 145
Bromomethane	10.0	8.17		ug/L		82	17 - 158
2-Butanone (MEK)	20.0	15.7		ug/L		79	43 - 149
Carbon disulfide	10.0	8.79		ug/L		88	49 - 141
Carbon tetrachloride	10.0	9.00		ug/L		90	55 - 171
Chlorobenzene	10.0	9.31		ug/L		93	80 - 120
Chloroethane	10.0	8.33		ug/L		83	10 - 149
Chloroform	10.0	9.44		ug/L		94	80 - 120
Chloromethane	10.0	8.12		ug/L		81	59 - 124
cis-1,2-Dichloroethene	10.0	9.19		ug/L		92	77 - 120
cis-1,3-Dichloropropene	10.0	9.01		ug/L		90	75 - 120
Cyclohexane	10.0	8.59		ug/L		86	66 - 135
Dibromochloromethane	10.0	10.1		ug/L		101	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	8.82		ug/L		88	50 - 130
1,2-Dibromoethane	10.0	9.30		ug/L		93	80 - 120
1,2-Dichlorobenzene	10.0	9.16		ug/L		92	80 - 120
1,3-Dichlorobenzene	10.0	8.96		ug/L		90	80 - 120
1,4-Dichlorobenzene	10.0	9.18		ug/L		92	80 - 120
Dichlorodifluoromethane	10.0	7.99		ug/L		80	42 - 141
1,1-Dichloroethane	10.0	9.84		ug/L		98	74 - 120
1,2-Dichloroethane	10.0	9.35		ug/L		94	68 - 133
1,1-Dichloroethene	10.0	8.89		ug/L		89	65 - 127
1,2-Dichloropropane	10.0	9.69		ug/L		97	78 - 127
Ethylbenzene	10.0	8.81		ug/L		88	80 - 120
2-Hexanone	20.0	16.4		ug/L		82	28 - 169
Isopropylbenzene	10.0	8.55		ug/L		86	80 - 128
Methyl acetate	20.0	18.1		ug/L		91	63 - 137
Methylcyclohexane	10.0	8.04		ug/L		80	63 - 141
Methylene Chloride	10.0	9.99		ug/L		100	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	15.7		ug/L		79	53 - 144
Methyl tert-butyl ether	10.0	9.36		ug/L		94	73 - 120
Styrene	10.0	8.89		ug/L		89	80 - 121
1,1,2,2-Tetrachloroethane	10.0	10.4		ug/L		104	58 - 122
Tetrachloroethene	10.0	9.30		ug/L		93	80 - 122
Toluene	10.0	9.66		ug/L		97	78 - 120
trans-1,2-Dichloroethene	10.0	9.50		ug/L		95	74 - 124
trans-1,3-Dichloropropene	10.0	8.83		ug/L		88	67 - 120
1,2,4-Trichlorobenzene	10.0	7.41		ug/L		74	34 - 141
1,1,1-Trichloroethane	10.0	9.22		ug/L		92	64 - 147
1,1,2-Trichloroethane	10.0	10.2		ug/L		102	76 - 121
Trichloroethene	10.0	9.11		ug/L		91	76 - 124
Trichlorofluoromethane	10.0	7.95		ug/L		80	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.42		ug/L		84	65 - 144
1,2,4-Trimethylbenzene	10.0	8.67		ug/L		87	80 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-341894/4
Matrix: Water
Analysis Batch: 341894

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	10.0	8.92		ug/L		89	79 - 120
Vinyl chloride	10.0	8.70		ug/L		87	65 - 124
Xylenes, Total	20.0	17.5		ug/L		88	80 - 120
1,4-Dioxane	200	178		ug/L		89	35 - 134
Diethyl ether	10.0	9.76		ug/L		98	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	99		69 - 120
Dibromofluoromethane (Surr)	104		69 - 124
1,2-Dichloroethane-d4 (Surr)	98		61 - 138
Toluene-d8 (Surr)	104		73 - 120

Lab Sample ID: 240-99857-E-3 MS
Matrix: Water
Analysis Batch: 341894

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	1400	U	2860	2270		ug/L		79	19 - 133
Benzene	140	U	1430	1300		ug/L		91	69 - 127
Bromodichloromethane	140	U	1430	1360		ug/L		95	75 - 128
Bromoform	140	U	1430	1340		ug/L		94	61 - 135
Bromomethane	140	U	1430	1240		ug/L		87	10 - 148
2-Butanone (MEK)	1400	U	2860	2300		ug/L		81	34 - 153
Carbon disulfide	710	U	1430	1180		ug/L		82	46 - 143
Carbon tetrachloride	140	U	1430	1110		ug/L		78	53 - 175
Chlorobenzene	140	U	1430	1250		ug/L		88	76 - 120
Chloroethane	140	U	1430	1200		ug/L		84	10 - 141
Chloroform	140	U	1430	1320		ug/L		93	74 - 125
Chloromethane	140	U	1430	1230		ug/L		86	34 - 127
cis-1,2-Dichloroethene	140	U	1430	1280		ug/L		90	69 - 127
cis-1,3-Dichloropropene	140	U	1430	1310		ug/L		92	68 - 120
Cyclohexane	140	U	1430	906		ug/L		63	56 - 135
Dibromochloromethane	140	U	1430	1420		ug/L		99	62 - 131
1,2-Dibromo-3-Chloropropane	140	U	1430	1050		ug/L		74	48 - 130
1,2-Dibromoethane	140	U	1430	1360		ug/L		95	73 - 121
1,2-Dichlorobenzene	140	U	1430	1210		ug/L		85	70 - 120
1,3-Dichlorobenzene	140	U	1430	1210		ug/L		84	71 - 120
1,4-Dichlorobenzene	140	U	1430	1250		ug/L		87	72 - 120
Dichlorodifluoromethane	140	U	1430	1140		ug/L		80	45 - 130
1,1-Dichloroethane	140	U	1430	1370		ug/L		96	69 - 122
1,2-Dichloroethane	140	U	1430	1330		ug/L		93	64 - 138
1,1-Dichloroethene	140	U	1430	1160		ug/L		81	62 - 127
1,2-Dichloropropane	140	U	1430	1370		ug/L		96	72 - 131
Ethylbenzene	140	U	1430	1100		ug/L		77	72 - 121
2-Hexanone	1400	U	2860	2300		ug/L		81	21 - 184
Isopropylbenzene	140	U	1430	1020		ug/L		72	70 - 132
Methyl acetate	1400	U	2860	2600		ug/L		91	52 - 139
Methylcyclohexane	140	U	1430	788		ug/L		55	46 - 139

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-99857-E-3 MS

Matrix: Water

Analysis Batch: 341894

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Methylene Chloride	710	U	1430	1380		ug/L		96	52 - 137
4-Methyl-2-pentanone (MIBK)	1400	U	2860	2320		ug/L		81	53 - 147
Methyl tert-butyl ether	140	U	1430	1310		ug/L		91	67 - 125
Styrene	140	U	1430	1190		ug/L		83	74 - 125
1,1,2,2-Tetrachloroethane	140	U	1430	1400		ug/L		98	51 - 123
Tetrachloroethene	140	U	1430	1150		ug/L		81	69 - 126
Toluene	140	U	1430	1280		ug/L		89	69 - 125
trans-1,2-Dichloroethene	140	U	1430	1280		ug/L		90	66 - 131
trans-1,3-Dichloropropene	140	U	1430	1210		ug/L		85	59 - 120
1,2,4-Trichlorobenzene	140	U	1430	1030		ug/L		72	26 - 138
1,1,1-Trichloroethane	140	U	1430	1190		ug/L		83	57 - 156
1,1,2-Trichloroethane	140	U	1430	1400		ug/L		98	68 - 127
Trichloroethene	140	U	1430	1210		ug/L		85	68 - 129
Trichlorofluoromethane	140	U	1430	1050		ug/L		73	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	140	U	1430	986		ug/L		69	58 - 137
1,2,4-Trimethylbenzene	140	U	1430	1100		ug/L		77	64 - 120
1,3,5-Trimethylbenzene	140	U	1430	1100		ug/L		77	67 - 120
Vinyl chloride	2300		1430	3340		ug/L		76	55 - 123
Xylenes, Total	290	U	2860	2270		ug/L		79	71 - 122
1,4-Dioxane	7100	U	28600	20000		ug/L		70	13 - 155
Diethyl ether	290	U	1430	1320		ug/L		92	65 - 124

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	100		69 - 120
Dibromofluoromethane (Surr)	105		69 - 124
1,2-Dichloroethane-d4 (Surr)	101		61 - 138
Toluene-d8 (Surr)	104		73 - 120

Lab Sample ID: 240-99857-E-3 MSD

Matrix: Water

Analysis Batch: 341894

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
Acetone	1400	U	2860	2150		ug/L		75	19 - 133	5	35
Benzene	140	U	1430	1370		ug/L		96	69 - 127	5	10
Bromodichloromethane	140	U	1430	1380		ug/L		97	75 - 128	1	13
Bromoform	140	U	1430	1380		ug/L		97	61 - 135	3	13
Bromomethane	140	U	1430	1120		ug/L		78	10 - 148	10	35
2-Butanone (MEK)	1400	U	2860	2340		ug/L		82	34 - 153	2	23
Carbon disulfide	710	U	1430	1310		ug/L		91	46 - 143	10	18
Carbon tetrachloride	140	U	1430	1250		ug/L		87	53 - 175	11	17
Chlorobenzene	140	U	1430	1360		ug/L		95	76 - 120	8	12
Chloroethane	140	U	1430	1200		ug/L		84	10 - 141	0	35
Chloroform	140	U	1430	1380		ug/L		97	74 - 125	4	11
Chloromethane	140	U	1430	1300		ug/L		91	34 - 127	6	25
cis-1,2-Dichloroethene	140	U	1430	1300		ug/L		91	69 - 127	2	11
cis-1,3-Dichloropropene	140	U	1430	1230		ug/L		86	68 - 120	7	13

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-99857-E-3 MSD

Matrix: Water

Analysis Batch: 341894

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyclohexane	140	U	1430	1200		ug/L		84	56 - 135	28	35
Dibromochloromethane	140	U	1430	1460		ug/L		102	62 - 131	3	15
1,2-Dibromo-3-Chloropropane	140	U	1430	1190		ug/L		84	48 - 130	12	31
1,2-Dibromoethane	140	U	1430	1300		ug/L		91	73 - 121	5	12
1,2-Dichlorobenzene	140	U	1430	1270		ug/L		89	70 - 120	4	19
1,3-Dichlorobenzene	140	U	1430	1260		ug/L		88	71 - 120	5	18
1,4-Dichlorobenzene	140	U	1430	1250		ug/L		87	72 - 120	0	17
Dichlorodifluoromethane	140	U	1430	1170		ug/L		82	45 - 130	3	34
1,1-Dichloroethane	140	U	1430	1400		ug/L		98	69 - 122	2	11
1,2-Dichloroethane	140	U	1430	1300		ug/L		91	64 - 138	2	11
1,1-Dichloroethene	140	U	1430	1310		ug/L		92	62 - 127	12	14
1,2-Dichloropropane	140	U	1430	1420		ug/L		99	72 - 131	3	12
Ethylbenzene	140	U	1430	1240		ug/L		87	72 - 121	12	15
2-Hexanone	1400	U	2860	2390		ug/L		84	21 - 184	4	12
Isopropylbenzene	140	U	1430	1130		ug/L		79	70 - 132	10	16
Methyl acetate	1400	U	2860	2640		ug/L		92	52 - 139	1	14
Methylcyclohexane	140	U	1430	1090		ug/L		76	46 - 139	32	35
Methylene Chloride	710	U	1430	1460		ug/L		102	52 - 137	6	12
4-Methyl-2-pentanone (MIBK)	1400	U	2860	2360		ug/L		82	53 - 147	1	16
Methyl tert-butyl ether	140	U	1430	1290		ug/L		90	67 - 125	2	12
Styrene	140	U	1430	1260		ug/L		88	74 - 125	5	14
1,1,2,2-Tetrachloroethane	140	U	1430	1390		ug/L		97	51 - 123	1	17
Tetrachloroethene	140	U	1430	1260		ug/L		88	69 - 126	8	18
Toluene	140	U	1430	1320		ug/L		92	69 - 125	3	14
trans-1,2-Dichloroethene	140	U	1430	1340		ug/L		94	66 - 131	5	11
trans-1,3-Dichloropropene	140	U	1430	1210		ug/L		85	59 - 120	0	14
1,2,4-Trichlorobenzene	140	U	1430	1030		ug/L		72	26 - 138	0	35
1,1,1-Trichloroethane	140	U	1430	1340		ug/L		94	57 - 156	12	13
1,1,2-Trichloroethane	140	U	1430	1430		ug/L		100	68 - 127	2	11
Trichloroethene	140	U	1430	1280		ug/L		90	68 - 129	6	12
Trichlorofluoromethane	140	U	1430	1090		ug/L		77	28 - 172	4	26
1,1,2-Trichloro-1,2,2-trifluoroethane	140	U	1430	1160		ug/L		81	58 - 137	16	35
1,2,4-Trimethylbenzene	140	U	1430	1150		ug/L		81	64 - 120	5	22
1,3,5-Trimethylbenzene	140	U	1430	1200		ug/L		84	67 - 120	9	25
Vinyl chloride	2300		1430	3260		ug/L		70	55 - 123	2	12
Xylenes, Total	290	U	2860	2480		ug/L		87	71 - 122	9	14
1,4-Dioxane	7100	U	28600	25800		ug/L		90	13 - 155	25	35
Diethyl ether	290	U	1430	1370		ug/L		96	65 - 124	4	11

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	103		69 - 120
Dibromofluoromethane (Surr)	102		69 - 124
1,2-Dichloroethane-d4 (Surr)	100		61 - 138
Toluene-d8 (Surr)	107		73 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-342020/8

Matrix: Water

Analysis Batch: 342020

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/22/18 13:49	1
Benzene	1.0	U	1.0	0.13	ug/L			08/22/18 13:49	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			08/22/18 13:49	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/22/18 13:49	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/22/18 13:49	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			08/22/18 13:49	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			08/22/18 13:49	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/22/18 13:49	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			08/22/18 13:49	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/22/18 13:49	1
Chloroform	1.0	U	1.0	0.13	ug/L			08/22/18 13:49	1
Chloromethane	1.0	U	1.0	0.20	ug/L			08/22/18 13:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			08/22/18 13:49	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/22/18 13:49	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			08/22/18 13:49	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			08/22/18 13:49	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			08/22/18 13:49	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			08/22/18 13:49	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/22/18 13:49	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			08/22/18 13:49	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			08/22/18 13:49	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/22/18 13:49	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			08/22/18 13:49	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			08/22/18 13:49	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/22/18 13:49	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			08/22/18 13:49	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			08/22/18 13:49	1
2-Hexanone	10	U	10	0.54	ug/L			08/22/18 13:49	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			08/22/18 13:49	1
Methyl acetate	10	U	10	1.7	ug/L			08/22/18 13:49	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/22/18 13:49	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			08/22/18 13:49	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			08/22/18 13:49	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			08/22/18 13:49	1
Styrene	1.0	U	1.0	0.10	ug/L			08/22/18 13:49	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			08/22/18 13:49	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			08/22/18 13:49	1
Toluene	1.0	U	1.0	0.14	ug/L			08/22/18 13:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			08/22/18 13:49	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/22/18 13:49	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			08/22/18 13:49	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/22/18 13:49	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			08/22/18 13:49	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			08/22/18 13:49	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/22/18 13:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/22/18 13:49	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			08/22/18 13:49	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			08/22/18 13:49	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-342020/8

Matrix: Water

Analysis Batch: 342020

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			08/22/18 13:49	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			08/22/18 13:49	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			08/22/18 13:49	1
1,4-Dioxane	50	U	50	13	ug/L			08/22/18 13:49	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			08/22/18 13:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	87		69 - 120		08/22/18 13:49	1
Dibromofluoromethane (Surr)	82		69 - 124		08/22/18 13:49	1
1,2-Dichloroethane-d4 (Surr)	78		61 - 138		08/22/18 13:49	1
Toluene-d8 (Surr)	82		73 - 120		08/22/18 13:49	1

Lab Sample ID: LCS 240-342020/5

Matrix: Water

Analysis Batch: 342020

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	40.0	39.3		ug/L		98	35 - 131
Benzene	20.0	21.6		ug/L		108	79 - 120
Bromodichloromethane	20.0	21.8		ug/L		109	79 - 125
Bromoform	20.0	21.2		ug/L		106	55 - 145
Bromomethane	20.0	21.1		ug/L		105	17 - 158
2-Butanone (MEK)	40.0	42.5		ug/L		106	43 - 149
Carbon disulfide	20.0	18.7		ug/L		94	49 - 141
Carbon tetrachloride	20.0	22.8		ug/L		114	55 - 171
Chlorobenzene	20.0	21.5		ug/L		107	80 - 120
Chloroethane	20.0	20.4		ug/L		102	10 - 149
Chloroform	20.0	22.5		ug/L		112	80 - 120
Chloromethane	20.0	21.3		ug/L		106	59 - 124
cis-1,2-Dichloroethene	20.0	21.6		ug/L		108	77 - 120
cis-1,3-Dichloropropene	20.0	22.1		ug/L		111	75 - 120
Cyclohexane	20.0	20.1		ug/L		101	66 - 135
Dibromochloromethane	20.0	22.0		ug/L		110	64 - 129
1,2-Dibromo-3-Chloropropane	20.0	19.4		ug/L		97	50 - 130
1,2-Dibromoethane	20.0	21.3		ug/L		106	80 - 120
1,2-Dichlorobenzene	20.0	19.9		ug/L		100	80 - 120
1,3-Dichlorobenzene	20.0	19.5		ug/L		98	80 - 120
1,4-Dichlorobenzene	20.0	19.5		ug/L		98	80 - 120
Dichlorodifluoromethane	20.0	20.9		ug/L		105	42 - 141
1,1-Dichloroethane	20.0	21.3		ug/L		107	74 - 120
1,2-Dichloroethane	20.0	21.4		ug/L		107	68 - 133
1,1-Dichloroethene	20.0	22.6		ug/L		113	65 - 127
1,2-Dichloropropane	20.0	22.7		ug/L		114	78 - 127
Ethylbenzene	20.0	20.0		ug/L		100	80 - 120
2-Hexanone	40.0	39.5		ug/L		99	28 - 169
Isopropylbenzene	20.0	20.4		ug/L		102	80 - 128
Methyl acetate	40.0	42.8		ug/L		107	63 - 137
Methylcyclohexane	20.0	18.8		ug/L		94	63 - 141

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-342020/5
Matrix: Water
Analysis Batch: 342020

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	20.0	21.2		ug/L		106	64 - 140
4-Methyl-2-pentanone (MIBK)	40.0	43.1		ug/L		108	53 - 144
Methyl tert-butyl ether	20.0	21.3		ug/L		106	73 - 120
Styrene	20.0	20.7		ug/L		103	80 - 121
1,1,2,2-Tetrachloroethane	20.0	19.6		ug/L		98	58 - 122
Tetrachloroethene	20.0	21.2		ug/L		106	80 - 122
Toluene	20.0	21.0		ug/L		105	78 - 120
trans-1,2-Dichloroethene	20.0	22.3		ug/L		112	74 - 124
trans-1,3-Dichloropropene	20.0	19.5		ug/L		97	67 - 120
1,2,4-Trichlorobenzene	20.0	19.8		ug/L		99	34 - 141
1,1,1-Trichloroethane	20.0	22.1		ug/L		110	64 - 147
1,1,2-Trichloroethane	20.0	21.6		ug/L		108	76 - 121
Trichloroethene	20.0	22.6		ug/L		113	76 - 124
Trichlorofluoromethane	20.0	22.5		ug/L		112	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	20.0	22.7		ug/L		114	65 - 144
1,2,4-Trimethylbenzene	20.0	18.9		ug/L		95	80 - 120
1,3,5-Trimethylbenzene	20.0	19.0		ug/L		95	79 - 120
Vinyl chloride	20.0	21.1		ug/L		105	65 - 124
Xylenes, Total	40.0	40.7		ug/L		102	80 - 120
1,4-Dioxane	400	430		ug/L		108	35 - 134
Diethyl ether	20.0	22.3		ug/L		111	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		69 - 120
Dibromofluoromethane (Surr)	92		69 - 124
1,2-Dichloroethane-d4 (Surr)	86		61 - 138
Toluene-d8 (Surr)	91		73 - 120

Lab Sample ID: 240-99856-B-1 MS
Matrix: Water
Analysis Batch: 342020

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	63	U	250	219		ug/L		87	19 - 133
Benzene	4.1	J	125	126		ug/L		98	69 - 127
Bromodichloromethane	6.3	U	125	121		ug/L		97	75 - 128
Bromoform	6.3	U	125	111		ug/L		89	61 - 135
Bromomethane	6.3	U	125	119		ug/L		95	10 - 148
2-Butanone (MEK)	63	U	250	236		ug/L		94	34 - 153
Carbon disulfide	31	U	125	109		ug/L		87	46 - 143
Carbon tetrachloride	6.3	U	125	127		ug/L		102	53 - 175
Chlorobenzene	6.3	U	125	115		ug/L		92	76 - 120
Chloroethane	6.3	U	125	113		ug/L		90	10 - 141
Chloroform	6.3	U	125	125		ug/L		100	74 - 125
Chloromethane	6.3	U	125	99.5		ug/L		80	34 - 127
cis-1,2-Dichloroethene	6.3	U	125	124		ug/L		99	69 - 127
cis-1,3-Dichloropropene	6.3	U	125	123		ug/L		98	68 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-99856-B-1 MS

Matrix: Water

Analysis Batch: 342020

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	5.0	J	125	124		ug/L		95	56 - 135
Dibromochloromethane	6.3	U	125	119		ug/L		95	62 - 131
1,2-Dibromo-3-Chloropropane	6.3	U	125	97.8		ug/L		78	48 - 130
1,2-Dibromoethane	6.3	U	125	117		ug/L		94	73 - 121
1,2-Dichlorobenzene	6.3	U	125	114		ug/L		91	70 - 120
1,3-Dichlorobenzene	6.3	U	125	110		ug/L		88	71 - 120
1,4-Dichlorobenzene	6.3	U	125	111		ug/L		89	72 - 120
Dichlorodifluoromethane	6.3	U	125	110		ug/L		88	45 - 130
1,1-Dichloroethane	6.3	U	125	119		ug/L		95	69 - 122
1,2-Dichloroethane	6.3	U	125	121		ug/L		97	64 - 138
1,1-Dichloroethene	6.3	U	125	127		ug/L		101	62 - 127
1,2-Dichloropropane	6.3	U	125	125		ug/L		100	72 - 131
Ethylbenzene	250		125	368		ug/L		92	72 - 121
2-Hexanone	63	U	250	218		ug/L		87	21 - 184
Isopropylbenzene	23		125	137		ug/L		91	70 - 132
Methyl acetate	63	U	250	233		ug/L		93	52 - 139
Methylcyclohexane	6.3	U	125	110		ug/L		88	46 - 139
Methylene Chloride	31	U	125	121		ug/L		97	52 - 137
4-Methyl-2-pentanone (MIBK)	63	U	250	237		ug/L		95	53 - 147
Methyl tert-butyl ether	0.77	J	125	121		ug/L		96	67 - 125
Styrene	6.3	U	125	115		ug/L		92	74 - 125
1,1,2,2-Tetrachloroethane	6.3	U	125	111		ug/L		89	51 - 123
Tetrachloroethene	6.3	U	125	120		ug/L		96	69 - 126
Toluene	6.3	U	125	117		ug/L		94	69 - 125
trans-1,2-Dichloroethene	6.3	U	125	130		ug/L		104	66 - 131
trans-1,3-Dichloropropene	6.3	U	125	104		ug/L		83	59 - 120
1,2,4-Trichlorobenzene	6.3	U	125	107		ug/L		85	26 - 138
1,1,1-Trichloroethane	6.3	U	125	127		ug/L		101	57 - 156
1,1,2-Trichloroethane	6.3	U	125	119		ug/L		95	68 - 127
Trichloroethene	6.3	U	125	131		ug/L		104	68 - 129
Trichlorofluoromethane	6.3	U	125	123		ug/L		98	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	6.3	U	125	131		ug/L		105	58 - 137
Vinyl chloride	6.3	U	125	116		ug/L		93	55 - 123
Xylenes, Total	170		250	399		ug/L		91	71 - 122

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	90		69 - 120
Dibromofluoromethane (Surr)	85		69 - 124
1,2-Dichloroethane-d4 (Surr)	79		61 - 138
Toluene-d8 (Surr)	83		73 - 120

Lab Sample ID: 240-99856-B-1 MSD

Matrix: Water

Analysis Batch: 342020

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	63	U	250	220		ug/L		88	19 - 133	1	35

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-99856-B-1 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 342020

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Benzene	4.1	J	125	124		ug/L		96	69 - 127	2	10
Bromodichloromethane	6.3	U	125	118		ug/L		95	75 - 128	2	13
Bromoform	6.3	U	125	112		ug/L		90	61 - 135	1	13
Bromomethane	6.3	U	125	118		ug/L		94	10 - 148	1	35
2-Butanone (MEK)	63	U	250	229		ug/L		92	34 - 153	3	23
Carbon disulfide	31	U	125	105		ug/L		84	46 - 143	4	18
Carbon tetrachloride	6.3	U	125	125		ug/L		100	53 - 175	2	17
Chlorobenzene	6.3	U	125	116		ug/L		93	76 - 120	1	12
Chloroethane	6.3	U	125	119		ug/L		95	10 - 141	5	35
Chloroform	6.3	U	125	121		ug/L		97	74 - 125	4	11
Chloromethane	6.3	U	125	110		ug/L		88	34 - 127	10	25
cis-1,2-Dichloroethene	6.3	U	125	122		ug/L		97	69 - 127	2	11
cis-1,3-Dichloropropene	6.3	U	125	121		ug/L		97	68 - 120	1	13
Cyclohexane	5.0	J	125	121		ug/L		93	56 - 135	3	35
Dibromochloromethane	6.3	U	125	116		ug/L		93	62 - 131	2	15
1,2-Dibromo-3-Chloropropane	6.3	U	125	106		ug/L		84	48 - 130	8	31
1,2-Dibromoethane	6.3	U	125	118		ug/L		94	73 - 121	0	12
1,2-Dichlorobenzene	6.3	U	125	112		ug/L		89	70 - 120	2	19
1,3-Dichlorobenzene	6.3	U	125	111		ug/L		89	71 - 120	1	18
1,4-Dichlorobenzene	6.3	U	125	112		ug/L		89	72 - 120	0	17
Dichlorodifluoromethane	6.3	U	125	120		ug/L		96	45 - 130	9	34
1,1-Dichloroethane	6.3	U	125	117		ug/L		94	69 - 122	2	11
1,2-Dichloroethane	6.3	U	125	120		ug/L		96	64 - 138	1	11
1,1-Dichloroethene	6.3	U	125	127		ug/L		102	62 - 127	0	14
1,2-Dichloropropane	6.3	U	125	121		ug/L		97	72 - 131	3	12
Ethylbenzene	250		125	368		ug/L		92	72 - 121	0	15
2-Hexanone	63	U	250	216		ug/L		86	21 - 184	1	12
Isopropylbenzene	23		125	138		ug/L		91	70 - 132	0	16
Methyl acetate	63	U	250	242		ug/L		97	52 - 139	4	14
Methylcyclohexane	6.3	U	125	109		ug/L		87	46 - 139	1	35
Methylene Chloride	31	U	125	116		ug/L		93	52 - 137	5	12
4-Methyl-2-pentanone (MIBK)	63	U	250	240		ug/L		96	53 - 147	1	16
Methyl tert-butyl ether	0.77	J	125	119		ug/L		95	67 - 125	2	12
Styrene	6.3	U	125	116		ug/L		93	74 - 125	1	14
1,1,2,2-Tetrachloroethane	6.3	U	125	111		ug/L		89	51 - 123	0	17
Tetrachloroethene	6.3	U	125	116		ug/L		93	69 - 126	4	18
Toluene	6.3	U	125	116		ug/L		93	69 - 125	1	14
trans-1,2-Dichloroethene	6.3	U	125	127		ug/L		101	66 - 131	3	11
trans-1,3-Dichloropropene	6.3	U	125	106		ug/L		85	59 - 120	2	14
1,2,4-Trichlorobenzene	6.3	U	125	112		ug/L		90	26 - 138	5	35
1,1,1-Trichloroethane	6.3	U	125	123		ug/L		98	57 - 156	3	13
1,1,2-Trichloroethane	6.3	U	125	121		ug/L		97	68 - 127	2	11
Trichloroethene	6.3	U	125	126		ug/L		101	68 - 129	4	12
Trichlorofluoromethane	6.3	U	125	128		ug/L		103	28 - 172	4	26
1,1,2-Trichloro-1,2,2-trifluoroethane	6.3	U	125	133		ug/L		107	58 - 137	2	35
Vinyl chloride	6.3	U	125	120		ug/L		96	55 - 123	3	12
Xylenes, Total	170		250	394		ug/L		89	71 - 122	1	14

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-99856-B-1 MSD
Matrix: Water
Analysis Batch: 342020

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	88		69 - 120
Dibromofluoromethane (Surr)	85		69 - 124
1,2-Dichloroethane-d4 (Surr)	82		61 - 138
Toluene-d8 (Surr)	83		73 - 120

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-341200/5
Matrix: Water
Analysis Batch: 341200

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			08/16/18 12:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		08/16/18 12:28	1

Lab Sample ID: LCS 240-341200/4
Matrix: Water
Analysis Batch: 341200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	98		63 - 125

Lab Sample ID: 500-149833-C-4 MS
Matrix: Water
Analysis Batch: 341200

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	9.93		ug/L		99	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		63 - 125

Lab Sample ID: 500-149833-C-4 MSD
Matrix: Water
Analysis Batch: 341200

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.87		ug/L		99	52 - 129	1	13

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		63 - 125

TestAmerica Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

GC/MS VOA

Analysis Batch: 341200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99738-1	TW-16-04-080818	Total/NA	Water	8260B SIM	
240-99738-2	TW-16-03-080818	Total/NA	Water	8260B SIM	
240-99738-3	MW-26-080918	Total/NA	Water	8260B SIM	
240-99738-4	MW-15-59D-080918	Total/NA	Water	8260B SIM	
MB 240-341200/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-341200/4	Lab Control Sample	Total/NA	Water	8260B SIM	
500-149833-C-4 MS	Matrix Spike	Total/NA	Water	8260B SIM	
500-149833-C-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 341822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99738-1	TW-16-04-080818	Total/NA	Water	8260B	
MB 240-341822/8	Method Blank	Total/NA	Water	8260B	
LCS 240-341822/5	Lab Control Sample	Total/NA	Water	8260B	
240-99672-B-11 MS	Matrix Spike	Total/NA	Water	8260B	
240-99672-B-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 341894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99738-3	MW-26-080918	Total/NA	Water	8260B	
240-99738-4	MW-15-59D-080918	Total/NA	Water	8260B	
MB 240-341894/6	Method Blank	Total/NA	Water	8260B	
LCS 240-341894/4	Lab Control Sample	Total/NA	Water	8260B	
240-99857-E-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-99857-E-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 342020

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99738-1	TW-16-04-080818	Total/NA	Water	8260B	
240-99738-2	TW-16-03-080818	Total/NA	Water	8260B	
MB 240-342020/8	Method Blank	Total/NA	Water	8260B	
LCS 240-342020/5	Lab Control Sample	Total/NA	Water	8260B	
240-99856-B-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-99856-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-99738-1

Client Sample ID: TW-16-04-080818

Lab Sample ID: 240-99738-1

Date Collected: 08/08/18 12:32

Matrix: Water

Date Received: 08/10/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	341822	08/21/18 18:05	HMB	TAL CAN
Total/NA	Analysis	8260B		2	342020	08/22/18 16:27	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	341200	08/16/18 20:25	SAM	TAL CAN

Client Sample ID: TW-16-03-080818

Lab Sample ID: 240-99738-2

Date Collected: 08/08/18 14:20

Matrix: Water

Date Received: 08/10/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	342020	08/22/18 16:50	HMB	TAL CAN
Total/NA	Analysis	8260B SIM		1	341200	08/16/18 20:50	SAM	TAL CAN

Client Sample ID: MW-26-080918

Lab Sample ID: 240-99738-3

Date Collected: 08/09/18 11:15

Matrix: Water

Date Received: 08/10/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	341894	08/21/18 22:31	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	341200	08/16/18 21:15	SAM	TAL CAN

Client Sample ID: MW-15-59D-080918

Lab Sample ID: 240-99738-4

Date Collected: 08/09/18 10:10

Matrix: Water

Date Received: 08/10/18 08:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	341894	08/21/18 22:53	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	341200	08/16/18 21:40	SAM	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 240-99738-1

Project/Site: Ford LTP Livonia MI - E203728

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-18 *
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
Kentucky (WW)	State Program	4	98016	12-31-18
Minnesota	NELAP	5	039-999-348	12-31-18
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-17-9	08-31-18 *
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18 *
Washington	State Program	10	C971	01-12-19
West Virginia DEP	State Program	3	210	12-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

MICHIGAN
190

Chain of Custody Record

TestAmerica, Inc.

TestAmerica Laboratory location: Brighton, MI 48116 / 810-279-2763

Client Contact: NW NPDES RCHA Other

Company Name: Arcadis
 Address: 28550 Caledon Drive, Suite 500
 City/State/Zip: Novi, MI, 48377
 Phone: 248-994-2248

Client Project Manager: Kyrin Hinkey
 Telephone: 248-994-2240
 Email: khr19@offer.hinkey@arcadis.com

Project Name: Ford LTP
 Project Number: MI001454.0004.00001
 PO # A1001454.0004.00001

Method of Shipment/Carrier:
 Shipping/Tracking No:

Analysis Parameters:
 1st Collection Interval:
 1D day
 2 weeks
 3 weeks
 1 week
 2 days
 1 day

Sample Identification	Sample Date	Sample Time	Matrix										Filtered Sample (Y/N)	Composite (C/Grab)	VOCs 8260B 1,4-Dioxane 8260B SIM	Analysis	Special Specific Notes / Special Instructions	
			Air	Water	Soil	Other	HS04	HS05	HS06	HS07	HS08	HS09						HS10
TW-16-04-080818	8/8/18	12:32	6															
TW-16-03-080818	8/8/18	14:20	6															
MW-26-080918	8/9/18	11:15	6															
MW-15-59D-080918	8/9/18	10:10	6															



Possible Hazard Identification:
 Non-Hazardous Hazardous

Special Instructions/QC Requirements & Comments:
 Submit all results through Cadena at jens.tomalia@cadenalabs.com, Cadena #1203728
 I used W Reporting.

Relinquished by	Company	Date/Time	Received by	Company	Date/Time
Rockel Stern	Arcadis	8/8/18 10:00	Emma TerBeek	Arcadis	8/8/18 16:00
Emma TerBeek	Arcadis	8/8/18 12:40	DIVA KAMATH	Arcadis	8/9/18 12:45
DIVA KAMATH	Arcadis	8/9/18 13:24	3 [Signature]	TAC	8/9/18 13:24

Relinquished by: [Signature]
 Company: TAC
 Date: 8/9/18 14:29

8/24/2018

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Canton Facility _____
 Client Amadis Site Name _____
 Cooler Received on 8/10/18 Opened on 8/10/18 Cooler unpacked by: Gil Brown
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box Other
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #36 (CF -0.3°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples?
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC849161
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA ● Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:

 VOAs
 Oil and Grease
 TOC


Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: GB

18. SAMPLE CONDITION
 Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____



August 24, 2018

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE GROUND WATER
Project number: MI001454.0006.00001, MI001386.0001.00002
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 99738-1
Sample date: 2018-08-09 2018-08-08
Report received by CADENA: 2018-08-24
Initial Data Verification completed by CADENA: 2018-08-24

The following minor QC exceptions or missing information were noted:

GCMS VOC (non-SIM) QC batch 341822 LCS recovery was outlying biased high for the following analyte: 1,4-DIOXANE. Associated client sample results were non-detect so qualification was not required based on this high bias QC outliers.

GCMS VOC QC batch MS/MSD recovery outliers or RPD outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

4 Water sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 99738-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
240997381	TW-16-04-080818	8/8/2018	12:32:00	X	X	
240997382	TW-16-03-080818	8/8/2018	2:20:00	X	X	
240997383	MW-26-080918	8/9/2018	11:15:00	X	X	
240997384	MW-15-59D-080918	8/9/2018	10:10:00	X	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 99738-1

Sample Name:	TW-16-04-080818	TW-16-03-080818	MW-26-080918	MW-15-59D-080918
Lab Sample ID:	240997381	240997382	240997383	240997384
Sample Date:	8/8/2018	8/8/2018	8/9/2018	8/9/2018

Analyte	Cas No.	Report				Report				Report				Report			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																	
<u>OSW-8260B</u>																	
1,1,1-Trichloroethane	71-55-6	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethane	75-34-3	0.50	1.0	ug/l	J	0.44	2.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trimethylbenzene	526-73-8	ND	5.0	ug/l	---	ND	10	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
1,2,4-Trichlorobenzene	120-82-1	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromoethane	106-93-4	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloroethane	107-06-2	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloropropane	78-87-5	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dioxane	123-91-1	ND	50	ug/l	---	ND	100	ug/l	---	ND	50	ug/l	---	ND	50	ug/l	---
2-Butanone (MEK)	78-93-3	ND	10	ug/l	---	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
2-Hexanone	591-78-6	ND	10	ug/l	---	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	10	ug/l	---	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Acetone	67-64-1	5.5	10	ug/l	J	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Benzene	71-43-2	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromodichloromethane	75-27-4	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromoform	75-25-2	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromomethane	74-83-9	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Carbon disulfide	75-15-0	ND	5.0	ug/l	---	ND	10	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Carbon tetrachloride	56-23-5	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chlorobenzene	108-90-7	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroethane	75-00-3	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroform	67-66-3	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloromethane	74-87-3	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	21	1.0	ug/l	---	36	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,3-Dichloropropene	10061-01-5	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Cyclohexane	110-82-7	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	0.43	1.0	ug/l	J
Dibromochloromethane	124-48-1	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Diethyl ether	60-29-7	ND	2.0	ug/l	---	ND	4.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
Ethylbenzene	100-41-4	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Isopropylbenzene	98-82-8	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methyl acetate	79-20-9	ND	10	ug/l	---	ND	20	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Methyl tert-butyl ether	1634-04-4	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylcyclohexane	108-87-2	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylene Chloride	75-09-2	ND	5.0	ug/l	---	ND	10	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Styrene	100-42-5	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Toluene	108-88-3	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	0.17	1.0	ug/l	J
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichlorofluoromethane	75-69-4	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	63	2.0	ug/l	---	76	2.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Xylenes, Total	1330-20-7	ND	2.0	ug/l	---	ND	4.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
<u>OSW-8260BBSim</u>																	
1,4-Dioxane	123-91-1	1.2	2.0	ug/l	J	1.0	2.0	ug/l	J	ND	2.0	ug/l	---	ND	2.0	ug/l	---

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton
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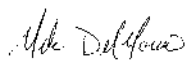
TestAmerica Job ID: 240-103817-1

Client Project/Site: Ford LTP Livonia MI - E203728

For:

ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
11/16/2018 4:17:43 PM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Job ID: 240-103817-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-103817-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 11/2/2018 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-103817-1), MW-53_103118 (240-103817-2), MW-54_103118 (240-103817-3), MW-55_103118 (240-103817-4), MW-56_103118 (240-103817-5), MW-37_103118 (240-103817-6), MW-15-59D_103118 (240-103817-7), MW-28_103118 (240-103817-8), MW-58_103118 (240-103817-9) and MW-52_103118 (240-103817-10) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/12/2018 and 11/13/2018.

Dibromofluoromethane (Surr) failed the surrogate recovery criteria high for TRIP BLANK (240-103817-1), MW-53_103118 (240-103817-2), MW-55_103118 (240-103817-4), MW-56_103118 (240-103817-5), and MW-58_103118 (240-103817-9). Refer to the QC report for details.

1,1,2-Trichloro-1,2,2-trifluoroethane, Chloromethane and Methylcyclohexane exceeded the RPD limit for the MSD of sample MW-15-59D_103118MSD (240-103817-7) in batch 240-355141.

Refer to the QC report for details. Sample MW-28_103118 (240-103817-8)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Surrogate recovery for the following samples were outside the upper control limit: TRIP BLANK (240-103817-1), MW-53_103118

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Job ID: 240-103817-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

(240-103817-2), MW-55_103118 (240-103817-4), MW-56_103118 (240-103817-5) and MW-58_103118 (240-103817-9). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples TRIP BLANK (240-103817-1), MW-53_103118 (240-103817-2), MW-54_103118 (240-103817-3), MW-55_103118 (240-103817-4), MW-56_103118 (240-103817-5), MW-37_103118 (240-103817-6), MW-15-59D_103118 (240-103817-7), MW-28_103118 (240-103817-8), MW-58_103118 (240-103817-9) and MW-52_103118 (240-103817-10) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 11/11/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-103817-1	TRIP BLANK	Water	10/31/18 00:00	11/02/18 08:50
240-103817-2	MW-53_103118	Water	10/31/18 08:55	11/02/18 08:50
240-103817-3	MW-54_103118	Water	10/31/18 10:25	11/02/18 08:50
240-103817-4	MW-55_103118	Water	10/31/18 12:15	11/02/18 08:50
240-103817-5	MW-56_103118	Water	10/31/18 13:25	11/02/18 08:50
240-103817-6	MW-37_103118	Water	10/31/18 16:00	11/02/18 08:50
240-103817-7	MW-15-59D_103118	Water	10/31/18 09:05	11/02/18 08:50
240-103817-8	MW-28_103118	Water	10/31/18 10:40	11/02/18 08:50
240-103817-9	MW-58_103118	Water	10/31/18 12:10	11/02/18 08:50
240-103817-10	MW-52_103118	Water	10/31/18 13:20	11/02/18 08:50

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-103817-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	0.21	J	1.0	0.14	ug/L	1		8260B	Total/NA
Trichloroethene	0.15	J	1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: MW-53_103118

Lab Sample ID: 240-103817-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.8	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
1,4-Dichlorobenzene	0.18	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.60	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-54_103118

Lab Sample ID: 240-103817-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.6	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
1,3-Dichlorobenzene	0.26	J	1.0	0.15	ug/L	1		8260B	Total/NA
Vinyl chloride	0.85	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-55_103118

Lab Sample ID: 240-103817-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.6	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.19	J	1.0	0.16	ug/L	1		8260B	Total/NA
1,4-Dichlorobenzene	0.25	J	1.0	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	0.57	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-56_103118

Lab Sample ID: 240-103817-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.7	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.43	J	1.0	0.16	ug/L	1		8260B	Total/NA
Methyl tert-butyl ether	0.11	J	1.0	0.070	ug/L	1		8260B	Total/NA
Vinyl chloride	0.31	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-37_103118

Lab Sample ID: 240-103817-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,3-Dichlorobenzene	0.17	J	1.0	0.15	ug/L	1		8260B	Total/NA

Client Sample ID: MW-15-59D_103118

Lab Sample ID: 240-103817-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyclohexane	0.34	J	1.0	0.24	ug/L	1		8260B	Total/NA
1,3-Dichlorobenzene	0.23	J	1.0	0.15	ug/L	1		8260B	Total/NA

Client Sample ID: MW-28_103118

Lab Sample ID: 240-103817-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.51	J	2.0	0.32	ug/L	2		8260B	Total/NA
1,1-Dichloroethane	15	J	2.0	0.34	ug/L	2		8260B	Total/NA
1,1-Dichloroethene	0.43	J	2.0	0.38	ug/L	2		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-28_103118 (Continued)

Lab Sample ID: 240-103817-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	35		2.0	0.48	ug/L	2		8260B	Total/NA
Trichloroethene	0.70	J	2.0	0.20	ug/L	2		8260B	Total/NA

Client Sample ID: MW-58_103118

Lab Sample ID: 240-103817-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	3.9		2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-52_103118

Lab Sample ID: 240-103817-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.7		2.0	0.86	ug/L	1		8260B SIM	Total/NA
1,3-Dichlorobenzene	0.18	J	1.0	0.15	ug/L	1		8260B	Total/NA
Vinyl chloride	5.0		1.0	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-103817-1

Date Collected: 10/31/18 00:00

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/11/18 14:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125					11/11/18 14:05	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			11/12/18 16:40	1
Benzene	1.0	U	1.0	0.13	ug/L			11/12/18 16:40	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/12/18 16:40	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/12/18 16:40	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/12/18 16:40	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/12/18 16:40	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/12/18 16:40	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/12/18 16:40	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/12/18 16:40	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/12/18 16:40	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/12/18 16:40	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/12/18 16:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/12/18 16:40	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/12/18 16:40	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/12/18 16:40	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/12/18 16:40	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/12/18 16:40	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/12/18 16:40	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 16:40	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 16:40	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/12/18 16:40	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/12/18 16:40	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/12/18 16:40	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/18 16:40	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 16:40	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/12/18 16:40	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/12/18 16:40	1
2-Hexanone	10	U	10	0.54	ug/L			11/12/18 16:40	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/12/18 16:40	1
Methyl acetate	10	U	10	1.7	ug/L			11/12/18 16:40	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/12/18 16:40	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/12/18 16:40	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/12/18 16:40	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/12/18 16:40	1
Styrene	1.0	U	1.0	0.10	ug/L			11/12/18 16:40	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/12/18 16:40	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/12/18 16:40	1
Toluene	0.21	J	1.0	0.14	ug/L			11/12/18 16:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 16:40	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/12/18 16:40	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/12/18 16:40	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/12/18 16:40	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/12/18 16:40	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-103817-1

Date Collected: 10/31/18 00:00

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.15	J	1.0	0.10	ug/L			11/12/18 16:40	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/12/18 16:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/12/18 16:40	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/12/18 16:40	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/12/18 16:40	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/12/18 16:40	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/12/18 16:40	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/12/18 16:40	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/12/18 16:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		59 - 120					11/12/18 16:40	1
Dibromofluoromethane (Surr)	133	X	75 - 128					11/12/18 16:40	1
1,2-Dichloroethane-d4 (Surr)	116		70 - 121					11/12/18 16:40	1
Toluene-d8 (Surr)	86		70 - 123					11/12/18 16:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-53_103118

Lab Sample ID: 240-103817-2

Date Collected: 10/31/18 08:55

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.8	J	2.0	0.86	ug/L			11/11/18 15:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125					11/11/18 15:48	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			11/12/18 17:02	1
Benzene	1.0	U	1.0	0.13	ug/L			11/12/18 17:02	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/12/18 17:02	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/12/18 17:02	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/12/18 17:02	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/12/18 17:02	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/12/18 17:02	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/12/18 17:02	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/12/18 17:02	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/12/18 17:02	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/12/18 17:02	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/12/18 17:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/12/18 17:02	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/12/18 17:02	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/12/18 17:02	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/12/18 17:02	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/12/18 17:02	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/12/18 17:02	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 17:02	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 17:02	1
1,4-Dichlorobenzene	0.18	J	1.0	0.16	ug/L			11/12/18 17:02	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/12/18 17:02	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/12/18 17:02	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/18 17:02	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 17:02	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/12/18 17:02	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/12/18 17:02	1
2-Hexanone	10	U	10	0.54	ug/L			11/12/18 17:02	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/12/18 17:02	1
Methyl acetate	10	U	10	1.7	ug/L			11/12/18 17:02	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/12/18 17:02	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/12/18 17:02	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/12/18 17:02	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/12/18 17:02	1
Styrene	1.0	U	1.0	0.10	ug/L			11/12/18 17:02	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/12/18 17:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/12/18 17:02	1
Toluene	1.0	U	1.0	0.14	ug/L			11/12/18 17:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 17:02	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/12/18 17:02	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/12/18 17:02	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/12/18 17:02	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/12/18 17:02	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-53_103118

Lab Sample ID: 240-103817-2

Date Collected: 10/31/18 08:55

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/12/18 17:02	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/12/18 17:02	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/12/18 17:02	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/12/18 17:02	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/12/18 17:02	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/12/18 17:02	1
Vinyl chloride	0.60	J	1.0	0.20	ug/L			11/12/18 17:02	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/12/18 17:02	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/12/18 17:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	76		59 - 120		11/12/18 17:02	1
Dibromofluoromethane (Surr)	135	X	75 - 128		11/12/18 17:02	1
1,2-Dichloroethane-d4 (Surr)	115		70 - 121		11/12/18 17:02	1
Toluene-d8 (Surr)	87		70 - 123		11/12/18 17:02	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-54_103118

Lab Sample ID: 240-103817-3

Date Collected: 10/31/18 10:25

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.6		2.0	0.86	ug/L			11/11/18 16:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125					11/11/18 16:14	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			11/13/18 13:55	1
Benzene	1.0	U	1.0	0.13	ug/L			11/13/18 13:55	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/13/18 13:55	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/13/18 13:55	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/13/18 13:55	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/13/18 13:55	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/13/18 13:55	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/13/18 13:55	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/13/18 13:55	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/13/18 13:55	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/13/18 13:55	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/13/18 13:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/13/18 13:55	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/13/18 13:55	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/13/18 13:55	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/13/18 13:55	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/13/18 13:55	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/13/18 13:55	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/13/18 13:55	1
1,3-Dichlorobenzene	0.26	J	1.0	0.15	ug/L			11/13/18 13:55	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/13/18 13:55	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/13/18 13:55	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/13/18 13:55	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/13/18 13:55	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/13/18 13:55	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/13/18 13:55	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/13/18 13:55	1
2-Hexanone	10	U	10	0.54	ug/L			11/13/18 13:55	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/13/18 13:55	1
Methyl acetate	10	U	10	1.7	ug/L			11/13/18 13:55	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/13/18 13:55	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/13/18 13:55	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/13/18 13:55	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/13/18 13:55	1
Styrene	1.0	U	1.0	0.10	ug/L			11/13/18 13:55	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/13/18 13:55	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/13/18 13:55	1
Toluene	1.0	U	1.0	0.14	ug/L			11/13/18 13:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/13/18 13:55	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/13/18 13:55	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/13/18 13:55	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/13/18 13:55	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/13/18 13:55	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-54_103118

Lab Sample ID: 240-103817-3

Date Collected: 10/31/18 10:25

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/13/18 13:55	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/13/18 13:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/13/18 13:55	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/13/18 13:55	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/13/18 13:55	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/13/18 13:55	1
Vinyl chloride	0.85	J	1.0	0.20	ug/L			11/13/18 13:55	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/13/18 13:55	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/13/18 13:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		59 - 120					11/13/18 13:55	1
Dibromofluoromethane (Surr)	118		75 - 128					11/13/18 13:55	1
1,2-Dichloroethane-d4 (Surr)	108		70 - 121					11/13/18 13:55	1
Toluene-d8 (Surr)	74		70 - 123					11/13/18 13:55	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-55_103118

Lab Sample ID: 240-103817-4

Date Collected: 10/31/18 12:15

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.6	J	2.0	0.86	ug/L			11/11/18 17:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125					11/11/18 17:31	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			11/12/18 17:46	1
Benzene	1.0	U	1.0	0.13	ug/L			11/12/18 17:46	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/12/18 17:46	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/12/18 17:46	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/12/18 17:46	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/12/18 17:46	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/12/18 17:46	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/12/18 17:46	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/12/18 17:46	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/12/18 17:46	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/12/18 17:46	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/12/18 17:46	1
cis-1,2-Dichloroethene	0.19	J	1.0	0.16	ug/L			11/12/18 17:46	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/12/18 17:46	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/12/18 17:46	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/12/18 17:46	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/12/18 17:46	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/12/18 17:46	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 17:46	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 17:46	1
1,4-Dichlorobenzene	0.25	J	1.0	0.16	ug/L			11/12/18 17:46	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/12/18 17:46	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/12/18 17:46	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/18 17:46	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 17:46	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/12/18 17:46	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/12/18 17:46	1
2-Hexanone	10	U	10	0.54	ug/L			11/12/18 17:46	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/12/18 17:46	1
Methyl acetate	10	U	10	1.7	ug/L			11/12/18 17:46	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/12/18 17:46	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/12/18 17:46	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/12/18 17:46	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/12/18 17:46	1
Styrene	1.0	U	1.0	0.10	ug/L			11/12/18 17:46	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/12/18 17:46	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/12/18 17:46	1
Toluene	1.0	U	1.0	0.14	ug/L			11/12/18 17:46	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 17:46	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/12/18 17:46	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/12/18 17:46	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/12/18 17:46	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/12/18 17:46	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-55_103118

Lab Sample ID: 240-103817-4

Date Collected: 10/31/18 12:15

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/12/18 17:46	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/12/18 17:46	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/12/18 17:46	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/12/18 17:46	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/12/18 17:46	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/12/18 17:46	1
Vinyl chloride	0.57	J	1.0	0.20	ug/L			11/12/18 17:46	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/12/18 17:46	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/12/18 17:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		59 - 120		11/12/18 17:46	1
Dibromofluoromethane (Surr)	134	X	75 - 128		11/12/18 17:46	1
1,2-Dichloroethane-d4 (Surr)	118		70 - 121		11/12/18 17:46	1
Toluene-d8 (Surr)	88		70 - 123		11/12/18 17:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-56_103118

Lab Sample ID: 240-103817-5

Date Collected: 10/31/18 13:25

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.7		2.0	0.86	ug/L			11/11/18 17:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125					11/11/18 17:57	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			11/12/18 18:08	1
Benzene	1.0	U	1.0	0.13	ug/L			11/12/18 18:08	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/12/18 18:08	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/12/18 18:08	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/12/18 18:08	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/12/18 18:08	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/12/18 18:08	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/12/18 18:08	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/12/18 18:08	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/12/18 18:08	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/12/18 18:08	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/12/18 18:08	1
cis-1,2-Dichloroethene	0.43	J	1.0	0.16	ug/L			11/12/18 18:08	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/12/18 18:08	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/12/18 18:08	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/12/18 18:08	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/12/18 18:08	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/12/18 18:08	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 18:08	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 18:08	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/12/18 18:08	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/12/18 18:08	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/12/18 18:08	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/18 18:08	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 18:08	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/12/18 18:08	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/12/18 18:08	1
2-Hexanone	10	U	10	0.54	ug/L			11/12/18 18:08	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/12/18 18:08	1
Methyl acetate	10	U	10	1.7	ug/L			11/12/18 18:08	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/12/18 18:08	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/12/18 18:08	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/12/18 18:08	1
Methyl tert-butyl ether	0.11	J	1.0	0.070	ug/L			11/12/18 18:08	1
Styrene	1.0	U	1.0	0.10	ug/L			11/12/18 18:08	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/12/18 18:08	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/12/18 18:08	1
Toluene	1.0	U	1.0	0.14	ug/L			11/12/18 18:08	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 18:08	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/12/18 18:08	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/12/18 18:08	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/12/18 18:08	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/12/18 18:08	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-56_103118

Lab Sample ID: 240-103817-5

Date Collected: 10/31/18 13:25

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/12/18 18:08	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/12/18 18:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/12/18 18:08	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/12/18 18:08	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/12/18 18:08	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/12/18 18:08	1
Vinyl chloride	0.31	J	1.0	0.20	ug/L			11/12/18 18:08	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/12/18 18:08	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/12/18 18:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		59 - 120					11/12/18 18:08	1
Dibromofluoromethane (Surr)	136	X	75 - 128					11/12/18 18:08	1
1,2-Dichloroethane-d4 (Surr)	119		70 - 121					11/12/18 18:08	1
Toluene-d8 (Surr)	90		70 - 123					11/12/18 18:08	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-37_103118

Lab Sample ID: 240-103817-6

Date Collected: 10/31/18 16:00

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/11/18 18:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 125					11/11/18 18:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			11/12/18 18:29	1
Benzene	1.0	U	1.0	0.13	ug/L			11/12/18 18:29	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/12/18 18:29	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/12/18 18:29	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/12/18 18:29	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/12/18 18:29	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/12/18 18:29	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/12/18 18:29	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/12/18 18:29	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/12/18 18:29	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/12/18 18:29	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/12/18 18:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/12/18 18:29	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/12/18 18:29	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/12/18 18:29	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/12/18 18:29	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/12/18 18:29	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/12/18 18:29	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 18:29	1
1,3-Dichlorobenzene	0.17	J	1.0	0.15	ug/L			11/12/18 18:29	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/12/18 18:29	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/12/18 18:29	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/12/18 18:29	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/18 18:29	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 18:29	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/12/18 18:29	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/12/18 18:29	1
2-Hexanone	10	U	10	0.54	ug/L			11/12/18 18:29	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/12/18 18:29	1
Methyl acetate	10	U	10	1.7	ug/L			11/12/18 18:29	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/12/18 18:29	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/12/18 18:29	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/12/18 18:29	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/12/18 18:29	1
Styrene	1.0	U	1.0	0.10	ug/L			11/12/18 18:29	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/12/18 18:29	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/12/18 18:29	1
Toluene	1.0	U	1.0	0.14	ug/L			11/12/18 18:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 18:29	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/12/18 18:29	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/12/18 18:29	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/12/18 18:29	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/12/18 18:29	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-37_103118

Lab Sample ID: 240-103817-6

Date Collected: 10/31/18 16:00

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/12/18 18:29	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/12/18 18:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/12/18 18:29	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/12/18 18:29	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/12/18 18:29	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/12/18 18:29	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/12/18 18:29	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/12/18 18:29	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/12/18 18:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		59 - 120					11/12/18 18:29	1
Dibromofluoromethane (Surr)	127		75 - 128					11/12/18 18:29	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 121					11/12/18 18:29	1
Toluene-d8 (Surr)	84		70 - 123					11/12/18 18:29	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-15-59D_103118

Lab Sample ID: 240-103817-7

Date Collected: 10/31/18 09:05

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/11/18 18:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		63 - 125					11/11/18 18:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			11/13/18 14:17	1
Benzene	1.0	U	1.0	0.13	ug/L			11/13/18 14:17	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/13/18 14:17	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/13/18 14:17	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/13/18 14:17	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/13/18 14:17	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/13/18 14:17	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/13/18 14:17	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/13/18 14:17	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/13/18 14:17	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/13/18 14:17	1
Chloromethane	1.0	U F2	1.0	0.20	ug/L			11/13/18 14:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/13/18 14:17	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/13/18 14:17	1
Cyclohexane	0.34	J	1.0	0.24	ug/L			11/13/18 14:17	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/13/18 14:17	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/13/18 14:17	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/13/18 14:17	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/13/18 14:17	1
1,3-Dichlorobenzene	0.23	J	1.0	0.15	ug/L			11/13/18 14:17	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/13/18 14:17	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/13/18 14:17	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/13/18 14:17	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/13/18 14:17	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/13/18 14:17	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/13/18 14:17	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/13/18 14:17	1
2-Hexanone	10	U	10	0.54	ug/L			11/13/18 14:17	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/13/18 14:17	1
Methyl acetate	10	U	10	1.7	ug/L			11/13/18 14:17	1
Methylcyclohexane	1.0	U F2	1.0	0.33	ug/L			11/13/18 14:17	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/13/18 14:17	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/13/18 14:17	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/13/18 14:17	1
Styrene	1.0	U	1.0	0.10	ug/L			11/13/18 14:17	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/13/18 14:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/13/18 14:17	1
Toluene	1.0	U	1.0	0.14	ug/L			11/13/18 14:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/13/18 14:17	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/13/18 14:17	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/13/18 14:17	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/13/18 14:17	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/13/18 14:17	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-15-59D_103118

Lab Sample ID: 240-103817-7

Date Collected: 10/31/18 09:05

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/13/18 14:17	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/13/18 14:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U F2	1.0	0.41	ug/L			11/13/18 14:17	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/13/18 14:17	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/13/18 14:17	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/13/18 14:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/13/18 14:17	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/13/18 14:17	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/13/18 14:17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		59 - 120					11/13/18 14:17	1
Dibromofluoromethane (Surr)	114		75 - 128					11/13/18 14:17	1
1,2-Dichloroethane-d4 (Surr)	103		70 - 121					11/13/18 14:17	1
Toluene-d8 (Surr)	76		70 - 123					11/13/18 14:17	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-28_103118

Lab Sample ID: 240-103817-8

Date Collected: 10/31/18 10:40

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/11/18 20:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125					11/11/18 20:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	20	U	20	11	ug/L			11/13/18 14:39	2
Benzene	2.0	U	2.0	0.26	ug/L			11/13/18 14:39	2
Bromodichloromethane	2.0	U	2.0	0.34	ug/L			11/13/18 14:39	2
Bromoform	2.0	U	2.0	1.5	ug/L			11/13/18 14:39	2
Bromomethane	2.0	U	2.0	0.84	ug/L			11/13/18 14:39	2
2-Butanone (MEK)	20	U	20	2.3	ug/L			11/13/18 14:39	2
Carbon disulfide	10	U	10	0.56	ug/L			11/13/18 14:39	2
Carbon tetrachloride	2.0	U	2.0	0.52	ug/L			11/13/18 14:39	2
Chlorobenzene	2.0	U	2.0	0.28	ug/L			11/13/18 14:39	2
Chloroethane	2.0	U	2.0	1.7	ug/L			11/13/18 14:39	2
Chloroform	2.0	U	2.0	0.26	ug/L			11/13/18 14:39	2
Chloromethane	2.0	U	2.0	0.40	ug/L			11/13/18 14:39	2
cis-1,2-Dichloroethene	0.51	J	2.0	0.32	ug/L			11/13/18 14:39	2
cis-1,3-Dichloropropene	2.0	U	2.0	1.2	ug/L			11/13/18 14:39	2
Cyclohexane	2.0	U	2.0	0.48	ug/L			11/13/18 14:39	2
Dibromochloromethane	2.0	U	2.0	0.78	ug/L			11/13/18 14:39	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	1.8	ug/L			11/13/18 14:39	2
1,2-Dibromoethane	2.0	U	2.0	0.24	ug/L			11/13/18 14:39	2
1,2-Dichlorobenzene	2.0	U	2.0	0.30	ug/L			11/13/18 14:39	2
1,3-Dichlorobenzene	2.0	U	2.0	0.30	ug/L			11/13/18 14:39	2
1,4-Dichlorobenzene	2.0	U	2.0	0.32	ug/L			11/13/18 14:39	2
Dichlorodifluoromethane	2.0	U	2.0	0.70	ug/L			11/13/18 14:39	2
1,1-Dichloroethane	15		2.0	0.34	ug/L			11/13/18 14:39	2
1,2-Dichloroethane	2.0	U	2.0	0.42	ug/L			11/13/18 14:39	2
1,1-Dichloroethene	0.43	J	2.0	0.38	ug/L			11/13/18 14:39	2
1,2-Dichloropropane	2.0	U	2.0	0.30	ug/L			11/13/18 14:39	2
Ethylbenzene	2.0	U	2.0	0.22	ug/L			11/13/18 14:39	2
2-Hexanone	20	U	20	1.1	ug/L			11/13/18 14:39	2
Isopropylbenzene	2.0	U	2.0	0.18	ug/L			11/13/18 14:39	2
Methyl acetate	20	U	20	3.4	ug/L			11/13/18 14:39	2
Methylcyclohexane	2.0	U	2.0	0.66	ug/L			11/13/18 14:39	2
Methylene Chloride	10	U	10	5.2	ug/L			11/13/18 14:39	2
4-Methyl-2-pentanone (MIBK)	20	U	20	0.84	ug/L			11/13/18 14:39	2
Methyl tert-butyl ether	2.0	U	2.0	0.14	ug/L			11/13/18 14:39	2
Styrene	2.0	U	2.0	0.20	ug/L			11/13/18 14:39	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.26	ug/L			11/13/18 14:39	2
Tetrachloroethene	2.0	U	2.0	0.30	ug/L			11/13/18 14:39	2
Toluene	2.0	U	2.0	0.28	ug/L			11/13/18 14:39	2
trans-1,2-Dichloroethene	2.0	U	2.0	0.38	ug/L			11/13/18 14:39	2
trans-1,3-Dichloropropene	2.0	U	2.0	1.3	ug/L			11/13/18 14:39	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.52	ug/L			11/13/18 14:39	2
1,1,1-Trichloroethane	35		2.0	0.48	ug/L			11/13/18 14:39	2
1,1,2-Trichloroethane	2.0	U	2.0	0.18	ug/L			11/13/18 14:39	2

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-28_103118

Lab Sample ID: 240-103817-8

Date Collected: 10/31/18 10:40

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.70	J	2.0	0.20	ug/L			11/13/18 14:39	2
Trichlorofluoromethane	2.0	U	2.0	0.90	ug/L			11/13/18 14:39	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.82	ug/L			11/13/18 14:39	2
1,2,3-Trimethylbenzene	10	U	10	0.28	ug/L			11/13/18 14:39	2
1,2,4-Trimethylbenzene	2.0	U	2.0	0.14	ug/L			11/13/18 14:39	2
1,3,5-Trimethylbenzene	2.0	U	2.0	0.24	ug/L			11/13/18 14:39	2
Vinyl chloride	2.0	U	2.0	0.40	ug/L			11/13/18 14:39	2
Xylenes, Total	4.0	U	4.0	0.30	ug/L			11/13/18 14:39	2
Diethyl ether	4.0	U	4.0	0.38	ug/L			11/13/18 14:39	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	77		59 - 120					11/13/18 14:39	2
Dibromofluoromethane (Surr)	121		75 - 128					11/13/18 14:39	2
1,2-Dichloroethane-d4 (Surr)	110		70 - 121					11/13/18 14:39	2
Toluene-d8 (Surr)	77		70 - 123					11/13/18 14:39	2

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-58_103118

Lab Sample ID: 240-103817-9

Date Collected: 10/31/18 12:10

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.9		2.0	0.86	ug/L			11/11/18 20:30	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		63 - 125					11/11/18 20:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			11/12/18 19:35	1
Benzene	1.0	U	1.0	0.13	ug/L			11/12/18 19:35	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/12/18 19:35	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/12/18 19:35	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/12/18 19:35	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/12/18 19:35	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/12/18 19:35	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/12/18 19:35	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/12/18 19:35	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/12/18 19:35	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/12/18 19:35	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/12/18 19:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/12/18 19:35	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/12/18 19:35	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/12/18 19:35	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/12/18 19:35	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/12/18 19:35	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/12/18 19:35	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 19:35	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 19:35	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/12/18 19:35	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/12/18 19:35	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/12/18 19:35	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/18 19:35	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 19:35	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/12/18 19:35	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/12/18 19:35	1
2-Hexanone	10	U	10	0.54	ug/L			11/12/18 19:35	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/12/18 19:35	1
Methyl acetate	10	U	10	1.7	ug/L			11/12/18 19:35	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/12/18 19:35	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/12/18 19:35	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/12/18 19:35	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/12/18 19:35	1
Styrene	1.0	U	1.0	0.10	ug/L			11/12/18 19:35	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/12/18 19:35	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/12/18 19:35	1
Toluene	1.0	U	1.0	0.14	ug/L			11/12/18 19:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 19:35	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/12/18 19:35	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/12/18 19:35	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/12/18 19:35	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/12/18 19:35	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-58_103118

Lab Sample ID: 240-103817-9

Date Collected: 10/31/18 12:10

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/12/18 19:35	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/12/18 19:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/12/18 19:35	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/12/18 19:35	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/12/18 19:35	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/12/18 19:35	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/12/18 19:35	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/12/18 19:35	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/12/18 19:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	73		59 - 120					11/12/18 19:35	1
Dibromofluoromethane (Surr)	129	X	75 - 128					11/12/18 19:35	1
1,2-Dichloroethane-d4 (Surr)	112		70 - 121					11/12/18 19:35	1
Toluene-d8 (Surr)	86		70 - 123					11/12/18 19:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-52_103118

Lab Sample ID: 240-103817-10

Date Collected: 10/31/18 13:20

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.7		2.0	0.86	ug/L			11/11/18 20:55	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 125					11/11/18 20:55	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			11/12/18 19:56	1
Benzene	1.0	U	1.0	0.13	ug/L			11/12/18 19:56	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/12/18 19:56	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/12/18 19:56	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/12/18 19:56	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/12/18 19:56	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/12/18 19:56	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/12/18 19:56	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/12/18 19:56	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/12/18 19:56	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/12/18 19:56	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/12/18 19:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/12/18 19:56	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/12/18 19:56	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/12/18 19:56	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/12/18 19:56	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/12/18 19:56	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/12/18 19:56	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 19:56	1
1,3-Dichlorobenzene	0.18	J	1.0	0.15	ug/L			11/12/18 19:56	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/12/18 19:56	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/12/18 19:56	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/12/18 19:56	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/18 19:56	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 19:56	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/12/18 19:56	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/12/18 19:56	1
2-Hexanone	10	U	10	0.54	ug/L			11/12/18 19:56	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/12/18 19:56	1
Methyl acetate	10	U	10	1.7	ug/L			11/12/18 19:56	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/12/18 19:56	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/12/18 19:56	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/12/18 19:56	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/12/18 19:56	1
Styrene	1.0	U	1.0	0.10	ug/L			11/12/18 19:56	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/12/18 19:56	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/12/18 19:56	1
Toluene	1.0	U	1.0	0.14	ug/L			11/12/18 19:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 19:56	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/12/18 19:56	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/12/18 19:56	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/12/18 19:56	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/12/18 19:56	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-52_103118

Lab Sample ID: 240-103817-10

Date Collected: 10/31/18 13:20

Matrix: Water

Date Received: 11/02/18 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/12/18 19:56	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/12/18 19:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/12/18 19:56	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/12/18 19:56	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/12/18 19:56	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/12/18 19:56	1
Vinyl chloride	5.0		1.0	0.20	ug/L			11/12/18 19:56	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/12/18 19:56	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/12/18 19:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	72		59 - 120		11/12/18 19:56	1
Dibromofluoromethane (Surr)	128		75 - 128		11/12/18 19:56	1
1,2-Dichloroethane-d4 (Surr)	111		70 - 121		11/12/18 19:56	1
Toluene-d8 (Surr)	84		70 - 123		11/12/18 19:56	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (59-120)	DBFM (75-128)	DCA (70-121)	TOL (70-123)
240-103817-1	TRIP BLANK	74	133 X	116	86
240-103817-2	MW-53_103118	76	135 X	115	87
240-103817-3	MW-54_103118	78	118	108	74
240-103817-3 MS	MW-54_103118	83	107	99	79
240-103817-3 MSD	MW-54_103118	88	109	103	81
240-103817-4	MW-55_103118	75	134 X	118	88
240-103817-5	MW-56_103118	78	136 X	119	90
240-103817-6	MW-37_103118	72	127	110	84
240-103817-7	MW-15-59D_103118	78	114	103	76
240-103817-7 MS	MW-15-59D_103118	81	104	96	77
240-103817-7 MSD	MW-15-59D_103118	83	115	99	79
240-103817-8	MW-28_103118	77	121	110	77
240-103817-9	MW-58_103118	73	129 X	112	86
240-103817-10	MW-52_103118	72	128	111	84
240-104049-E-31 MS	Matrix Spike	98	111	93	98
240-104049-H-31 MSD	Matrix Spike Duplicate	95	111	93	99
LCS 240-354893/4	Lab Control Sample	100	109	93	103
LCS 240-355141/4	Lab Control Sample	83	109	99	80
MB 240-354893/6	Method Blank	78	122	107	89
MB 240-355141/6	Method Blank	77	119	107	79

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-103817-1	TRIP BLANK	101
240-103817-2	MW-53_103118	102
240-103817-3	MW-54_103118	106
240-103817-3 MS	MW-54_103118	104
240-103817-3 MSD	MW-54_103118	107
240-103817-4	MW-55_103118	106
240-103817-5	MW-56_103118	106
240-103817-6	MW-37_103118	105
240-103817-7	MW-15-59D_103118	110
240-103817-7 MS	MW-15-59D_103118	110
240-103817-7 MSD	MW-15-59D_103118	110
240-103817-8	MW-28_103118	106
240-103817-9	MW-58_103118	108
240-103817-10	MW-52_103118	105
LCS 240-354800/4	Lab Control Sample	92
MB 240-354800/5	Method Blank	103

TestAmerica Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

1

2

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-354893/6

Matrix: Water

Analysis Batch: 354893

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	10	U	10	5.4	ug/L			11/12/18 11:42	1
Benzene	1.0	U	1.0	0.13	ug/L			11/12/18 11:42	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/12/18 11:42	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/12/18 11:42	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/12/18 11:42	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/12/18 11:42	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/12/18 11:42	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/12/18 11:42	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/12/18 11:42	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/12/18 11:42	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/12/18 11:42	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/12/18 11:42	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/12/18 11:42	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/12/18 11:42	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/12/18 11:42	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/12/18 11:42	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/12/18 11:42	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/12/18 11:42	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 11:42	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/12/18 11:42	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/12/18 11:42	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/12/18 11:42	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/12/18 11:42	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/12/18 11:42	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 11:42	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/12/18 11:42	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/12/18 11:42	1
2-Hexanone	10	U	10	0.54	ug/L			11/12/18 11:42	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/12/18 11:42	1
Methyl acetate	10	U	10	1.7	ug/L			11/12/18 11:42	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/12/18 11:42	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/12/18 11:42	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/12/18 11:42	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/12/18 11:42	1
Styrene	1.0	U	1.0	0.10	ug/L			11/12/18 11:42	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/12/18 11:42	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/12/18 11:42	1
Toluene	1.0	U	1.0	0.14	ug/L			11/12/18 11:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/12/18 11:42	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/12/18 11:42	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/12/18 11:42	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/12/18 11:42	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/12/18 11:42	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/12/18 11:42	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/12/18 11:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/12/18 11:42	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/12/18 11:42	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/12/18 11:42	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-354893/6
Matrix: Water
Analysis Batch: 354893

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/12/18 11:42	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/12/18 11:42	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/12/18 11:42	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/12/18 11:42	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	78		59 - 120		11/12/18 11:42	1
Dibromofluoromethane (Surr)	122		75 - 128		11/12/18 11:42	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		11/12/18 11:42	1
Toluene-d8 (Surr)	89		70 - 123		11/12/18 11:42	1

Lab Sample ID: LCS 240-354893/4
Matrix: Water
Analysis Batch: 354893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.9		ug/L		109	80 - 123
Bromodichloromethane	10.0	10.3		ug/L		103	77 - 125
Bromoform	10.0	10.7		ug/L		107	49 - 141
Bromomethane	10.0	8.36		ug/L		84	41 - 175
2-Butanone (MEK)	20.0	17.4		ug/L		87	39 - 163
Carbon disulfide	10.0	9.92		ug/L		99	60 - 138
Carbon tetrachloride	10.0	12.2		ug/L		122	63 - 140
Chlorobenzene	10.0	10.2		ug/L		102	80 - 121
Chloroethane	10.0	9.32		ug/L		93	33 - 173
Chloroform	10.0	10.9		ug/L		109	79 - 127
Chloromethane	10.0	10.5		ug/L		105	54 - 143
cis-1,2-Dichloroethene	10.0	11.0		ug/L		110	76 - 128
cis-1,3-Dichloropropene	10.0	8.54		ug/L		85	64 - 132
Cyclohexane	10.0	9.78		ug/L		98	58 - 145
Dibromochloromethane	10.0	10.7		ug/L		107	70 - 132
1,2-Dibromo-3-Chloropropane	10.0	8.33		ug/L		83	46 - 132
1,2-Dibromoethane	10.0	9.19		ug/L		92	77 - 123
1,2-Dichlorobenzene	10.0	9.56		ug/L		96	78 - 120
1,3-Dichlorobenzene	10.0	9.19		ug/L		92	78 - 120
1,4-Dichlorobenzene	10.0	9.05		ug/L		91	78 - 120
Dichlorodifluoromethane	10.0	8.86		ug/L		89	29 - 148
1,1-Dichloroethane	10.0	10.7		ug/L		107	75 - 133
1,2-Dichloroethane	10.0	9.59		ug/L		96	71 - 135
1,1-Dichloroethene	10.0	9.80		ug/L		98	65 - 139
1,2-Dichloropropane	10.0	10.4		ug/L		104	78 - 133
Ethylbenzene	10.0	9.83		ug/L		98	80 - 120
2-Hexanone	20.0	16.5		ug/L		82	43 - 148
Isopropylbenzene	10.0	9.26		ug/L		93	74 - 120
Methyl acetate	20.0	17.5		ug/L		87	52 - 145
Methylcyclohexane	10.0	8.51		ug/L		85	60 - 125
Methylene Chloride	10.0	11.5		ug/L		115	70 - 134

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-354893/4
Matrix: Water
Analysis Batch: 354893

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	20.0	15.1		ug/L		75	49 - 143
Methyl tert-butyl ether	10.0	8.02		ug/L		80	51 - 133
Styrene	10.0	9.87		ug/L		99	79 - 120
1,1,2,2-Tetrachloroethane	10.0	8.76		ug/L		88	65 - 139
Tetrachloroethene	10.0	11.2		ug/L		112	74 - 130
Toluene	10.0	10.4		ug/L		104	78 - 129
trans-1,2-Dichloroethene	10.0	11.5		ug/L		115	78 - 133
trans-1,3-Dichloropropene	10.0	7.90		ug/L		79	55 - 128
1,2,4-Trichlorobenzene	10.0	8.82		ug/L		88	42 - 133
1,1,1-Trichloroethane	10.0	11.2		ug/L		112	69 - 134
1,1,2-Trichloroethane	10.0	10.5		ug/L		105	78 - 133
Trichloroethene	10.0	10.5		ug/L		105	76 - 125
Trichlorofluoromethane	10.0	9.35		ug/L		94	51 - 164
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	11.1		ug/L		111	50 - 156
1,2,4-Trimethylbenzene	10.0	8.56		ug/L		86	74 - 120
1,3,5-Trimethylbenzene	10.0	8.38		ug/L		84	75 - 121
Vinyl chloride	10.0	10.2		ug/L		102	58 - 143
Xylenes, Total	20.0	19.5		ug/L		97	80 - 120
1,4-Dioxane	200	219		ug/L		109	10 - 175
Diethyl ether	10.0	11.6		ug/L		116	70 - 146

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene (Surr)	100		59 - 120
Dibromofluoromethane (Surr)	109		75 - 128
1,2-Dichloroethane-d4 (Surr)	93		70 - 121
Toluene-d8 (Surr)	103		70 - 123

Lab Sample ID: 240-104049-E-31 MS
Matrix: Water
Analysis Batch: 354893

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	1.0	U	10.0	9.79		ug/L		98	64 - 125
Carbon disulfide	5.0	U	10.0	11.0		ug/L		110	43 - 144
Chloroform	1.0	U	10.0	10.8		ug/L		108	68 - 130
cis-1,2-Dichloroethene	1.0	U	10.0	10.7		ug/L		107	64 - 130
1,1-Dichloroethane	1.0	U	10.0	10.5		ug/L		105	63 - 136
1,1-Dichloroethene	1.0	U	10.0	11.3		ug/L		113	53 - 140
Tetrachloroethene	1.0	U	10.0	9.87		ug/L		99	51 - 136
trans-1,2-Dichloroethene	1.0	U	10.0	11.2		ug/L		112	68 - 133
1,1,1-Trichloroethane	1.0	U	10.0	10.3		ug/L		103	51 - 138
1,1,2-Trichloroethane	1.0	U	10.0	10.2		ug/L		102	76 - 132
Trichloroethene	1.0	U	10.0	9.71		ug/L		97	55 - 131
Vinyl chloride	1.0	U	10.0	9.37		ug/L		94	43 - 154

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	98		59 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-104049-E-31 MS
Matrix: Water
Analysis Batch: 354893

Client Sample ID: Matrix Spike
Prep Type: Total/NA

<i>Surrogate</i>	<i>MS</i> <i>%Recovery</i>	<i>MS</i> <i>Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	111		75 - 128
<i>1,2-Dichloroethane-d4 (Surr)</i>	93		70 - 121
<i>Toluene-d8 (Surr)</i>	98		70 - 123

Lab Sample ID: 240-104049-H-31 MSD
Matrix: Water
Analysis Batch: 354893

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample</i> <i>Result</i>	<i>Sample</i> <i>Qualifier</i>	<i>Spike</i> <i>Added</i>	<i>MSD</i> <i>Result</i>	<i>MSD</i> <i>Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec.</i> <i>Limits</i>	<i>RPD</i>	<i>RPD</i> <i>Limit</i>
Bromodichloromethane	1.0	U	10.0	10.2		ug/L		102	64 - 125	4	27
Carbon disulfide	5.0	U	10.0	11.8		ug/L		118	43 - 144	7	33
Chloroform	1.0	U	10.0	11.1		ug/L		111	68 - 130	2	23
cis-1,2-Dichloroethene	1.0	U	10.0	11.1		ug/L		111	64 - 130	4	21
1,1-Dichloroethane	1.0	U	10.0	10.8		ug/L		108	63 - 136	3	23
1,1-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	53 - 140	11	35
Tetrachloroethene	1.0	U	10.0	10.6		ug/L		106	51 - 136	8	23
trans-1,2-Dichloroethene	1.0	U	10.0	11.6		ug/L		116	68 - 133	3	24
1,1,1-Trichloroethane	1.0	U	10.0	11.0		ug/L		110	51 - 138	6	27
1,1,2-Trichloroethane	1.0	U	10.0	10.3		ug/L		103	76 - 132	1	25
Trichloroethene	1.0	U	10.0	10.7		ug/L		107	55 - 131	10	23
Vinyl chloride	1.0	U	10.0	10.0		ug/L		100	43 - 154	7	29

<i>Surrogate</i>	<i>MSD</i> <i>%Recovery</i>	<i>MSD</i> <i>Qualifier</i>	<i>Limits</i>
<i>4-Bromofluorobenzene (Surr)</i>	95		59 - 120
<i>Dibromofluoromethane (Surr)</i>	111		75 - 128
<i>1,2-Dichloroethane-d4 (Surr)</i>	93		70 - 121
<i>Toluene-d8 (Surr)</i>	99		70 - 123

Lab Sample ID: MB 240-355141/6
Matrix: Water
Analysis Batch: 355141

Client Sample ID: Method Blank
Prep Type: Total/NA

<i>Analyte</i>	<i>MB</i> <i>Result</i>	<i>MB</i> <i>Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
Acetone	10	U	10	5.4	ug/L			11/13/18 12:27	1
Benzene	1.0	U	1.0	0.13	ug/L			11/13/18 12:27	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			11/13/18 12:27	1
Bromoform	1.0	U	1.0	0.76	ug/L			11/13/18 12:27	1
Bromomethane	1.0	U	1.0	0.42	ug/L			11/13/18 12:27	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			11/13/18 12:27	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			11/13/18 12:27	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			11/13/18 12:27	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			11/13/18 12:27	1
Chloroethane	1.0	U	1.0	0.83	ug/L			11/13/18 12:27	1
Chloroform	1.0	U	1.0	0.13	ug/L			11/13/18 12:27	1
Chloromethane	1.0	U	1.0	0.20	ug/L			11/13/18 12:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			11/13/18 12:27	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			11/13/18 12:27	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			11/13/18 12:27	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-355141/6
Matrix: Water
Analysis Batch: 355141

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			11/13/18 12:27	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			11/13/18 12:27	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			11/13/18 12:27	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/13/18 12:27	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			11/13/18 12:27	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			11/13/18 12:27	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			11/13/18 12:27	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			11/13/18 12:27	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			11/13/18 12:27	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/13/18 12:27	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			11/13/18 12:27	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			11/13/18 12:27	1
2-Hexanone	10	U	10	0.54	ug/L			11/13/18 12:27	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			11/13/18 12:27	1
Methyl acetate	10	U	10	1.7	ug/L			11/13/18 12:27	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			11/13/18 12:27	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			11/13/18 12:27	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			11/13/18 12:27	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			11/13/18 12:27	1
Styrene	1.0	U	1.0	0.10	ug/L			11/13/18 12:27	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			11/13/18 12:27	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			11/13/18 12:27	1
Toluene	1.0	U	1.0	0.14	ug/L			11/13/18 12:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			11/13/18 12:27	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			11/13/18 12:27	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			11/13/18 12:27	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			11/13/18 12:27	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			11/13/18 12:27	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			11/13/18 12:27	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			11/13/18 12:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			11/13/18 12:27	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			11/13/18 12:27	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			11/13/18 12:27	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			11/13/18 12:27	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			11/13/18 12:27	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			11/13/18 12:27	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			11/13/18 12:27	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	77		59 - 120		11/13/18 12:27	1
Dibromofluoromethane (Surr)	119		75 - 128		11/13/18 12:27	1
1,2-Dichloroethane-d4 (Surr)	107		70 - 121		11/13/18 12:27	1
Toluene-d8 (Surr)	79		70 - 123		11/13/18 12:27	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-355141/4

Matrix: Water

Analysis Batch: 355141

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	21.4		ug/L		107	21 - 162
Benzene	10.0	10.0		ug/L		100	80 - 123
Bromodichloromethane	10.0	11.6		ug/L		116	77 - 125
Bromoform	10.0	12.4		ug/L		124	49 - 141
Bromomethane	10.0	7.64		ug/L		76	41 - 175
2-Butanone (MEK)	20.0	15.9		ug/L		80	39 - 163
Carbon disulfide	10.0	9.37		ug/L		94	60 - 138
Carbon tetrachloride	10.0	12.0		ug/L		120	63 - 140
Chlorobenzene	10.0	10.1		ug/L		101	80 - 121
Chloroethane	10.0	6.35		ug/L		64	33 - 173
Chloroform	10.0	11.6		ug/L		116	79 - 127
Chloromethane	10.0	7.22		ug/L		72	54 - 143
cis-1,2-Dichloroethene	10.0	10.5		ug/L		105	76 - 128
cis-1,3-Dichloropropene	10.0	10.6		ug/L		106	64 - 132
Cyclohexane	10.0	8.40		ug/L		84	58 - 145
Dibromochloromethane	10.0	11.0		ug/L		110	70 - 132
1,2-Dibromo-3-Chloropropane	10.0	9.91		ug/L		99	46 - 132
1,2-Dibromoethane	10.0	9.79		ug/L		98	77 - 123
1,2-Dichlorobenzene	10.0	9.99		ug/L		100	78 - 120
1,3-Dichlorobenzene	10.0	10.1		ug/L		101	78 - 120
1,4-Dichlorobenzene	10.0	10.3		ug/L		103	78 - 120
Dichlorodifluoromethane	10.0	10.2		ug/L		102	29 - 148
1,1-Dichloroethane	10.0	10.2		ug/L		102	75 - 133
1,2-Dichloroethane	10.0	10.9		ug/L		109	71 - 135
1,1-Dichloroethene	10.0	9.42		ug/L		94	65 - 139
1,2-Dichloropropane	10.0	9.72		ug/L		97	78 - 133
Ethylbenzene	10.0	8.75		ug/L		87	80 - 120
2-Hexanone	20.0	13.9		ug/L		70	43 - 148
Isopropylbenzene	10.0	8.96		ug/L		90	74 - 120
Methyl acetate	20.0	17.4		ug/L		87	52 - 145
Methylcyclohexane	10.0	8.98		ug/L		90	60 - 125
Methylene Chloride	10.0	11.1		ug/L		111	70 - 134
4-Methyl-2-pentanone (MIBK)	20.0	16.4		ug/L		82	49 - 143
Methyl tert-butyl ether	10.0	9.45		ug/L		94	51 - 133
Styrene	10.0	9.65		ug/L		97	79 - 120
1,1,2,2-Tetrachloroethane	10.0	8.16		ug/L		82	65 - 139
Tetrachloroethene	10.0	11.4		ug/L		114	74 - 130
Toluene	10.0	8.77		ug/L		88	78 - 129
trans-1,2-Dichloroethene	10.0	11.1		ug/L		111	78 - 133
trans-1,3-Dichloropropene	10.0	8.43		ug/L		84	55 - 128
1,2,4-Trichlorobenzene	10.0	9.05		ug/L		91	42 - 133
1,1,1-Trichloroethane	10.0	12.1		ug/L		121	69 - 134
1,1,2-Trichloroethane	10.0	9.22		ug/L		92	78 - 133
Trichloroethene	10.0	11.8		ug/L		118	76 - 125
Trichlorofluoromethane	10.0	8.76		ug/L		88	51 - 164
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	13.1		ug/L		131	50 - 156
1,2,4-Trimethylbenzene	10.0	8.59		ug/L		86	74 - 120

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QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-355141/4

Matrix: Water

Analysis Batch: 355141

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	10.0	8.52		ug/L		85	75 - 121
Vinyl chloride	10.0	7.09		ug/L		71	58 - 143
Xylenes, Total	20.0	18.2		ug/L		91	80 - 120
1,4-Dioxane	200	191		ug/L		96	10 - 175
Diethyl ether	10.0	7.89		ug/L		79	70 - 146

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		59 - 120
Dibromofluoromethane (Surr)	109		75 - 128
1,2-Dichloroethane-d4 (Surr)	99		70 - 121
Toluene-d8 (Surr)	80		70 - 123

Lab Sample ID: 240-103817-3 MS

Matrix: Water

Analysis Batch: 355141

Client Sample ID: MW-54_103118

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10	U	20.0	19.0		ug/L		95	10 - 168
Benzene	1.0	U	10.0	8.99		ug/L		90	71 - 122
Bromodichloromethane	1.0	U	10.0	9.81		ug/L		98	64 - 125
Bromoform	1.0	U	10.0	11.8		ug/L		118	44 - 129
Bromomethane	1.0	U	10.0	7.31		ug/L		73	19 - 187
2-Butanone (MEK)	10	U	20.0	12.2		ug/L		61	37 - 156
Carbon disulfide	5.0	U	10.0	8.52		ug/L		85	43 - 144
Carbon tetrachloride	1.0	U	10.0	10.8		ug/L		108	41 - 143
Chlorobenzene	1.0	U	10.0	9.00		ug/L		90	70 - 123
Chloroethane	1.0	U	10.0	6.23		ug/L		62	11 - 189
Chloroform	1.0	U	10.0	11.1		ug/L		111	68 - 130
Chloromethane	1.0	U	10.0	6.84		ug/L		68	31 - 154
cis-1,2-Dichloroethene	1.0	U	10.0	10.0		ug/L		100	64 - 130
cis-1,3-Dichloropropene	1.0	U	10.0	7.62		ug/L		76	48 - 127
Cyclohexane	1.0	U	10.0	6.80		ug/L		68	42 - 135
Dibromochloromethane	1.0	U	10.0	9.86		ug/L		99	60 - 129
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	7.71		ug/L		77	38 - 124
1,2-Dibromoethane	1.0	U	10.0	8.61		ug/L		86	71 - 123
1,2-Dichlorobenzene	1.0	U	10.0	9.24		ug/L		92	64 - 120
1,3-Dichlorobenzene	0.26	J	10.0	8.92		ug/L		87	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	8.65		ug/L		86	63 - 120
Dichlorodifluoromethane	1.0	U	10.0	10.2		ug/L		102	28 - 136
1,1-Dichloroethane	1.0	U	10.0	9.25		ug/L		92	63 - 136
1,2-Dichloroethane	1.0	U	10.0	9.63		ug/L		96	65 - 135
1,1-Dichloroethene	1.0	U	10.0	8.61		ug/L		86	53 - 140
1,2-Dichloropropane	1.0	U	10.0	7.78		ug/L		78	70 - 132
Ethylbenzene	1.0	U	10.0	8.04		ug/L		80	66 - 120
2-Hexanone	10	U	20.0	11.5		ug/L		58	42 - 150
Isopropylbenzene	1.0	U	10.0	7.98		ug/L		80	59 - 120
Methyl acetate	10	U	20.0	14.7		ug/L		73	41 - 142
Methylcyclohexane	1.0	U	10.0	6.65		ug/L		66	37 - 123

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-103817-3 MSD

Matrix: Water

Analysis Batch: 355141

Client Sample ID: MW-54_103118

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyclohexane	1.0	U	10.0	7.90		ug/L		79	42 - 135	15	35
Dibromochloromethane	1.0	U	10.0	10.8		ug/L		108	60 - 129	9	26
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	8.80		ug/L		88	38 - 124	13	35
1,2-Dibromoethane	1.0	U	10.0	9.55		ug/L		95	71 - 123	10	27
1,2-Dichlorobenzene	1.0	U	10.0	9.73		ug/L		97	64 - 120	5	30
1,3-Dichlorobenzene	0.26	J	10.0	10.3		ug/L		100	62 - 120	14	31
1,4-Dichlorobenzene	1.0	U	10.0	9.91		ug/L		99	63 - 120	14	28
Dichlorodifluoromethane	1.0	U	10.0	11.2		ug/L		112	28 - 136	9	35
1,1-Dichloroethane	1.0	U	10.0	9.57		ug/L		96	63 - 136	3	23
1,2-Dichloroethane	1.0	U	10.0	10.7		ug/L		107	65 - 135	11	24
1,1-Dichloroethene	1.0	U	10.0	8.89		ug/L		89	53 - 140	3	35
1,2-Dichloropropane	1.0	U	10.0	9.14		ug/L		91	70 - 132	16	26
Ethylbenzene	1.0	U	10.0	8.53		ug/L		85	66 - 120	6	24
2-Hexanone	10	U	20.0	13.6		ug/L		68	42 - 150	16	35
Isopropylbenzene	1.0	U	10.0	8.98		ug/L		90	59 - 120	12	31
Methyl acetate	10	U	20.0	16.6		ug/L		83	41 - 142	12	35
Methylcyclohexane	1.0	U	10.0	8.11		ug/L		81	37 - 123	20	35
Methylene Chloride	5.0	U	10.0	9.63		ug/L		96	61 - 130	2	29
4-Methyl-2-pentanone (MIBK)	10	U	20.0	15.3		ug/L		77	44 - 143	18	35
Methyl tert-butyl ether	1.0	U	10.0	8.70		ug/L		87	41 - 136	2	29
Styrene	1.0	U	10.0	9.22		ug/L		92	68 - 120	11	26
1,1,2,2-Tetrachloroethane	1.0	U	10.0	7.99		ug/L		80	60 - 137	18	31
Tetrachloroethene	1.0	U	10.0	11.7		ug/L		117	51 - 136	14	23
Toluene	1.0	U	10.0	8.66		ug/L		87	62 - 132	11	23
trans-1,2-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	68 - 133	1	24
trans-1,3-Dichloropropene	1.0	U	10.0	8.36		ug/L		84	40 - 125	14	27
1,2,4-Trichlorobenzene	1.0	U	10.0	8.47		ug/L		85	30 - 126	7	35
1,1,1-Trichloroethane	1.0	U	10.0	12.1		ug/L		121	51 - 138	7	27
1,1,2-Trichloroethane	1.0	U	10.0	9.07		ug/L		91	76 - 132	13	25
Trichloroethene	1.0	U	10.0	11.6		ug/L		116	55 - 131	14	23
Trichlorofluoromethane	1.0	U	10.0	9.27		ug/L		93	37 - 174	4	35
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	11.6		ug/L		116	31 - 156	16	35
1,2,4-Trimethylbenzene	1.0	U	10.0	8.37		ug/L		84	62 - 120	17	27
1,3,5-Trimethylbenzene	1.0	U	10.0	8.09		ug/L		81	64 - 120	12	23
Vinyl chloride	0.85	J	10.0	8.15		ug/L		73	43 - 154	6	29
Xylenes, Total	2.0	U	20.0	18.0		ug/L		90	67 - 120	6	25
1,4-Dioxane	50	U	200	188		ug/L		94	10 - 143	5	35
Diethyl ether	2.0	U	10.0	7.23		ug/L		72	65 - 134	2	33

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	88		59 - 120
Dibromofluoromethane (Surr)	109		75 - 128
1,2-Dichloroethane-d4 (Surr)	103		70 - 121
Toluene-d8 (Surr)	81		70 - 123

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-103817-7 MS

Matrix: Water

Analysis Batch: 355141

Client Sample ID: MW-15-59D_103118

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Added	Result				
Acetone	10	U	20.0	20.0		ug/L		100	10 - 168
Benzene	1.0	U	10.0	8.90		ug/L		89	71 - 122
Bromodichloromethane	1.0	U	10.0	10.2		ug/L		102	64 - 125
Bromoform	1.0	U	10.0	11.5		ug/L		115	44 - 129
Bromomethane	1.0	U	10.0	7.10		ug/L		71	19 - 187
2-Butanone (MEK)	10	U	20.0	14.2		ug/L		71	37 - 156
Carbon disulfide	5.0	U	10.0	8.75		ug/L		88	43 - 144
Carbon tetrachloride	1.0	U	10.0	11.0		ug/L		110	41 - 143
Chlorobenzene	1.0	U	10.0	9.01		ug/L		90	70 - 123
Chloroethane	1.0	U	10.0	6.08		ug/L		61	11 - 189
Chloroform	1.0	U	10.0	10.1		ug/L		101	68 - 130
Chloromethane	1.0	U F2	10.0	10.6		ug/L		106	31 - 154
cis-1,2-Dichloroethene	1.0	U	10.0	9.58		ug/L		96	64 - 130
cis-1,3-Dichloropropene	1.0	U	10.0	8.64		ug/L		86	48 - 127
Cyclohexane	0.34	J	10.0	6.26		ug/L		59	42 - 135
Dibromochloromethane	1.0	U	10.0	9.94		ug/L		99	60 - 129
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	7.92		ug/L		79	38 - 124
1,2-Dibromoethane	1.0	U	10.0	9.02		ug/L		90	71 - 123
1,2-Dichlorobenzene	1.0	U	10.0	9.15		ug/L		92	64 - 120
1,3-Dichlorobenzene	0.23	J	10.0	9.21		ug/L		90	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	9.35		ug/L		93	63 - 120
Dichlorodifluoromethane	1.0	U	10.0	9.22		ug/L		92	28 - 136
1,1-Dichloroethane	1.0	U	10.0	9.17		ug/L		92	63 - 136
1,2-Dichloroethane	1.0	U	10.0	10.3		ug/L		103	65 - 135
1,1-Dichloroethene	1.0	U	10.0	8.68		ug/L		87	53 - 140
1,2-Dichloropropane	1.0	U	10.0	8.80		ug/L		88	70 - 132
Ethylbenzene	1.0	U	10.0	8.00		ug/L		80	66 - 120
2-Hexanone	10	U	20.0	12.2		ug/L		61	42 - 150
Isopropylbenzene	1.0	U	10.0	8.27		ug/L		83	59 - 120
Methyl acetate	10	U	20.0	16.2		ug/L		81	41 - 142
Methylcyclohexane	1.0	U F2	10.0	5.92		ug/L		59	37 - 123
Methylene Chloride	5.0	U	10.0	9.56		ug/L		96	61 - 130
4-Methyl-2-pentanone (MIBK)	10	U	20.0	14.7		ug/L		73	44 - 143
Methyl tert-butyl ether	1.0	U	10.0	8.54		ug/L		85	41 - 136
Styrene	1.0	U	10.0	8.38		ug/L		84	68 - 120
1,1,2,2-Tetrachloroethane	1.0	U	10.0	7.10		ug/L		71	60 - 137
Tetrachloroethene	1.0	U	10.0	10.5		ug/L		105	51 - 136
Toluene	1.0	U	10.0	8.17		ug/L		82	62 - 132
trans-1,2-Dichloroethene	1.0	U	10.0	9.56		ug/L		96	68 - 133
trans-1,3-Dichloropropene	1.0	U	10.0	7.74		ug/L		77	40 - 125
1,2,4-Trichlorobenzene	1.0	U	10.0	7.86		ug/L		79	30 - 126
1,1,1-Trichloroethane	1.0	U	10.0	10.9		ug/L		109	51 - 138
1,1,2-Trichloroethane	1.0	U	10.0	8.80		ug/L		88	76 - 132
Trichloroethene	1.0	U	10.0	10.9		ug/L		109	55 - 131
Trichlorofluoromethane	1.0	U	10.0	8.18		ug/L		82	37 - 174
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U F2	10.0	8.38		ug/L		84	31 - 156
1,2,4-Trimethylbenzene	1.0	U	10.0	7.39		ug/L		74	62 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-103817-7 MS

Matrix: Water

Analysis Batch: 355141

Client Sample ID: MW-15-59D_103118

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3,5-Trimethylbenzene	1.0	U	10.0	7.37		ug/L		74	64 - 120
Vinyl chloride	1.0	U	10.0	6.91		ug/L		69	43 - 154
Xylenes, Total	2.0	U	20.0	16.7		ug/L		83	67 - 120
1,4-Dioxane	50	U	200	194		ug/L		97	10 - 143
Diethyl ether	2.0	U	10.0	6.95		ug/L		69	65 - 134

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	81		59 - 120
Dibromofluoromethane (Surr)	104		75 - 128
1,2-Dichloroethane-d4 (Surr)	96		70 - 121
Toluene-d8 (Surr)	77		70 - 123

Lab Sample ID: 240-103817-7 MSD

Matrix: Water

Analysis Batch: 355141

Client Sample ID: MW-15-59D_103118

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10	U	20.0	21.2		ug/L		106	10 - 168	6	35
Benzene	1.0	U	10.0	9.38		ug/L		94	71 - 122	5	22
Bromodichloromethane	1.0	U	10.0	10.1		ug/L		101	64 - 125	1	27
Bromoform	1.0	U	10.0	12.2		ug/L		122	44 - 129	6	28
Bromomethane	1.0	U	10.0	7.94		ug/L		79	19 - 187	11	35
2-Butanone (MEK)	10	U	20.0	13.4		ug/L		67	37 - 156	6	35
Carbon disulfide	5.0	U	10.0	9.98		ug/L		100	43 - 144	13	33
Carbon tetrachloride	1.0	U	10.0	12.4		ug/L		124	41 - 143	12	30
Chlorobenzene	1.0	U	10.0	9.30		ug/L		93	70 - 123	3	23
Chloroethane	1.0	U	10.0	6.87		ug/L		69	11 - 189	12	35
Chloroform	1.0	U	10.0	11.1		ug/L		111	68 - 130	9	23
Chloromethane	1.0	U F2	10.0	7.31	F2	ug/L		73	31 - 154	37	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.6		ug/L		106	64 - 130	10	21
cis-1,3-Dichloropropene	1.0	U	10.0	8.43		ug/L		84	48 - 127	2	30
Cyclohexane	0.34	J	10.0	8.86		ug/L		85	42 - 135	34	35
Dibromochloromethane	1.0	U	10.0	10.6		ug/L		106	60 - 129	7	26
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	9.31		ug/L		93	38 - 124	16	35
1,2-Dibromoethane	1.0	U	10.0	8.92		ug/L		89	71 - 123	1	27
1,2-Dichlorobenzene	1.0	U	10.0	9.24		ug/L		92	64 - 120	1	30
1,3-Dichlorobenzene	0.23	J	10.0	9.50		ug/L		93	62 - 120	3	31
1,4-Dichlorobenzene	1.0	U	10.0	8.85		ug/L		88	63 - 120	6	28
Dichlorodifluoromethane	1.0	U	10.0	11.4		ug/L		114	28 - 136	21	35
1,1-Dichloroethane	1.0	U	10.0	10.0		ug/L		100	63 - 136	9	23
1,2-Dichloroethane	1.0	U	10.0	10.3		ug/L		103	65 - 135	0	24
1,1-Dichloroethene	1.0	U	10.0	9.58		ug/L		96	53 - 140	10	35
1,2-Dichloropropane	1.0	U	10.0	8.17		ug/L		82	70 - 132	7	26
Ethylbenzene	1.0	U	10.0	8.78		ug/L		88	66 - 120	9	24
2-Hexanone	10	U	20.0	11.4		ug/L		57	42 - 150	7	35
Isopropylbenzene	1.0	U	10.0	8.88		ug/L		89	59 - 120	7	31
Methyl acetate	10	U	20.0	16.4		ug/L		82	41 - 142	1	35
Methylcyclohexane	1.0	U F2	10.0	8.48	F2	ug/L		85	37 - 123	36	35

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-103817-7 MSD

Client Sample ID: MW-15-59D_103118

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 355141

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylene Chloride	5.0	U	10.0	10.6		ug/L		106	61 - 130	10	29
4-Methyl-2-pentanone (MIBK)	10	U	20.0	13.4		ug/L		67	44 - 143	9	35
Methyl tert-butyl ether	1.0	U	10.0	9.12		ug/L		91	41 - 136	7	29
Styrene	1.0	U	10.0	9.25		ug/L		92	68 - 120	10	26
1,1,2,2-Tetrachloroethane	1.0	U	10.0	7.44		ug/L		74	60 - 137	5	31
Tetrachloroethene	1.0	U	10.0	10.7		ug/L		107	51 - 136	2	23
Toluene	1.0	U	10.0	8.39		ug/L		84	62 - 132	3	23
trans-1,2-Dichloroethene	1.0	U	10.0	10.6		ug/L		106	68 - 133	11	24
trans-1,3-Dichloropropene	1.0	U	10.0	7.29		ug/L		73	40 - 125	6	27
1,2,4-Trichlorobenzene	1.0	U	10.0	8.38		ug/L		84	30 - 126	6	35
1,1,1-Trichloroethane	1.0	U	10.0	12.2		ug/L		122	51 - 138	11	27
1,1,2-Trichloroethane	1.0	U	10.0	8.41		ug/L		84	76 - 132	5	25
Trichloroethene	1.0	U	10.0	10.9		ug/L		109	55 - 131	0	23
Trichlorofluoromethane	1.0	U	10.0	9.77		ug/L		98	37 - 174	18	35
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U F2	10.0	12.2	F2	ug/L		122	31 - 156	38	35
1,2,4-Trimethylbenzene	1.0	U	10.0	7.57		ug/L		76	62 - 120	2	27
1,3,5-Trimethylbenzene	1.0	U	10.0	7.36		ug/L		74	64 - 120	0	23
Vinyl chloride	1.0	U	10.0	7.83		ug/L		78	43 - 154	12	29
Xylenes, Total	2.0	U	20.0	17.9		ug/L		89	67 - 120	7	25
1,4-Dioxane	50	U	200	182		ug/L		91	10 - 143	6	35
Diethyl ether	2.0	U	10.0	7.88		ug/L		79	65 - 134	13	33

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	83		59 - 120
Dibromofluoromethane (Surr)	115		75 - 128
1,2-Dichloroethane-d4 (Surr)	99		70 - 121
Toluene-d8 (Surr)	79		70 - 123

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-354800/5

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 354800

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			11/11/18 13:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		63 - 125		11/11/18 13:14	1

Lab Sample ID: LCS 240-354800/4

Client Sample ID: Lab Control Sample

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 354800

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.5		ug/L		105	59 - 131

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-354800/4
Matrix: Water
Analysis Batch: 354800

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		63 - 125

Lab Sample ID: 240-103817-3 MS
Matrix: Water
Analysis Batch: 354800

Client Sample ID: MW-54_103118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,4-Dioxane	2.6		10.0	13.5		ug/L		108	52 - 129
Surrogate	MS	MS							
1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier	Limits						
	104		63 - 125						

Lab Sample ID: 240-103817-3 MSD
Matrix: Water
Analysis Batch: 354800

Client Sample ID: MW-54_103118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
				Result	Qualifier						
1,4-Dioxane	2.6		10.0	12.9		ug/L		103	52 - 129	4	13
Surrogate	MSD	MSD									
1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier	Limits								
	107		63 - 125								

Lab Sample ID: 240-103817-7 MS
Matrix: Water
Analysis Batch: 354800

Client Sample ID: MW-15-59D_103118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
1,4-Dioxane	2.0	U	10.0	9.80		ug/L		98	52 - 129
Surrogate	MS	MS							
1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier	Limits						
	110		63 - 125						

Lab Sample ID: 240-103817-7 MSD
Matrix: Water
Analysis Batch: 354800

Client Sample ID: MW-15-59D_103118
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD		Unit	D	%Rec	%Rec. Limits	RPD	Limit
				Result	Qualifier						
1,4-Dioxane	2.0	U	10.0	10.1		ug/L		101	52 - 129	3	13
Surrogate	MSD	MSD									
1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier	Limits								
	110		63 - 125								

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

GC/MS VOA

Analysis Batch: 354800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103817-1	TRIP BLANK	Total/NA	Water	8260B SIM	
240-103817-2	MW-53_103118	Total/NA	Water	8260B SIM	
240-103817-3	MW-54_103118	Total/NA	Water	8260B SIM	
240-103817-4	MW-55_103118	Total/NA	Water	8260B SIM	
240-103817-5	MW-56_103118	Total/NA	Water	8260B SIM	
240-103817-6	MW-37_103118	Total/NA	Water	8260B SIM	
240-103817-7	MW-15-59D_103118	Total/NA	Water	8260B SIM	
240-103817-8	MW-28_103118	Total/NA	Water	8260B SIM	
240-103817-9	MW-58_103118	Total/NA	Water	8260B SIM	
240-103817-10	MW-52_103118	Total/NA	Water	8260B SIM	
MB 240-354800/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-354800/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-103817-3 MS	MW-54_103118	Total/NA	Water	8260B SIM	
240-103817-3 MSD	MW-54_103118	Total/NA	Water	8260B SIM	
240-103817-7 MS	MW-15-59D_103118	Total/NA	Water	8260B SIM	
240-103817-7 MSD	MW-15-59D_103118	Total/NA	Water	8260B SIM	

Analysis Batch: 354893

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103817-1	TRIP BLANK	Total/NA	Water	8260B	
240-103817-2	MW-53_103118	Total/NA	Water	8260B	
240-103817-4	MW-55_103118	Total/NA	Water	8260B	
240-103817-5	MW-56_103118	Total/NA	Water	8260B	
240-103817-6	MW-37_103118	Total/NA	Water	8260B	
240-103817-9	MW-58_103118	Total/NA	Water	8260B	
240-103817-10	MW-52_103118	Total/NA	Water	8260B	
MB 240-354893/6	Method Blank	Total/NA	Water	8260B	
LCS 240-354893/4	Lab Control Sample	Total/NA	Water	8260B	
240-104049-E-31 MS	Matrix Spike	Total/NA	Water	8260B	
240-104049-H-31 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 355141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-103817-3	MW-54_103118	Total/NA	Water	8260B	
240-103817-7	MW-15-59D_103118	Total/NA	Water	8260B	
240-103817-8	MW-28_103118	Total/NA	Water	8260B	
MB 240-355141/6	Method Blank	Total/NA	Water	8260B	
LCS 240-355141/4	Lab Control Sample	Total/NA	Water	8260B	
240-103817-3 MS	MW-54_103118	Total/NA	Water	8260B	
240-103817-3 MSD	MW-54_103118	Total/NA	Water	8260B	
240-103817-7 MS	MW-15-59D_103118	Total/NA	Water	8260B	
240-103817-7 MSD	MW-15-59D_103118	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: TRIP BLANK

Date Collected: 10/31/18 00:00

Date Received: 11/02/18 08:50

Lab Sample ID: 240-103817-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	354893	11/12/18 16:40	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 14:05	SAM	TAL CAN

Client Sample ID: MW-53_103118

Date Collected: 10/31/18 08:55

Date Received: 11/02/18 08:50

Lab Sample ID: 240-103817-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	354893	11/12/18 17:02	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 15:48	SAM	TAL CAN

Client Sample ID: MW-54_103118

Date Collected: 10/31/18 10:25

Date Received: 11/02/18 08:50

Lab Sample ID: 240-103817-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	355141	11/13/18 13:55	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 16:14	SAM	TAL CAN

Client Sample ID: MW-55_103118

Date Collected: 10/31/18 12:15

Date Received: 11/02/18 08:50

Lab Sample ID: 240-103817-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	354893	11/12/18 17:46	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 17:31	SAM	TAL CAN

Client Sample ID: MW-56_103118

Date Collected: 10/31/18 13:25

Date Received: 11/02/18 08:50

Lab Sample ID: 240-103817-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	354893	11/12/18 18:08	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 17:57	SAM	TAL CAN

Client Sample ID: MW-37_103118

Date Collected: 10/31/18 16:00

Date Received: 11/02/18 08:50

Lab Sample ID: 240-103817-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	354893	11/12/18 18:29	LEE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-103817-1

Client Sample ID: MW-37_103118

Lab Sample ID: 240-103817-6

Date Collected: 10/31/18 16:00

Matrix: Water

Date Received: 11/02/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 18:22	SAM	TAL CAN

Client Sample ID: MW-15-59D_103118

Lab Sample ID: 240-103817-7

Date Collected: 10/31/18 09:05

Matrix: Water

Date Received: 11/02/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	355141	11/13/18 14:17	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 18:47	SAM	TAL CAN

Client Sample ID: MW-28_103118

Lab Sample ID: 240-103817-8

Date Collected: 10/31/18 10:40

Matrix: Water

Date Received: 11/02/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	355141	11/13/18 14:39	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 20:04	SAM	TAL CAN

Client Sample ID: MW-58_103118

Lab Sample ID: 240-103817-9

Date Collected: 10/31/18 12:10

Matrix: Water

Date Received: 11/02/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	354893	11/12/18 19:35	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 20:30	SAM	TAL CAN

Client Sample ID: MW-52_103118

Lab Sample ID: 240-103817-10

Date Collected: 10/31/18 13:20

Matrix: Water

Date Received: 11/02/18 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	354893	11/12/18 19:56	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	354800	11/11/18 20:55	SAM	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 240-103817-1

Project/Site: Ford LTP Livonia MI - E203728

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
Kentucky (WW)	State Program	4	98016	12-31-18 *
Minnesota	NELAP	5	039-999-348	12-31-18 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-17-9	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-19
West Virginia DEP	State Program	3	210	12-31-18 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton

TestAmerica Laboratory location: Brighton — 10448 Cilaiken Drive, Suite 200 / Brighton, MI 48116 / 810-228-2763

Client Contact: **ARCADIS**
 Company Name: Arcadis
 Address: 28550 Cabot Drive, Suite 580
 City/State/Zip: Novi, MI, 48377
 Phone: 248-994-2240

Regulatory program: RCRA Other

Client Project Manager: **Mrs Hinkey**
 Site Contact: **Angela DeGrandis**
 Telephone: 248-994-2240

Lab Contact: **Mike DeMolina**
 Telephone: 313-497-9396

Method of Shipment/Carrier: **ARRIYSR**

Shipping/Tracking No: **APR15SR**

Sample Identification	Sample Date	Sample Time	Matrix				Container & Preservation				Filtered Sample (Y/N)	Compliance / Grab/C	COG	
			Air	Soil	Sediment	Water	Other	HS04	IN03	HC				NAH
TRIP BLANK			X											
MW-53-103118	10/31/18	0855												
MW-54-103118	10/31/18	1025												
MW-54-M3/M5D-103118	10/31/18	1025												
MW-55-103118	10/31/18	1315												
MW-56-103118	10/31/18	1325												
MW-37-103118	10/31/18	1600												
MW-15-590-103118	10/31/18	0905												
MW-15-590-M3/M5D-103118	10/31/18	0905												
MW-28-103118	10/31/18	1040	X											



Possible Hazard Identification: Non-Hazard Flammable Corrosive Toxic Volatile Other

Special Instructions/QC Requirements & Comments: Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) Return to Client Dispose By Lab Archive For _____ Months

Requisitioned by	Company	Date/Time	Received by	Company	Date/Time
<i>[Signature]</i>	ARCADIS	10/31/18 1740	<i>[Signature]</i>	ARCADIS	10/31/18 1740
<i>[Signature]</i>	ARCADIS	11/1/18 0950	<i>[Signature]</i>	ARCADIS	11/1/18 0950
<i>[Signature]</i>	ARCADIS	11/1/18 1025	<i>[Signature]</i>	ARCADIS	11/1/18 1025



TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 103817

Client ARCADIS Site Name _____ Cooler unpacked by: POF
 Cooler Received on 11-2-18 Opened on 11-2-18
 FedEx: 1st ~~2nd~~ ~~3rd~~ ~~4th~~ ~~5th~~ ~~6th~~ ~~7th~~ ~~8th~~ ~~9th~~ ~~10th~~ ~~11th~~ ~~12th~~ ~~13th~~ ~~14th~~ ~~15th~~ ~~16th~~ ~~17th~~ ~~18th~~ ~~19th~~ ~~20th~~ UPS FAS Clipper Client Drop Off TestAmerica Courier Other


Receipt After-hours: Drop-off Date/Time _____ **Storage Location** _____

TestAmerica Cooler # TA Foam Box _____ Client Cooler _____ Box _____ Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt. See Multiple Cooler Form
 IR GUN# IR-8 (CF +0.9 °C) Observed Cooler Temp. 2.2 °C Corrected Cooler Temp. 3.1 °C
 IR GUN #36 (CF +0.6 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC849161
 13. Were VOAs on the COC? Yes No
 14. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 8 Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: POF

RECEIVED AIR BUBBLES IN SAMPLE MW-15-59D 9X40mlc

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____



November 19, 2018

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008

Client project scope reference: Sample COC only was used to define project analytical requirements.

Laboratory: TestAmerica - North Canton

Laboratory submittal: 103817-1

Sample date: 2018-10-31

Report received by CADENA: 2018-11-16

Initial Data Verification completed by CADENA: 2018-11-19

The following minor QC exceptions or missing information were noted:

SUR - GCMS VOC samples -001, -002, -004, -005, -009 surrogate recoveries were outliers biased high for 1 out of 4 surrogates. These client sample results should be considered to be estimated and qualified with J flags if detected. Non-detect results do not require qualification.

GCMS VOC sample -007 MS/MSD RPD only were outliers for 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, CHLOROMETHANE, and METHYLCYCLOHEXANE so client sample results were not qualified based on these QC outliers alone.

GCMS VOC TRIP blank had detections below the RL for the following analytes: TOLUENE and TRICHLOROETHENE. Qualification of client sample results was not required based on these TRIP blank detections.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

10 Water sample(s) were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 103817-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401038171	TRIP BLANK	10/31/2018	12:00:00	X	X	
24010381710	MW-52_103118	10/31/2018	1:20:00	X	X	
2401038172	MW-53_103118	10/31/2018	8:55:00	X	X	
2401038173	MW-54_103118	10/31/2018	10:25:00	X	X	
2401038174	MW-55_103118	10/31/2018	12:15:00	X	X	
2401038175	MW-56_103118	10/31/2018	1:25:00	X	X	
2401038176	MW-37_103118	10/31/2018	4:00:00	X	X	
2401038177	MW-15-59D_103118	10/31/2018	9:05:00	X	X	
2401038178	MW-28_103118	10/31/2018	10:40:00	X	X	
2401038179	MW-58_103118	10/31/2018	12:10:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 103817-1

Analyte	Cas No.	Sample Name: TRIP BLANK				MW-53_103118				MW-55_103118				MW-56_103118			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
<u>OSW-8260B</u>																	
1,4-Dichlorobenzene	106-46-7					0.18	1.0	ug/l	J	0.25	1.0	ug/l	J				
cis-1,2-Dichloroethene	156-59-2									0.19	1.0	ug/l	J	0.43	1.0	ug/l	J
Methyl tert-butyl ether	1634-04-4													0.11	1.0	ug/l	J
Toluene	108-88-3	0.21	1.0	ug/l	J												
Trichloroethene	79-01-6	0.15	1.0	ug/l	J												
Vinyl chloride	75-01-4					0.60	1.0	ug/l	J	0.57	1.0	ug/l	J	0.31	1.0	ug/l	J

GC/MS VOC

March 22, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008
Client project scope reference: Sample COC only was used to define project analytical requirements.
Laboratory: TestAmerica - North Canton
Laboratory submittal: 109103-1
Sample date: 2019-03-05
Report received by CADENA: 2019-03-22
Initial Data Verification completed by CADENA: 2019-03-22

The following minor QC exceptions or missing information were noted:

MBK - METHOD BLANKS had detections BELOW the Reporting Limit (RL) for these analytes. The listed client sample results had concentrations LESS than 5X the method blank levels so client sample results reported below the RL are considered non-detect at the RL and qualified with UB flags and results greater than the RL are non-detect at the sample concentration reported and qualified with B flags :
GCMS VOC QC batch 371753 - TRICHLOROETHYLENE - UB flag sample -001.

TBK - TRIP BLANKS had detections BELOW the Reporting Limit (RL) for these analytes. The listed client sample results had concentrations LESS than 5X the method blank levels so client sample results reported below the RL are considered non-detect at the RL and qualified with UB flags and results greater than the RL are non-detect at the sample concentration reported and qualified with B flags :
GCMS VOC - vinyl chloride - UB flag - sample -002.

LCS - LCS and/or LCSD recoveries in the QC batch noted were outliers with the recoveries biased HIGH for the following analytes. The listed client sample results should be considered to be estimated and qualified with J flags if detected (non-detect results do not require qualification):
GCMS VOC QC batch 371753 - CYCLOHEXANE - J flag - sample -001. VINYL CHLORIDE - J flag - sample -003.
NOTE: remaining (multiple) LCS high bias recovery outliers did not result in qualification of client sample data.

GCMS VOC QC batch 371753 LCS surrogate recovery outlier was not used to qualify client sample results.

GCMS VOC ANALYTICAL BATCH CCV STANDARD response outliers as noted in the laboratory submittal case narrative were not used to qualify client sample results as part of this level 2 data package verification review.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

2 Water sample(s) and 1 trip blank were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

Qualifiers added during verification have been added to the electronic data which is available for download from the CADENA CLMS. Refer to the attached table of analytical results that have been qualified during verification.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 109103-1

Sample Name:	MW-15-59D_030519	MW-15-60D_030519	TRIP BLANK
Lab Sample ID:	2401091031	2401091032	2401091033
Sample Date:	3/5/2019	3/5/2019	3/5/2019

Analyte	Cas No.	Report		Valid	Report		Valid	Report		Valid
		Result	Limit		Result	Limit		Result	Limit	

GC/MS VOC

OSW-8260B

Cyclohexane	110-82-7	0.62	1.0	ug/l	J								
Trichloroethene	79-01-6	0.13	1.0	ug/l	UB								
Vinyl chloride	75-01-4					0.31	1.0	ug/l	UB	0.39	1.0	ug/l	J

Analytical Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - North Canton
 Laboratory Submittal: 109103-1

Sample Name: MW-15-59D_030519	MW-15-60D_030519	TRIP BLANK
Lab Sample ID: 2401091031	2401091032	2401091033
Sample Date: 3/5/2019	3/5/2019	3/5/2019

Analyte	Cas No.	Report			Report			Report			Report		
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
GC/MS VOC													
<u>OSW-8260B</u>													
1,1,1-Trichloroethane	71-55-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethane	75-34-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trimethylbenzene	526-73-8	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
1,2,4-Trichlorobenzene	120-82-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dibromoethane	106-93-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloroethane	107-06-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloropropane	78-87-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
2-Butanone (MEK)	78-93-3	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
2-Hexanone	591-78-6	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Acetone	67-64-1	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Benzene	71-43-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromodichloromethane	75-27-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromoform	75-25-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromomethane	74-83-9	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Carbon disulfide	75-15-0	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Carbon tetrachloride	56-23-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chlorobenzene	108-90-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroethane	75-00-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroform	67-66-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloromethane	74-87-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,3-Dichloropropene	10061-01-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Cyclohexane	110-82-7	0.62	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dibromochloromethane	124-48-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Diethyl ether	60-29-7	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
Ethylbenzene	100-41-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Isopropylbenzene	98-82-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methyl acetate	79-20-9	ND	10	ug/l	---	ND	10	ug/l	---	ND	10	ug/l	---
Methyl tert-butyl ether	1634-04-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylcyclohexane	108-87-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylene Chloride	75-09-2	ND	5.0	ug/l	---	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Styrene	100-42-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Toluene	108-88-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	0.13	1.0	ug/l	UB	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichlorofluoromethane	75-69-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	0.31	1.0	ug/l	UB	0.39	1.0	ug/l	J
Xylenes, Total	1330-20-7	0.28	2.0	ug/l	J	ND	2.0	ug/l	---	ND	2.0	ug/l	---
<u>OSW-8260BBSim</u>													
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	ND	2.0	ug/l	---				


ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-114500-1
Client Project/Site: Ford LTP Livonia MI - E203728

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
6/27/2019 12:00:59 PM

Michael DelMonico, Project Manager I
(330)497-9396
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Job ID: 240-114500-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-114500-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 6/15/2019 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-26_061319 (240-114500-1), MW-124_061319 (240-114500-2), MW-114_061319 (240-114500-3) and TRIP BLANK (240-114500-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/25/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-26_061319 (240-114500-1), MW-124_061319 (240-114500-2) and MW-114_061319 (240-114500-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 06/18/2019 and 06/20/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-114500-1	MW-26_061319	Water	06/13/19 10:45	06/15/19 09:50	
240-114500-2	MW-124_061319	Water	06/13/19 13:15	06/15/19 09:50	
240-114500-3	MW-114_061319	Water	06/13/19 15:30	06/15/19 09:50	
240-114500-4	TRIP BLANK	Water	06/13/19 00:00	06/15/19 09:50	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Client Sample ID: MW-26_061319

Lab Sample ID: 240-114500-1

No Detections.

Client Sample ID: MW-124_061319

Lab Sample ID: 240-114500-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.26	J	1.0	0.19	ug/L	1		8260B	Total/NA
Vinyl chloride	0.40	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-114_061319

Lab Sample ID: 240-114500-3

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-114500-4

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Client Sample ID: MW-26_061319

Lab Sample ID: 240-114500-1

Date Collected: 06/13/19 10:45

Matrix: Water

Date Received: 06/15/19 09:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		06/18/19 22:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		63 - 125		06/18/19 22:34	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		06/25/19 19:51	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		06/25/19 19:51	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		06/25/19 19:51	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		06/25/19 19:51	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		06/25/19 19:51	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		06/25/19 19:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		06/25/19 19:51	1
4-Bromofluorobenzene (Surr)	72		59 - 120		06/25/19 19:51	1
Toluene-d8 (Surr)	82		70 - 123		06/25/19 19:51	1
Dibromofluoromethane (Surr)	113		75 - 128		06/25/19 19:51	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Client Sample ID: MW-124_061319

Lab Sample ID: 240-114500-2

Date Collected: 06/13/19 13:15

Matrix: Water

Date Received: 06/15/19 09:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/20/19 15:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		63 - 125		06/20/19 15:06	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 20:14	1
cis-1,2-Dichloroethene	1.8		1.0	0.16	ug/L			06/25/19 20:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/25/19 20:14	1
trans-1,2-Dichloroethene	0.26	J	1.0	0.19	ug/L			06/25/19 20:14	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/25/19 20:14	1
Vinyl chloride	0.40	J	1.0	0.20	ug/L			06/25/19 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		06/25/19 20:14	1
4-Bromofluorobenzene (Surr)	71		59 - 120		06/25/19 20:14	1
Toluene-d8 (Surr)	83		70 - 123		06/25/19 20:14	1
Dibromofluoromethane (Surr)	113		75 - 128		06/25/19 20:14	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Client Sample ID: MW-114_061319

Lab Sample ID: 240-114500-3

Date Collected: 06/13/19 15:30

Matrix: Water

Date Received: 06/15/19 09:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/20/19 15:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		63 - 125		06/20/19 15:31	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 20:38	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/25/19 20:38	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/25/19 20:38	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 20:38	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/25/19 20:38	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/25/19 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		70 - 121		06/25/19 20:38	1
4-Bromofluorobenzene (Surr)	74		59 - 120		06/25/19 20:38	1
Toluene-d8 (Surr)	86		70 - 123		06/25/19 20:38	1
Dibromofluoromethane (Surr)	113		75 - 128		06/25/19 20:38	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-114500-4

Date Collected: 06/13/19 00:00

Matrix: Water

Date Received: 06/15/19 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 21:02	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/25/19 21:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/25/19 21:02	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 21:02	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/25/19 21:02	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/25/19 21:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		70 - 121		06/25/19 21:02	1
4-Bromofluorobenzene (Surr)	72		59 - 120		06/25/19 21:02	1
Toluene-d8 (Surr)	80		70 - 123		06/25/19 21:02	1
Dibromofluoromethane (Surr)	112		75 - 128		06/25/19 21:02	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
190-20042-C-2 MS	Matrix Spike	91	100	96	94
190-20042-E-2 MSD	Matrix Spike Duplicate	87	97	94	91
240-114500-1	MW-26_061319	110	72	82	113
240-114500-2	MW-124_061319	110	71	83	113
240-114500-3	MW-114_061319	112	74	86	113
240-114500-4	TRIP BLANK	113	72	80	112
LCS 240-388085/4	Lab Control Sample	86	99	96	93
MB 240-388085/7	Method Blank	104	77	88	105

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
 BFB = 4-Bromofluorobenzene (Surr)
 TOL = Toluene-d8 (Surr)
 DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-114376-C-2 MS	Matrix Spike	111
240-114376-C-2 MSD	Matrix Spike Duplicate	112
240-114500-1	MW-26_061319	108
240-114500-2	MW-124_061319	111
240-114500-3	MW-114_061319	110
240-114521-C-3 MS	Matrix Spike	113
240-114521-C-3 MSD	Matrix Spike Duplicate	109
LCS 240-386776/4	Lab Control Sample	105
LCS 240-387287/4	Lab Control Sample	108
MB 240-386776/5	Method Blank	109
MB 240-387287/5	Method Blank	106

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-388085/7
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 14:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/25/19 14:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/25/19 14:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 14:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/25/19 14:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/25/19 14:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 121		06/25/19 14:16	1
4-Bromofluorobenzene (Surr)	77		59 - 120		06/25/19 14:16	1
Toluene-d8 (Surr)	88		70 - 123		06/25/19 14:16	1
Dibromofluoromethane (Surr)	105		75 - 128		06/25/19 14:16	1

Lab Sample ID: LCS 240-388085/4
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.66		ug/L		97	65 - 139
cis-1,2-Dichloroethene	10.0	9.58		ug/L		96	76 - 128
Tetrachloroethene	10.0	10.3		ug/L		103	74 - 130
trans-1,2-Dichloroethene	10.0	10.6		ug/L		106	78 - 133
Trichloroethene	10.0	9.30		ug/L		93	76 - 125
Vinyl chloride	10.0	9.81		ug/L		98	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		70 - 121
4-Bromofluorobenzene (Surr)	99		59 - 120
Toluene-d8 (Surr)	96		70 - 123
Dibromofluoromethane (Surr)	93		75 - 128

Lab Sample ID: 190-20042-C-2 MS
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.45		ug/L		95	53 - 140
cis-1,2-Dichloroethene	0.53	J	10.0	9.67		ug/L		91	64 - 130
Tetrachloroethene	1.0	U	10.0	10.3		ug/L		103	51 - 136
trans-1,2-Dichloroethene	1.0	U	10.0	9.94		ug/L		99	68 - 133
Trichloroethene	1.0	U	10.0	9.21		ug/L		92	55 - 131
Vinyl chloride	2.0		10.0	11.7		ug/L		97	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 121
4-Bromofluorobenzene (Surr)	100		59 - 120
Toluene-d8 (Surr)	96		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 190-20042-C-2 MS
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 190-20042-E-2 MSD
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD MSD		Unit	D	%Rec	%Rec.		RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits	RPD		
1,1-Dichloroethene	1.0	U	10.0	9.86		ug/L		99	53 - 140	4	35	
cis-1,2-Dichloroethene	0.53	J	10.0	10.2		ug/L		97	64 - 130	5	21	
Tetrachloroethene	1.0	U	10.0	9.91		ug/L		99	51 - 136	4	23	
trans-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	68 - 133	5	24	
Trichloroethene	1.0	U	10.0	9.52		ug/L		95	55 - 131	3	23	
Vinyl chloride	2.0		10.0	12.2		ug/L		103	43 - 154	5	29	

Surrogate	MSD MSD		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	87		70 - 121
4-Bromofluorobenzene (Surr)	97		59 - 120
Toluene-d8 (Surr)	94		70 - 123
Dibromofluoromethane (Surr)	91		75 - 128

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-386776/5
Matrix: Water
Analysis Batch: 386776

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/18/19 12:37	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	109		63 - 125		06/18/19 12:37	1

Lab Sample ID: LCS 240-386776/4
Matrix: Water
Analysis Batch: 386776

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS LCS		Unit	D	%Rec	%Rec.
		Result	Qualifier				
1,4-Dioxane	10.0	10.9		ug/L		109	59 - 131

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	105		63 - 125

Lab Sample ID: 240-114376-C-2 MS
Matrix: Water
Analysis Batch: 386776

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS MS		Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
1,4-Dioxane	1.4	J	10.0	10.8		ug/L		93	52 - 129

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	111		63 - 125

Lab Sample ID: 240-114376-C-2 MSD
Matrix: Water
Analysis Batch: 386776

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.4	J	10.0	11.0		ug/L		96	52 - 129	2	13

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	112		63 - 125

Lab Sample ID: MB 240-387287/5
Matrix: Water
Analysis Batch: 387287

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/20/19 12:10	1

	MB	MB		Prepared	Analyzed	Dil Fac
Surrogate	%Recovery	Qualifier	Limits			
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		06/20/19 12:10	1

Lab Sample ID: LCS 240-387287/4
Matrix: Water
Analysis Batch: 387287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.56		ug/L		96	59 - 131

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		63 - 125

Lab Sample ID: 240-114521-C-3 MS
Matrix: Water
Analysis Batch: 387287

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.5		10.0	13.9		ug/L		114	52 - 129

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	113		63 - 125

Lab Sample ID: 240-114521-C-3 MSD
Matrix: Water
Analysis Batch: 387287

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.5		10.0	12.9		ug/L		104	52 - 129	8	13

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-114521-C-3 MSD

Matrix: Water

Analysis Batch: 387287

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

<i>Surrogate</i>	<i>MSD</i>	<i>MSD</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>	
1,2-Dichloroethane-d4 (Surr)	109		63 - 125

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

GC/MS VOA

Analysis Batch: 386776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-114500-1	MW-26_061319	Total/NA	Water	8260B SIM	
MB 240-386776/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-386776/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-114376-C-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-114376-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 387287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-114500-2	MW-124_061319	Total/NA	Water	8260B SIM	
240-114500-3	MW-114_061319	Total/NA	Water	8260B SIM	
MB 240-387287/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-387287/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-114521-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-114521-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 388085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-114500-1	MW-26_061319	Total/NA	Water	8260B	
240-114500-2	MW-124_061319	Total/NA	Water	8260B	
240-114500-3	MW-114_061319	Total/NA	Water	8260B	
240-114500-4	TRIP BLANK	Total/NA	Water	8260B	
MB 240-388085/7	Method Blank	Total/NA	Water	8260B	
LCS 240-388085/4	Lab Control Sample	Total/NA	Water	8260B	
190-20042-C-2 MS	Matrix Spike	Total/NA	Water	8260B	
190-20042-E-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Client Sample ID: MW-26_061319

Lab Sample ID: 240-114500-1

Date Collected: 06/13/19 10:45

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	388085	06/25/19 19:51	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	386776	06/18/19 22:34	SAM	TAL CAN

Client Sample ID: MW-124_061319

Lab Sample ID: 240-114500-2

Date Collected: 06/13/19 13:15

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	388085	06/25/19 20:14	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	387287	06/20/19 15:06	SAM	TAL CAN

Client Sample ID: MW-114_061319

Lab Sample ID: 240-114500-3

Date Collected: 06/13/19 15:30

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	388085	06/25/19 20:38	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	387287	06/20/19 15:31	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-114500-4

Date Collected: 06/13/19 00:00

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	388085	06/25/19 21:02	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114500-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State		2927	02-23-20
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19 *
Florida	NELAP		E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19 *
Illinois	NELAP		004498	07-31-19
Iowa	State Program	7	421	06-01-21
Kansas	NELAP	7	E-10336	04-30-20
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19 *
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-20
New Jersey	NELAP		OH001	06-30-19
New York	NELAP	2	10975	03-31-20
New York	NELAP		10975	03-31-20
Ohio VAP	State Program	5	CL0024	06-05-21
Oregon	NELAP	10	4062	02-23-20
Oregon	NELAP		4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Pennsylvania	NELAP		68-00340	08-31-19
Texas	NELAP	6	T104704517-18-10	08-31-19 *
Texas	NELAP		T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19 *
Virginia	NELAP		010101	09-14-19
Washington	State		C971	01-12-20
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

**Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility**


Login #: 114500

Client Acadix Site Name _____
Cooler Received on 6/15/19 Opened on 6/17/19
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Cooler unpacked by:
Denny Sun

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-8 (CF +0.1 °C) Observed Cooler Temp 0.6 °C Corrected Cooler Temp 0.7 °C
IR GUN #36 (CF +0.6 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
-Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA  Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B831701VB Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

COC = MW-114-061319 Label = MW-144-061319 - date + time match - will log ID per COC

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) MW-114 (1x40) were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____
VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



June 28, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 114500-1

Sample date: 2019-06-13

Report received by CADENA: 2019-06-27

Initial Data Verification completed by CADENA: 2019-06-28

Number of Samples:4

Sample Matrices: Water

Test Categories: GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 114500-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401145001	MW-26_061319	6/13/2019	10:45:00	X	X	
2401145002	MW-124_061319	6/13/2019	1:15:00	X	X	
2401145003	MW-114_061319	6/13/2019	3:30:00	X	X	
2401145004	TRIP BLANK	6/13/2019	12:00:00	X		

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 114500-1

Analyte	Cas No.	Sample Name: MW-26_061319				Sample Name: MW-124_061319				Sample Name: MW-114_061319				Sample Name: TRIP BLANK			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
		2401145001				2401145002				2401145003				2401145004			
		6/13/2019				6/13/2019				6/13/2019				6/13/2019			

GC/MS VOC

OSW-8260B

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	1.8	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	0.26	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	0.40	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---

OSW-8260BBSim

1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---				
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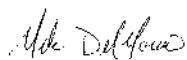
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-114501-1
Client Project/Site: Ford LTP Livonia MI - E203728
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
7/17/2019 11:07:11 AM

Michael DelMonico, Project Manager I
(330)497-9396
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LINKS

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results through
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Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Job ID: 240-114501-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-114501-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 6/15/2019 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.7° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-15-59D_061319 (240-114501-1), MW-15-60D_061319 (240-114501-2) and TRIP BLANK (240-114501-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/25/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-15-59D_061319 (240-114501-1) and MW-15-60D_061319 (240-114501-2) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 06/20/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-114501-1	MW-15-59D_061319	Water	06/13/19 12:11	06/15/19 09:50	
240-114501-2	MW-15-60D_061319	Water	06/13/19 10:16	06/15/19 09:50	
240-114501-3	TRIP BLANK	Water	06/13/19 00:00	06/15/19 09:50	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Client Sample ID: MW-15-59D_061319

Lab Sample ID: 240-114501-1

No Detections.

Client Sample ID: MW-15-60D_061319

Lab Sample ID: 240-114501-2

No Detections.

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-114501-3

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Client Sample ID: MW-15-59D_061319

Lab Sample ID: 240-114501-1

Date Collected: 06/13/19 12:11

Matrix: Water

Date Received: 06/15/19 09:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		06/20/19 15:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		63 - 125		06/20/19 15:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		06/25/19 22:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		06/25/19 22:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		06/25/19 22:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		06/25/19 22:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		06/25/19 22:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		06/25/19 22:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		70 - 121		06/25/19 22:37	1
4-Bromofluorobenzene (Surr)	76		59 - 120		06/25/19 22:37	1
Toluene-d8 (Surr)	87		70 - 123		06/25/19 22:37	1
Dibromofluoromethane (Surr)	103		75 - 128		06/25/19 22:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Client Sample ID: MW-15-60D_061319

Lab Sample ID: 240-114501-2

Date Collected: 06/13/19 10:16

Matrix: Water

Date Received: 06/15/19 09:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/20/19 16:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		63 - 125		06/20/19 16:22	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 23:01	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/25/19 23:01	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/25/19 23:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 23:01	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/25/19 23:01	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/25/19 23:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		06/25/19 23:01	1
4-Bromofluorobenzene (Surr)	72		59 - 120		06/25/19 23:01	1
Toluene-d8 (Surr)	83		70 - 123		06/25/19 23:01	1
Dibromofluoromethane (Surr)	104		75 - 128		06/25/19 23:01	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-114501-3

Date Collected: 06/13/19 00:00

Matrix: Water

Date Received: 06/15/19 09:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 21:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/25/19 21:26	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/25/19 21:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 21:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/25/19 21:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/25/19 21:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		70 - 121		06/25/19 21:26	1
4-Bromofluorobenzene (Surr)	73		59 - 120		06/25/19 21:26	1
Toluene-d8 (Surr)	82		70 - 123		06/25/19 21:26	1
Dibromofluoromethane (Surr)	114		75 - 128		06/25/19 21:26	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (70-121)	BFB (59-120)	TOL (70-123)	DBFM (75-128)
190-20042-C-2 MS	Matrix Spike	91	100	96	94
190-20042-E-2 MSD	Matrix Spike Duplicate	87	97	94	91
240-114501-1	MW-15-59D_061319	101	76	87	103
240-114501-2	MW-15-60D_061319	106	72	83	104
240-114501-3	TRIP BLANK	116	73	82	114
LCS 240-388085/4	Lab Control Sample	86	99	96	93
MB 240-388085/7	Method Blank	104	77	88	105

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-114501-1	MW-15-59D_061319	111
240-114501-2	MW-15-60D_061319	110
240-114521-C-3 MS	Matrix Spike	113
240-114521-C-3 MSD	Matrix Spike Duplicate	109
LCS 240-387287/4	Lab Control Sample	108
MB 240-387287/5	Method Blank	106

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-388085/7
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 14:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			06/25/19 14:16	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			06/25/19 14:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			06/25/19 14:16	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			06/25/19 14:16	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/25/19 14:16	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 121		06/25/19 14:16	1
4-Bromofluorobenzene (Surr)	77		59 - 120		06/25/19 14:16	1
Toluene-d8 (Surr)	88		70 - 123		06/25/19 14:16	1
Dibromofluoromethane (Surr)	105		75 - 128		06/25/19 14:16	1

Lab Sample ID: LCS 240-388085/4
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.66		ug/L		97	65 - 139
cis-1,2-Dichloroethene	10.0	9.58		ug/L		96	76 - 128
Tetrachloroethene	10.0	10.3		ug/L		103	74 - 130
trans-1,2-Dichloroethene	10.0	10.6		ug/L		106	78 - 133
Trichloroethene	10.0	9.30		ug/L		93	76 - 125
Vinyl chloride	10.0	9.81		ug/L		98	58 - 143

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		70 - 121
4-Bromofluorobenzene (Surr)	99		59 - 120
Toluene-d8 (Surr)	96		70 - 123
Dibromofluoromethane (Surr)	93		75 - 128

Lab Sample ID: 190-20042-C-2 MS
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.45		ug/L		95	53 - 140
cis-1,2-Dichloroethene	0.53	J	10.0	9.67		ug/L		91	64 - 130
Tetrachloroethene	1.0	U	10.0	10.3		ug/L		103	51 - 136
trans-1,2-Dichloroethene	1.0	U	10.0	9.94		ug/L		99	68 - 133
Trichloroethene	1.0	U	10.0	9.21		ug/L		92	55 - 131
Vinyl chloride	2.0		10.0	11.7		ug/L		97	43 - 154

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 121
4-Bromofluorobenzene (Surr)	100		59 - 120
Toluene-d8 (Surr)	96		70 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 190-20042-C-2 MS
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	94		75 - 128

Lab Sample ID: 190-20042-E-2 MSD
Matrix: Water
Analysis Batch: 388085

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	9.86		ug/L		99	53 - 140	4	35
cis-1,2-Dichloroethene	0.53	J	10.0	10.2		ug/L		97	64 - 130	5	21
Tetrachloroethene	1.0	U	10.0	9.91		ug/L		99	51 - 136	4	23
trans-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	68 - 133	5	24
Trichloroethene	1.0	U	10.0	9.52		ug/L		95	55 - 131	3	23
Vinyl chloride	2.0		10.0	12.2		ug/L		103	43 - 154	5	29

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		70 - 121
4-Bromofluorobenzene (Surr)	97		59 - 120
Toluene-d8 (Surr)	94		70 - 123
Dibromofluoromethane (Surr)	91		75 - 128

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-387287/5
Matrix: Water
Analysis Batch: 387287

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			06/20/19 12:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		06/20/19 12:10	1

Lab Sample ID: LCS 240-387287/4
Matrix: Water
Analysis Batch: 387287

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.56		ug/L		96	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	108		63 - 125

Lab Sample ID: 240-114521-C-3 MS
Matrix: Water
Analysis Batch: 387287

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.5		10.0	13.9		ug/L		114	52 - 129

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	113		63 - 125

Lab Sample ID: 240-114521-C-3 MSD
Matrix: Water
Analysis Batch: 387287

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.5		10.0	12.9		ug/L		104	52 - 129	8	13

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	109		63 - 125

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

GC/MS VOA

Analysis Batch: 387287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-114501-1	MW-15-59D_061319	Total/NA	Water	8260B SIM	
240-114501-2	MW-15-60D_061319	Total/NA	Water	8260B SIM	
MB 240-387287/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-387287/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-114521-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-114521-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 388085

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-114501-1	MW-15-59D_061319	Total/NA	Water	8260B	
240-114501-2	MW-15-60D_061319	Total/NA	Water	8260B	
240-114501-3	TRIP BLANK	Total/NA	Water	8260B	
MB 240-388085/7	Method Blank	Total/NA	Water	8260B	
LCS 240-388085/4	Lab Control Sample	Total/NA	Water	8260B	
190-20042-C-2 MS	Matrix Spike	Total/NA	Water	8260B	
190-20042-E-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-114501-1

Client Sample ID: MW-15-59D_061319

Lab Sample ID: 240-114501-1

Date Collected: 06/13/19 12:11

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	388085	06/25/19 22:37	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	387287	06/20/19 15:56	SAM	TAL CAN

Client Sample ID: MW-15-60D_061319

Lab Sample ID: 240-114501-2

Date Collected: 06/13/19 10:16

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	388085	06/25/19 23:01	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	387287	06/20/19 16:22	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-114501-3

Date Collected: 06/13/19 00:00

Matrix: Water

Date Received: 06/15/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	388085	06/25/19 21:26	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.

Job ID: 240-114501-1

Project/Site: Ford LTP Livonia MI - E203728

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State		2927	02-23-20
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-20
Illinois	NELAP	5	200004	07-31-19 *
Illinois	NELAP		004498	07-31-19
Iowa	State Program	7	421	06-01-21
Kansas	NELAP	7	E-10336	04-30-20
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19 *
Nevada	State		OH00048	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-20
New York	NELAP	2	10975	03-31-20
New York	NELAP		10975	03-31-20
Ohio VAP	State Program	5	CL0024	06-05-21
Oregon	NELAP	10	4062	02-23-20
Oregon	NELAP		4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Pennsylvania	NELAP		68-00340	08-31-19
Texas	NELAP	6	T104704517-18-10	08-31-19 *
Texas	NELAP		T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19 *
Virginia	NELAP		010101	09-14-19
Washington	State		C971	01-12-20
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State		210	12-31-19
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton


Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 14501

Client Acadis Site Name _____ Cooler unpacked by: Derry
 Cooler Received on 6/15/19 Opened on 6/17/19
 FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # JA Foam Box _____ Client Cooler _____ Box _____ Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag _____ None _____ Other _____
 COOLANT: Wet Ice Blue Ice _____ Dry Ice _____ Water _____ None _____

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-8 (CF +0.1 °C) Observed Cooler Temp 0.6 °C Corrected Cooler Temp 0.7 °C
 IR GUN #36 (CF +0.6°C) Observed Cooler Temp _____ °C Corrected Cooler Temp _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? TB Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA  Larger than this.
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 6831701VB Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) MW-15-59d (1x40) were received in a broken container.
 Sample(s) MW-15-59d + MW-15-60d received with bubble >6 mm in diameter. (Notify PM) (all vials)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT

July 17, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: MI001454.0002/1A/1B/1C/4/A2/B2/C2.0008

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 114501-1

Sample date: 2019-06-13

Report received by CADENA: 2019-06-27

Initial Data Verification completed by CADENA: 2019-06-28

Number of Samples:3

Sample Matrices:Water

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

This report was revised to include missing data/incorrect name.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 114501-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401145011	MW-15-59D_061319	6/13/2019	12:11:00	X	X	
2401145012	MW-15-60D_061319	6/13/2019	10:16:00	X	X	
2401145013	TRIP BLANK	6/13/2019	12:00:00	X		

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 114501-1

Sample Name:	MW-15-59D_061319	MW-15-60D_061319	TRIP BLANK
Lab Sample ID:	2401145011	2401145012	2401145013
Sample Date:	6/13/2019	6/13/2019	6/13/2019

Analyte	Cas No.	Sample 1 (MW-15-59D_061319)				Sample 2 (MW-15-60D_061319)				Sample 3 (TRIP BLANK)			
		Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC													
<u>OSW-8260B</u>													
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
<u>OSW-8260BBSim</u>													
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	ND	2.0	ug/l	---				

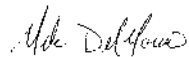
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-119759-1
Client Project/Site: Ford LTP Livonia MI - E203728

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
10/15/2019 2:57:08 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
E	Result exceeded calibration range.
F1	MS and/or MSD Recovery is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Job ID: 240-119759-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-119759-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 10/1/2019 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.3° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-15-59D_092719 (240-119759-1), MW-15-60D_092719 (240-119759-2), MW-5_092719 (240-119759-3), MW-10_092719 (240-119759-4) and TRIP BLANK (240-119759-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/10/2019 and 10/11/2019.

1,1,2,2-Tetrachloroethane, 1,1,2-Trichloroethane and 1,2-Dibromoethane failed the recovery criteria low for LCS 240-405078/4. Cyclohexane failed the recovery criteria high. Refer to the QC report for details.

Sample MW-10_092719 (240-119759-4)[200X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The laboratory control sample (LCS) for analytical batch 240-405078 recovered outside control limits for the following analyte: Cyclohexane. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data has been reported: MW-15-59D_092719 (240-119759-1), MW-15-60D_092719 (240-119759-2), MW-5_092719 (240-119759-3), TRIP BLANK (240-119759-5) and (LCS 240-405078/4).

The laboratory control sample (LCS) for analytical batch 240-405078 recovered outside control limits for the following analyte: Ethylene

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Job ID: 240-119759-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Dibromide. Ethylene Dibromide has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed: MW-15-59D_092719 (240-119759-1), MW-15-60D_092719 (240-119759-2), MW-5_092719 (240-119759-3), TRIP BLANK (240-119759-5) and (LCS 240-405078/4).

The laboratory control sample (LCS) analyzed in batch 240-405078 was below the recovery control criteria for the following analytes: 1,1,2,2-Tetrachloroethane and 1,1,2-Trichloroethane. This variance only affects results measured above the reporting limit. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. This demonstrates the analyte reporting limit is valid, and it is acceptable to report ND results (non-detects). The samples associated with the LCS were non-detects for the affected analytes; therefore, the results were reported. The following samples are impacted: MW-15-59D_092719 (240-119759-1), MW-15-60D_092719 (240-119759-2), MW-5_092719 (240-119759-3), TRIP BLANK (240-119759-5) and (LCS 240-405078/4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-15-59D_092719 (240-119759-1), MW-15-60D_092719 (240-119759-2), MW-5_092719 (240-119759-3) and MW-10_092719 (240-119759-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 10/04/2019 and 10/07/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-119759-1	MW-15-59D_092719	Water	09/27/19 12:59	10/01/19 09:30	
240-119759-2	MW-15-60D_092719	Water	09/27/19 14:46	10/01/19 09:30	
240-119759-3	MW-5_092719	Water	09/27/19 09:17	10/01/19 09:30	
240-119759-4	MW-10_092719	Water	09/27/19 16:46	10/01/19 09:30	
240-119759-5	TRIP BLANK	Water	09/27/19 00:00	10/01/19 09:30	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Client Sample ID: MW-15-59D_092719

Lab Sample ID: 240-119759-1

No Detections.

Client Sample ID: MW-15-60D_092719

Lab Sample ID: 240-119759-2

No Detections.

Client Sample ID: MW-5_092719

Lab Sample ID: 240-119759-3

No Detections.

Client Sample ID: MW-10_092719

Lab Sample ID: 240-119759-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	5.0		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	3000		200	40	ug/L	200		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-119759-5

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Client Sample ID: MW-15-59D_092719

Lab Sample ID: 240-119759-1

Date Collected: 09/27/19 12:59

Matrix: Water

Date Received: 10/01/19 09:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			10/04/19 22:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		10/04/19 22:06	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 17:40	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/10/19 17:40	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/10/19 17:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 17:40	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/10/19 17:40	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/10/19 17:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		59 - 120		10/10/19 17:40	1
Dibromofluoromethane (Surr)	98		75 - 128		10/10/19 17:40	1
1,2-Dichloroethane-d4 (Surr)	97		70 - 121		10/10/19 17:40	1
Toluene-d8 (Surr)	95		70 - 123		10/10/19 17:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Client Sample ID: MW-15-60D_092719

Lab Sample ID: 240-119759-2

Date Collected: 09/27/19 14:46

Matrix: Water

Date Received: 10/01/19 09:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			10/04/19 22:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		63 - 125		10/04/19 22:31	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 18:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/10/19 18:05	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/10/19 18:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 18:05	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/10/19 18:05	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/10/19 18:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	78		59 - 120		10/10/19 18:05	1
Dibromofluoromethane (Surr)	97		75 - 128		10/10/19 18:05	1
1,2-Dichloroethane-d4 (Surr)	98		70 - 121		10/10/19 18:05	1
Toluene-d8 (Surr)	96		70 - 123		10/10/19 18:05	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Client Sample ID: MW-5_092719

Lab Sample ID: 240-119759-3

Date Collected: 09/27/19 09:17

Matrix: Water

Date Received: 10/01/19 09:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		10/04/19 22:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		63 - 125		10/04/19 22:56	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		10/10/19 18:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		10/10/19 18:30	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		10/10/19 18:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		10/10/19 18:30	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		10/10/19 18:30	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		10/10/19 18:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		59 - 120		10/10/19 18:30	1
Dibromofluoromethane (Surr)	102		75 - 128		10/10/19 18:30	1
1,2-Dichloroethane-d4 (Surr)	101		70 - 121		10/10/19 18:30	1
Toluene-d8 (Surr)	95		70 - 123		10/10/19 18:30	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Client Sample ID: MW-10_092719

Lab Sample ID: 240-119759-4

Date Collected: 09/27/19 16:46

Matrix: Water

Date Received: 10/01/19 09:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	5.0		2.0	0.86	ug/L			10/07/19 13:36	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		63 - 125		10/07/19 13:36	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	200	U	200	38	ug/L			10/11/19 15:06	200
cis-1,2-Dichloroethene	200	U	200	32	ug/L			10/11/19 15:06	200
Tetrachloroethene	200	U	200	30	ug/L			10/11/19 15:06	200
trans-1,2-Dichloroethene	200	U	200	38	ug/L			10/11/19 15:06	200
Trichloroethene	200	U	200	20	ug/L			10/11/19 15:06	200
Vinyl chloride	3000		200	40	ug/L			10/11/19 15:06	200

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	75		59 - 120		10/11/19 15:06	200
Dibromofluoromethane (Surr)	115		75 - 128		10/11/19 15:06	200
1,2-Dichloroethane-d4 (Surr)	96		70 - 121		10/11/19 15:06	200
Toluene-d8 (Surr)	90		70 - 123		10/11/19 15:06	200

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-119759-5

Date Collected: 09/27/19 00:00

Matrix: Water

Date Received: 10/01/19 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 19:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/10/19 19:21	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/10/19 19:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 19:21	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/10/19 19:21	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/10/19 19:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	70		59 - 120		10/10/19 19:21	1
Dibromofluoromethane (Surr)	101		75 - 128		10/10/19 19:21	1
1,2-Dichloroethane-d4 (Surr)	97		70 - 121		10/10/19 19:21	1
Toluene-d8 (Surr)	90		70 - 123		10/10/19 19:21	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (59-120)	DBFM (75-128)	DCA (70-121)	TOL (70-123)
240-119675-B-6 MS	Matrix Spike	99	99	83	99
240-119675-B-6 MSD	Matrix Spike Duplicate	95	97	79	98
240-119753-D-2 MSD	Matrix Spike Duplicate	78	106	99	96
240-119753-H-2 MS	Matrix Spike	75	109	97	98
240-119759-1	MW-15-59D_092719	75	98	97	95
240-119759-2	MW-15-60D_092719	78	97	98	96
240-119759-3	MW-5_092719	74	102	101	95
240-119759-4	MW-10_092719	75	115	96	90
240-119759-5	TRIP BLANK	70	101	97	90
LCS 240-405078/4	Lab Control Sample	79	102	94	98
LCS 240-405284/4	Lab Control Sample	94	99	78	95
MB 240-405078/7	Method Blank	74	101	99	94
MB 240-405284/7	Method Blank	77	109	91	91

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
 DBFM = Dibromofluoromethane (Surr)
 DCA = 1,2-Dichloroethane-d4 (Surr)
 TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-119751-A-8 MS	Matrix Spike	105
240-119751-A-8 MSD	Matrix Spike Duplicate	103
240-119753-C-2 MS	Matrix Spike	103
240-119753-C-2 MSD	Matrix Spike Duplicate	104
240-119759-1	MW-15-59D_092719	106
240-119759-2	MW-15-60D_092719	105
240-119759-3	MW-5_092719	106
240-119759-4	MW-10_092719	111
LCS 240-404131/4	Lab Control Sample	98
LCS 240-404405/4	Lab Control Sample	100
MB 240-404131/5	Method Blank	97
MB 240-404405/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-405078/7
Matrix: Water
Analysis Batch: 405078

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 14:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/10/19 14:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/10/19 14:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/10/19 14:14	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/10/19 14:14	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/10/19 14:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	74		59 - 120		10/10/19 14:14	1
Dibromofluoromethane (Surr)	101		75 - 128		10/10/19 14:14	1
1,2-Dichloroethane-d4 (Surr)	99		70 - 121		10/10/19 14:14	1
Toluene-d8 (Surr)	94		70 - 123		10/10/19 14:14	1

Lab Sample ID: LCS 240-405078/4
Matrix: Water
Analysis Batch: 405078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	10.4		ug/L		104	69 - 134
1,1,1,2-Tetrachloroethane	10.0	5.52	*	ug/L		55	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.2		ug/L		122	50 - 156
1,1,2-Trichloroethane	10.0	7.69	*	ug/L		77	78 - 133
1,1-Dichloroethane	10.0	13.3		ug/L		133	75 - 133
1,1-Dichloroethene	10.0	10.4		ug/L		104	65 - 139
1,2,4-Trichlorobenzene	10.0	9.68		ug/L		97	42 - 133
1,2,4-Trimethylbenzene	10.0	8.93		ug/L		89	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	6.65		ug/L		66	46 - 132
1,2-Dibromoethane	10.0	7.12	*	ug/L		71	77 - 123
1,2-Dichlorobenzene	10.0	9.74		ug/L		97	78 - 120
1,2-Dichloroethane	10.0	11.8		ug/L		118	71 - 135
1,2-Dichloropropane	10.0	12.9		ug/L		129	78 - 133
1,3,5-Trimethylbenzene	10.0	9.05		ug/L		90	75 - 121
1,3-Dichlorobenzene	10.0	9.98		ug/L		100	78 - 120
1,4-Dichlorobenzene	10.0	10.7		ug/L		107	78 - 120
2-Butanone (MEK)	20.0	16.7		ug/L		84	39 - 163
2-Hexanone	20.0	15.9		ug/L		79	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	17.2		ug/L		86	49 - 143
Acetone	20.0	20.7		ug/L		104	21 - 162
Benzene	10.0	9.97		ug/L		100	80 - 123
Bromodichloromethane	10.0	8.70		ug/L		87	77 - 125
Bromoform	10.0	6.19		ug/L		62	49 - 141
Bromomethane	10.0	8.34		ug/L		83	41 - 175
Carbon disulfide	10.0	9.50		ug/L		95	60 - 138
Carbon tetrachloride	10.0	11.1		ug/L		111	63 - 140
Chlorobenzene	10.0	9.92		ug/L		99	80 - 121
Chloroethane	10.0	9.37		ug/L		94	33 - 173
Chloroform	10.0	9.43		ug/L		94	79 - 127

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-405078/4
Matrix: Water
Analysis Batch: 405078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	10.0	11.0		ug/L		110	54 - 143
cis-1,2-Dichloroethene	10.0	10.7		ug/L		107	76 - 128
cis-1,3-Dichloropropene	10.0	8.23		ug/L		82	64 - 132
Cyclohexane	10.0	15.3	*	ug/L		153	58 - 145
Dibromochloromethane	10.0	8.15		ug/L		81	70 - 132
Dichlorodifluoromethane	10.0	5.41		ug/L		54	29 - 148
Diethyl ether	10.0	14.0		ug/L		140	70 - 146
Ethylbenzene	10.0	10.2		ug/L		102	80 - 120
Isopropylbenzene	10.0	9.99		ug/L		100	74 - 120
Methyl acetate	20.0	18.7		ug/L		93	52 - 145
Methyl tert-butyl ether	10.0	7.24		ug/L		72	51 - 133
Methylcyclohexane	10.0	9.91		ug/L		99	60 - 125
Methylene Chloride	10.0	9.13		ug/L		91	70 - 134
Styrene	10.0	9.13		ug/L		91	79 - 120
Tetrachloroethene	10.0	12.1		ug/L		121	74 - 130
Toluene	10.0	10.5		ug/L		105	78 - 129
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	78 - 133
trans-1,3-Dichloropropene	10.0	6.57		ug/L		66	55 - 128
Trichloroethene	10.0	11.6		ug/L		116	76 - 125
Trichlorofluoromethane	10.0	8.85		ug/L		88	51 - 164
Vinyl chloride	10.0	10.9		ug/L		109	58 - 143
Xylenes, Total	20.0	20.4		ug/L		102	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	79		59 - 120
Dibromofluoromethane (Surr)	102		75 - 128
1,2-Dichloroethane-d4 (Surr)	94		70 - 121
Toluene-d8 (Surr)	98		70 - 123

Lab Sample ID: 240-119753-D-2 MSD
Matrix: Water
Analysis Batch: 405078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1-Trichloroethane	1.0	U	10.0	9.82		ug/L		98	51 - 138	2	27
1,1,1,2-Tetrachloroethane	1.0	U * F1	10.0	4.96	F1	ug/L		50	60 - 137	6	31
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	12.2		ug/L		122	31 - 156	2	35
1,1,2-Trichloroethane	1.0	U * F1	10.0	6.92	F1	ug/L		69	76 - 132	2	25
1,1-Dichloroethane	1.0	U F1	10.0	13.7	F1	ug/L		137	63 - 136	9	23
1,1-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	53 - 140	9	35
1,2,4-Trichlorobenzene	1.0	U	10.0	7.76		ug/L		78	30 - 126	6	35
1,2,4-Trimethylbenzene	1.0	U	10.0	8.11		ug/L		81	62 - 120	5	27
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	5.07		ug/L		51	38 - 124	13	35
1,2-Dibromoethane	1.0	U * F1	10.0	6.75	F1	ug/L		68	71 - 123	6	27
1,2-Dichlorobenzene	1.0	U	10.0	8.15		ug/L		81	64 - 120	2	30
1,2-Dichloroethane	1.0	U	10.0	11.4		ug/L		114	65 - 135	2	24
1,2-Dichloropropane	1.0	U F1	10.0	13.5	F1	ug/L		135	70 - 132	9	26
1,3,5-Trimethylbenzene	1.0	U	10.0	7.46		ug/L		75	64 - 120	0	23

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-119753-D-2 MSD

Client Sample ID: Matrix Spike Duplicate

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 405078

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier		Result	Qualifier				Limits		Limit
1,3-Dichlorobenzene	1.0	U	10.0	8.22		ug/L		82	62 - 120	3	31
1,4-Dichlorobenzene	1.0	U	10.0	8.79		ug/L		88	63 - 120	1	28
2-Butanone (MEK)	10	U	20.0	16.1		ug/L		81	37 - 156	17	35
2-Hexanone	10	U	20.0	14.2		ug/L		71	42 - 150	3	35
4-Methyl-2-pentanone (MIBK)	10	U	20.0	17.2		ug/L		86	44 - 143	0	35
Acetone	10	U	20.0	18.7		ug/L		93	10 - 168	15	35
Benzene	1.0	U	10.0	9.49		ug/L		95	71 - 122	1	22
Bromodichloromethane	1.0	U	10.0	7.92		ug/L		79	64 - 125	7	27
Bromoform	1.0	U	10.0	6.44		ug/L		64	44 - 129	8	28
Bromomethane	1.0	U	10.0	7.79		ug/L		78	19 - 187	1	35
Carbon disulfide	5.0	U	10.0	8.89		ug/L		89	43 - 144	1	33
Carbon tetrachloride	1.0	U	10.0	11.1		ug/L		111	41 - 143	8	30
Chlorobenzene	1.0	U	10.0	9.26		ug/L		93	70 - 123	7	23
Chloroethane	1.0	U	10.0	9.93		ug/L		99	11 - 189	12	35
Chloroform	1.0	U	10.0	9.08		ug/L		91	68 - 130	5	23
Chloromethane	1.0	U	10.0	10.1		ug/L		101	31 - 154	2	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.9		ug/L		109	64 - 130	11	21
cis-1,3-Dichloropropene	1.0	U	10.0	7.61		ug/L		76	48 - 127	2	30
Cyclohexane	1.0	U * F1	10.0	15.5	F1	ug/L		155	42 - 135	4	35
Dibromochloromethane	1.0	U	10.0	7.38		ug/L		74	60 - 129	5	26
Dichlorodifluoromethane	1.0	U	10.0	6.15		ug/L		61	28 - 136	8	35
Diethyl ether	1.0	U F1	10.0	13.8	F1	ug/L		138	65 - 134	7	33
Ethylbenzene	1.0	U	10.0	9.22		ug/L		92	66 - 120	1	24
Isopropylbenzene	1.0	U	10.0	8.94		ug/L		89	59 - 120	1	31
Methyl acetate	10	U	20.0	17.5		ug/L		87	41 - 142	5	35
Methyl tert-butyl ether	1.0	U	10.0	7.09		ug/L		71	41 - 136	4	29
Methylcyclohexane	1.0	U	10.0	9.96		ug/L		100	37 - 123	3	35
Methylene Chloride	5.0	U	10.0	8.47		ug/L		85	61 - 130	9	29
Styrene	1.0	U	10.0	8.55		ug/L		86	68 - 120	8	26
Tetrachloroethene	1.0	U	10.0	11.9		ug/L		119	51 - 136	9	23
Toluene	1.0	U	10.0	9.05		ug/L		91	62 - 132	7	23
trans-1,2-Dichloroethene	1.0	U	10.0	9.98		ug/L		100	68 - 133	4	24
trans-1,3-Dichloropropene	1.0	U	10.0	6.07		ug/L		61	40 - 125	7	27
Trichloroethene	1.0	U	10.0	10.5		ug/L		105	55 - 131	2	23
Trichlorofluoromethane	1.0	U	10.0	10.4		ug/L		104	37 - 174	3	35
Vinyl chloride	1.0	U	10.0	12.7		ug/L		127	43 - 154	3	29
Xylenes, Total	2.0	U	20.0	17.8		ug/L		89	67 - 120	1	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	78		59 - 120
Dibromofluoromethane (Surr)	106		75 - 128
1,2-Dichloroethane-d4 (Surr)	99		70 - 121
Toluene-d8 (Surr)	96		70 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-119753-H-2 MS

Matrix: Water

Analysis Batch: 405078

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1,1-Trichloroethane	1.0	U	10.0	9.63		ug/L		96	51 - 138
1,1,1,2-Tetrachloroethane	1.0	U * F1	10.0	5.26	F1	ug/L		53	60 - 137
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	12.0		ug/L		120	31 - 156
1,1,2-Trichloroethane	1.0	U * F1	10.0	6.79	F1	ug/L		68	76 - 132
1,1-Dichloroethane	1.0	U F1	10.0	12.6		ug/L		126	63 - 136
1,1-Dichloroethene	1.0	U	10.0	11.1		ug/L		111	53 - 140
1,2,4-Trichlorobenzene	1.0	U	10.0	7.31		ug/L		73	30 - 126
1,2,4-Trimethylbenzene	1.0	U	10.0	7.73		ug/L		77	62 - 120
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	5.79		ug/L		58	38 - 124
1,2-Dibromoethane	1.0	U * F1	10.0	6.38	F1	ug/L		64	71 - 123
1,2-Dichlorobenzene	1.0	U	10.0	8.34		ug/L		83	64 - 120
1,2-Dichloroethane	1.0	U	10.0	11.3		ug/L		113	65 - 135
1,2-Dichloropropane	1.0	U F1	10.0	12.3		ug/L		123	70 - 132
1,3,5-Trimethylbenzene	1.0	U	10.0	7.43		ug/L		74	64 - 120
1,3-Dichlorobenzene	1.0	U	10.0	8.49		ug/L		85	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	8.73		ug/L		87	63 - 120
2-Butanone (MEK)	10	U	20.0	13.6		ug/L		68	37 - 156
2-Hexanone	10	U	20.0	13.9		ug/L		69	42 - 150
4-Methyl-2-pentanone (MIBK)	10	U	20.0	17.3		ug/L		86	44 - 143
Acetone	10	U	20.0	21.7		ug/L		109	10 - 168
Benzene	1.0	U	10.0	9.58		ug/L		96	71 - 122
Bromodichloromethane	1.0	U	10.0	7.42		ug/L		74	64 - 125
Bromoform	1.0	U	10.0	5.96		ug/L		60	44 - 129
Bromomethane	1.0	U	10.0	7.70		ug/L		77	19 - 187
Carbon disulfide	5.0	U	10.0	8.78		ug/L		88	43 - 144
Carbon tetrachloride	1.0	U	10.0	10.2		ug/L		102	41 - 143
Chlorobenzene	1.0	U	10.0	8.67		ug/L		87	70 - 123
Chloroethane	1.0	U	10.0	8.77		ug/L		88	11 - 189
Chloroform	1.0	U	10.0	8.68		ug/L		87	68 - 130
Chloromethane	1.0	U	10.0	9.83		ug/L		98	31 - 154
cis-1,2-Dichloroethene	1.0	U	10.0	9.75		ug/L		98	64 - 130
cis-1,3-Dichloropropene	1.0	U	10.0	7.47		ug/L		75	48 - 127
Cyclohexane	1.0	U * F1	10.0	14.9	F1	ug/L		149	42 - 135
Dibromochloromethane	1.0	U	10.0	7.04		ug/L		70	60 - 129
Dichlorodifluoromethane	1.0	U	10.0	6.68		ug/L		67	28 - 136
Diethyl ether	1.0	U F1	10.0	13.0		ug/L		130	65 - 134
Ethylbenzene	1.0	U	10.0	9.12		ug/L		91	66 - 120
Isopropylbenzene	1.0	U	10.0	9.01		ug/L		90	59 - 120
Methyl acetate	10	U	20.0	18.3		ug/L		92	41 - 142
Methyl tert-butyl ether	1.0	U	10.0	6.83		ug/L		68	41 - 136
Methylcyclohexane	1.0	U	10.0	10.2		ug/L		102	37 - 123
Methylene Chloride	5.0	U	10.0	7.72		ug/L		77	61 - 130
Styrene	1.0	U	10.0	7.89		ug/L		79	68 - 120
Tetrachloroethene	1.0	U	10.0	10.8		ug/L		108	51 - 136
Toluene	1.0	U	10.0	8.48		ug/L		85	62 - 132
trans-1,2-Dichloroethene	1.0	U	10.0	9.57		ug/L		96	68 - 133
trans-1,3-Dichloropropene	1.0	U	10.0	5.64		ug/L		56	40 - 125
Trichloroethene	1.0	U	10.0	10.8		ug/L		108	55 - 131

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-119753-H-2 MS
Matrix: Water
Analysis Batch: 405078

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
Trichlorofluoromethane	1.0	U	10.0	10.1		ug/L		101	37 - 174
Vinyl chloride	1.0	U	10.0	13.1		ug/L		131	43 - 154
Xylenes, Total	2.0	U	20.0	17.7		ug/L		89	67 - 120
MS MS									
Surrogate	%Recovery	Qualifier	Limits						
4-Bromofluorobenzene (Surr)	75		59 - 120						
Dibromofluoromethane (Surr)	109		75 - 128						
1,2-Dichloroethane-d4 (Surr)	97		70 - 121						
Toluene-d8 (Surr)	98		70 - 123						

Lab Sample ID: MB 240-405284/7
Matrix: Water
Analysis Batch: 405284

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/11/19 13:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/11/19 13:29	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/11/19 13:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/11/19 13:29	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/11/19 13:29	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/11/19 13:29	1
MB MB									
Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene (Surr)	77		59 - 120		10/11/19 13:29	1			
Dibromofluoromethane (Surr)	109		75 - 128		10/11/19 13:29	1			
1,2-Dichloroethane-d4 (Surr)	91		70 - 121		10/11/19 13:29	1			
Toluene-d8 (Surr)	91		70 - 123		10/11/19 13:29	1			

Lab Sample ID: LCS 240-405284/4
Matrix: Water
Analysis Batch: 405284

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				
1,1,1-Trichloroethane	10.0	10.1		ug/L		101	69 - 134
1,1,2,2-Tetrachloroethane	10.0	9.10		ug/L		91	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	11.5		ug/L		115	50 - 156
1,1,2-Trichloroethane	10.0	10.0		ug/L		100	78 - 133
1,1-Dichloroethane	10.0	9.25		ug/L		93	75 - 133
1,1-Dichloroethene	10.0	10.5		ug/L		105	65 - 139
1,2,4-Trichlorobenzene	10.0	8.74		ug/L		87	42 - 133
1,2,4-Trimethylbenzene	10.0	8.47		ug/L		85	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	10.3		ug/L		103	46 - 132
1,2-Dibromoethane	10.0	10.1		ug/L		101	77 - 123
1,2-Dichlorobenzene	10.0	9.46		ug/L		95	78 - 120
1,2-Dichloroethane	10.0	8.90		ug/L		89	71 - 135
1,2-Dichloropropane	10.0	9.85		ug/L		99	78 - 133
1,3,5-Trimethylbenzene	10.0	8.49		ug/L		85	75 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-405284/4

Matrix: Water

Analysis Batch: 405284

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichlorobenzene	10.0	9.47		ug/L		95	78 - 120
1,4-Dichlorobenzene	10.0	8.98		ug/L		90	78 - 120
2-Butanone (MEK)	20.0	19.8		ug/L		99	39 - 163
2-Hexanone	20.0	17.6		ug/L		88	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	19.7		ug/L		98	49 - 143
Acetone	20.0	15.6		ug/L		78	21 - 162
Benzene	10.0	9.90		ug/L		99	80 - 123
Bromodichloromethane	10.0	9.91		ug/L		99	77 - 125
Bromoform	10.0	11.3		ug/L		113	49 - 141
Bromomethane	10.0	6.50		ug/L		65	41 - 175
Carbon disulfide	10.0	10.0		ug/L		100	60 - 138
Carbon tetrachloride	10.0	10.8		ug/L		108	63 - 140
Chlorobenzene	10.0	9.79		ug/L		98	80 - 121
Chloroethane	10.0	5.34		ug/L		53	33 - 173
Chloroform	10.0	9.65		ug/L		97	79 - 127
Chloromethane	10.0	6.06		ug/L		61	54 - 143
cis-1,2-Dichloroethene	10.0	10.5		ug/L		105	76 - 128
cis-1,3-Dichloropropene	10.0	10.3		ug/L		103	64 - 132
Cyclohexane	10.0	9.70		ug/L		97	58 - 145
Dibromochloromethane	10.0	10.8		ug/L		108	70 - 132
Dichlorodifluoromethane	10.0	5.63		ug/L		56	29 - 148
Diethyl ether	10.0	9.45		ug/L		94	70 - 146
Ethylbenzene	10.0	10.5		ug/L		105	80 - 120
Isopropylbenzene	10.0	10.2		ug/L		102	74 - 120
Methyl acetate	20.0	18.6		ug/L		93	52 - 145
Methyl tert-butyl ether	10.0	9.62		ug/L		96	51 - 133
Methylcyclohexane	10.0	10.2		ug/L		102	60 - 125
Methylene Chloride	10.0	10.5		ug/L		105	70 - 134
Styrene	10.0	10.3		ug/L		103	79 - 120
Tetrachloroethene	10.0	10.5		ug/L		105	74 - 130
Toluene	10.0	9.86		ug/L		99	78 - 129
trans-1,2-Dichloroethene	10.0	10.6		ug/L		106	78 - 133
trans-1,3-Dichloropropene	10.0	8.69		ug/L		87	55 - 128
Trichloroethene	10.0	11.0		ug/L		110	76 - 125
Trichlorofluoromethane	10.0	8.04		ug/L		80	51 - 164
Vinyl chloride	10.0	6.30		ug/L		63	58 - 143
Xylenes, Total	20.0	21.3		ug/L		107	80 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	94		59 - 120
Dibromofluoromethane (Surr)	99		75 - 128
1,2-Dichloroethane-d4 (Surr)	78		70 - 121
Toluene-d8 (Surr)	95		70 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-119675-B-6 MS

Matrix: Water

Analysis Batch: 405284

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
1,1,1-Trichloroethane	67	U	667	678		ug/L		102	51 - 138
1,1,2,2-Tetrachloroethane	67	U	667	605		ug/L		91	60 - 137
1,1-Dichloroethane	67	U	667	625		ug/L		94	63 - 136
1,1-Dichloroethene	67	U	667	687		ug/L		103	53 - 140
2-Butanone (MEK)	670	U	1330	1150		ug/L		86	37 - 156
Acetone	670	U	1330	1120		ug/L		84	10 - 168
Benzene	67	U	667	652		ug/L		98	71 - 122
Carbon disulfide	330	U	667	677		ug/L		101	43 - 144
Chloroform	12	J	667	641		ug/L		94	68 - 130
cis-1,2-Dichloroethene	240		667	878		ug/L		96	64 - 130
Ethylbenzene	67	U	667	735		ug/L		110	66 - 120
Methylene Chloride	330	U	667	710		ug/L		107	61 - 130
Styrene	67	U	667	734		ug/L		110	68 - 120
Tetrachloroethene	2200		667	2790	E	ug/L		91	51 - 136
Toluene	67	U	667	688		ug/L		103	62 - 132
trans-1,2-Dichloroethene	67	U	667	729		ug/L		109	68 - 133
Trichloroethene	56	J	667	802		ug/L		112	55 - 131
Vinyl chloride	67	U	667	419		ug/L		63	43 - 154
Xylenes, Total	130	U	1330	1470		ug/L		110	67 - 120

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	99		59 - 120
Dibromofluoromethane (Surr)	99		75 - 128
1,2-Dichloroethane-d4 (Surr)	83		70 - 121
Toluene-d8 (Surr)	99		70 - 123

Lab Sample ID: 240-119675-B-6 MSD

Matrix: Water

Analysis Batch: 405284

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier						
1,1,1-Trichloroethane	67	U	667	665		ug/L		100	51 - 138	2	27
1,1,2,2-Tetrachloroethane	67	U	667	584		ug/L		88	60 - 137	3	31
1,1-Dichloroethane	67	U	667	620		ug/L		93	63 - 136	1	23
1,1-Dichloroethene	67	U	667	678		ug/L		102	53 - 140	1	35
2-Butanone (MEK)	670	U	1330	1190		ug/L		89	37 - 156	3	35
Acetone	670	U	1330	995		ug/L		75	10 - 168	12	35
Benzene	67	U	667	660		ug/L		99	71 - 122	1	22
Carbon disulfide	330	U	667	677		ug/L		102	43 - 144	0	33
Chloroform	12	J	667	639		ug/L		94	68 - 130	0	23
cis-1,2-Dichloroethene	240		667	910		ug/L		101	64 - 130	4	21
Ethylbenzene	67	U	667	716		ug/L		107	66 - 120	3	24
Methylene Chloride	330	U	667	700		ug/L		105	61 - 130	1	29
Styrene	67	U	667	724		ug/L		109	68 - 120	1	26
Tetrachloroethene	2200		667	2690	E	ug/L		74	51 - 136	4	23
Toluene	67	U	667	670		ug/L		100	62 - 132	3	23
trans-1,2-Dichloroethene	67	U	667	707		ug/L		106	68 - 133	3	24
Trichloroethene	56	J	667	791		ug/L		110	55 - 131	1	23

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-119675-B-6 MSD
Matrix: Water
Analysis Batch: 405284

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	67	U	667	403		ug/L		60	43 - 154	4	29
Xylenes, Total	130	U	1330	1440		ug/L		108	67 - 120	2	25
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
4-Bromofluorobenzene (Surr)	95		59 - 120								
Dibromofluoromethane (Surr)	97		75 - 128								
1,2-Dichloroethane-d4 (Surr)	79		70 - 121								
Toluene-d8 (Surr)	98		70 - 123								

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-404131/5
Matrix: Water
Analysis Batch: 404131

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			10/04/19 13:00	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		63 - 125					10/04/19 13:00	1

Lab Sample ID: LCS 240-404131/4
Matrix: Water
Analysis Batch: 404131

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.6		ug/L		116	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	98		63 - 125				

Lab Sample ID: 240-119751-A-8 MS
Matrix: Water
Analysis Batch: 404131

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.2	J	10.0	10.8		ug/L		97	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	105		63 - 125						

Lab Sample ID: 240-119751-A-8 MSD
Matrix: Water
Analysis Batch: 404131

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.2	J	10.0	12.4		ug/L		112	52 - 129	13	13

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-119751-A-8 MSD
Matrix: Water
Analysis Batch: 404131

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	<i>MSD</i> %Recovery	<i>MSD</i> Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		63 - 125

Lab Sample ID: MB 240-404405/5
Matrix: Water
Analysis Batch: 404405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	<i>MB</i> Result	<i>MB</i> Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			10/07/19 12:46	1

Surrogate	<i>MB</i> %Recovery	<i>MB</i> Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125		10/07/19 12:46	1

Lab Sample ID: LCS 240-404405/4
Matrix: Water
Analysis Batch: 404405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	<i>LCS</i> Result	<i>LCS</i> Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.8		ug/L		118	59 - 131

Surrogate	<i>LCS</i> %Recovery	<i>LCS</i> Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		63 - 125

Lab Sample ID: 240-119753-C-2 MS
Matrix: Water
Analysis Batch: 404405

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	<i>MS</i> Result	<i>MS</i> Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	4.4		10.0	15.3		ug/L		108	52 - 129

Surrogate	<i>MS</i> %Recovery	<i>MS</i> Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	103		63 - 125

Lab Sample ID: 240-119753-C-2 MSD
Matrix: Water
Analysis Batch: 404405

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	<i>MSD</i> Result	<i>MSD</i> Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,4-Dioxane	4.4		10.0	14.7		ug/L		103	52 - 129	4	13

Surrogate	<i>MSD</i> %Recovery	<i>MSD</i> Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	104		63 - 125

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

GC/MS VOA

Analysis Batch: 404131

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119759-1	MW-15-59D_092719	Total/NA	Water	8260B SIM	
240-119759-2	MW-15-60D_092719	Total/NA	Water	8260B SIM	
240-119759-3	MW-5_092719	Total/NA	Water	8260B SIM	
MB 240-404131/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-404131/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-119751-A-8 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-119751-A-8 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 404405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119759-4	MW-10_092719	Total/NA	Water	8260B SIM	
MB 240-404405/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-404405/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-119753-C-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-119753-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 405078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119759-1	MW-15-59D_092719	Total/NA	Water	8260B	
240-119759-2	MW-15-60D_092719	Total/NA	Water	8260B	
240-119759-3	MW-5_092719	Total/NA	Water	8260B	
240-119759-5	TRIP BLANK	Total/NA	Water	8260B	
MB 240-405078/7	Method Blank	Total/NA	Water	8260B	
LCS 240-405078/4	Lab Control Sample	Total/NA	Water	8260B	
240-119753-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-119753-H-2 MS	Matrix Spike	Total/NA	Water	8260B	

Analysis Batch: 405284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119759-4	MW-10_092719	Total/NA	Water	8260B	
MB 240-405284/7	Method Blank	Total/NA	Water	8260B	
LCS 240-405284/4	Lab Control Sample	Total/NA	Water	8260B	
240-119675-B-6 MS	Matrix Spike	Total/NA	Water	8260B	
240-119675-B-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Client Sample ID: MW-15-59D_092719

Lab Sample ID: 240-119759-1

Date Collected: 09/27/19 12:59

Matrix: Water

Date Received: 10/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405078	10/10/19 17:40	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	404131	10/04/19 22:06	SAM	TAL CAN

Client Sample ID: MW-15-60D_092719

Lab Sample ID: 240-119759-2

Date Collected: 09/27/19 14:46

Matrix: Water

Date Received: 10/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405078	10/10/19 18:05	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	404131	10/04/19 22:31	SAM	TAL CAN

Client Sample ID: MW-5_092719

Lab Sample ID: 240-119759-3

Date Collected: 09/27/19 09:17

Matrix: Water

Date Received: 10/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405078	10/10/19 18:30	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	404131	10/04/19 22:56	SAM	TAL CAN

Client Sample ID: MW-10_092719

Lab Sample ID: 240-119759-4

Date Collected: 09/27/19 16:46

Matrix: Water

Date Received: 10/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		200	405284	10/11/19 15:06	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	404405	10/07/19 13:36	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-119759-5

Date Collected: 09/27/19 00:00

Matrix: Water

Date Received: 10/01/19 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405078	10/10/19 19:21	LRW	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119759-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 119259

Client Arcadis Site Name _____
 Cooler Received on 10-01-19 Opened on 10-01-19
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Cooler unpacked by:
[Signature]

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 1A Foam Box _____ Client Cooler _____ Box _____ Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 4.6 °C Corrected Cooler Temp. 5.3 °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 4 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC991818
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # NA Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:
[Signature]

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



October 16, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30016346.0001B - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 119759-1
Sample date: 2019-09-27
Report received by CADENA: 2019-10-15
Initial Data Verification completed by CADENA: 2019-10-16
Number of Samples:5
Sample Matrices:Water
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 119759-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401197591	MW-15-59D_092719	9/27/2019	12:59:00	X	X	
2401197592	MW-15-60D_092719	9/27/2019	2:46:00	X	X	
2401197593	MW-5_092719	9/27/2019	9:17:00	X	X	
2401197594	MW-10_092719	9/27/2019	4:46:00	X	X	
2401197595	TRIP BLANK	9/27/2019	12:00:00	X		

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 119759-1

Sample Name:	MW-15-59D_092719	MW-15-60D_092719	MW-5_092719	MW-10_092719	TRIP BLANK
Lab Sample ID:	2401197591	2401197592	2401197593	2401197594	2401197595
Sample Date:	9/27/2019	9/27/2019	9/27/2019	9/27/2019	9/27/2019

Analyte	Cas No.	MW-15-59D_092719				MW-15-60D_092719				MW-5_092719				MW-10_092719				TRIP BLANK			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																					
<u>OSW-8260B</u>																					
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	200	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	3000	200	ug/l	---	ND	1.0	ug/l	---
<u>OSW-8260BBSim</u>																					
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	5.0	2.0	ug/l	---				


ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-119811-1
Client Project/Site: Ford LTP Livonia MI - E203728

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
10/16/2019 11:43:39 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Job ID: 240-119811-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-119811-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 10/2/2019 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-124_093019 (240-119811-1) and TRIP BLANK (240-119811-2) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 10/12/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Sample MW-124_093019 (240-119811-1) was analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The sample was analyzed on 10/07/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-119811-1	MW-124_093019	Water	09/30/19 13:57	10/02/19 08:50	
240-119811-2	TRIP BLANK	Water	09/30/19 00:00	10/02/19 08:50	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Client Sample ID: MW-124_093019

Lab Sample ID: 240-119811-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.1		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.24	J	1.0	0.19	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-119811-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Client Sample ID: MW-124_093019

Lab Sample ID: 240-119811-1

Date Collected: 09/30/19 13:57

Matrix: Water

Date Received: 10/02/19 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		10/07/19 21:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125		10/07/19 21:30	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		10/12/19 18:57	1
cis-1,2-Dichloroethene	2.1		1.0	0.16	ug/L			10/12/19 18:57	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/12/19 18:57	1
trans-1,2-Dichloroethene	0.24	J	1.0	0.19	ug/L			10/12/19 18:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/12/19 18:57	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/12/19 18:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		59 - 120		10/12/19 18:57	1
Dibromofluoromethane (Surr)	88		75 - 128		10/12/19 18:57	1
1,2-Dichloroethane-d4 (Surr)	113		70 - 121		10/12/19 18:57	1
Toluene-d8 (Surr)	99		70 - 123		10/12/19 18:57	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-119811-2

Date Collected: 09/30/19 00:00

Matrix: Water

Date Received: 10/02/19 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/12/19 19:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/12/19 19:19	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/12/19 19:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/12/19 19:19	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/12/19 19:19	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/12/19 19:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		59 - 120		10/12/19 19:19	1
Dibromofluoromethane (Surr)	86		75 - 128		10/12/19 19:19	1
1,2-Dichloroethane-d4 (Surr)	114		70 - 121		10/12/19 19:19	1
Toluene-d8 (Surr)	103		70 - 123		10/12/19 19:19	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	DCA	TOL
		(59-120)	(75-128)	(70-121)	(70-123)
240-119811-1	MW-124_093019	93	88	113	99
240-119811-2	TRIP BLANK	96	86	114	103
240-119813-H-3 MS	Matrix Spike	99	95	118	101
240-119813-I-3 MSD	Matrix Spike Duplicate	103	91	114	101
LCS 240-405419/4	Lab Control Sample	97	89	113	100
MB 240-405419/6	Method Blank	93	87	110	97

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-119753-A-3 MS	Matrix Spike	104
240-119753-A-3 MSD	Matrix Spike Duplicate	105
240-119811-1	MW-124_093019	102
LCS 240-404405/4	Lab Control Sample	100
MB 240-404405/5	Method Blank	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-405419/6
Matrix: Water
Analysis Batch: 405419

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/12/19 13:24	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			10/12/19 13:24	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			10/12/19 13:24	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			10/12/19 13:24	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			10/12/19 13:24	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			10/12/19 13:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		59 - 120		10/12/19 13:24	1
Dibromofluoromethane (Surr)	87		75 - 128		10/12/19 13:24	1
1,2-Dichloroethane-d4 (Surr)	110		70 - 121		10/12/19 13:24	1
Toluene-d8 (Surr)	97		70 - 123		10/12/19 13:24	1

Lab Sample ID: LCS 240-405419/4
Matrix: Water
Analysis Batch: 405419

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10.0	10.4		ug/L		104	69 - 134
1,1,1,2-Tetrachloroethane	10.0	13.3		ug/L		133	65 - 139
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.17		ug/L		82	50 - 156
1,1,2-Trichloroethane	10.0	11.3		ug/L		113	78 - 133
1,1-Dichloroethane	10.0	10.6		ug/L		106	75 - 133
1,1-Dichloroethene	10.0	9.02		ug/L		90	65 - 139
1,2,4-Trichlorobenzene	10.0	8.76		ug/L		88	42 - 133
1,2,4-Trimethylbenzene	10.0	11.7		ug/L		117	74 - 120
1,2-Dibromo-3-Chloropropane	10.0	8.00		ug/L		80	46 - 132
1,2-Dibromoethane	10.0	10.8		ug/L		108	77 - 123
1,2-Dichlorobenzene	10.0	10.2		ug/L		102	78 - 120
1,2-Dichloroethane	10.0	11.9		ug/L		119	71 - 135
1,2-Dichloropropane	10.0	10.9		ug/L		109	78 - 133
1,3,5-Trimethylbenzene	10.0	11.4		ug/L		114	75 - 121
1,3-Dichlorobenzene	10.0	10.4		ug/L		104	78 - 120
1,4-Dichlorobenzene	10.0	10.4		ug/L		104	78 - 120
2-Butanone (MEK)	20.0	27.3		ug/L		136	39 - 163
2-Hexanone	20.0	26.2		ug/L		131	43 - 148
4-Methyl-2-pentanone (MIBK)	20.0	23.9		ug/L		120	49 - 143
Acetone	20.0	28.5		ug/L		143	21 - 162
Benzene	10.0	10.4		ug/L		104	80 - 123
Bromodichloromethane	10.0	10.8		ug/L		108	77 - 125
Bromoform	10.0	8.54		ug/L		85	49 - 141
Bromomethane	10.0	7.50		ug/L		75	41 - 175
Carbon disulfide	10.0	8.30		ug/L		83	60 - 138
Carbon tetrachloride	10.0	9.82		ug/L		98	63 - 140
Chlorobenzene	10.0	10.6		ug/L		106	80 - 121
Chloroethane	10.0	8.34		ug/L		83	33 - 173
Chloroform	10.0	10.6		ug/L		106	79 - 127

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-405419/4
Matrix: Water
Analysis Batch: 405419

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloromethane	10.0	7.32		ug/L		73	54 - 143
cis-1,2-Dichloroethene	10.0	9.90		ug/L		99	76 - 128
cis-1,3-Dichloropropene	10.0	9.68		ug/L		97	64 - 132
Cyclohexane	10.0	11.1		ug/L		111	58 - 145
Dibromochloromethane	10.0	9.07		ug/L		91	70 - 132
Dichlorodifluoromethane	10.0	5.17		ug/L		52	29 - 148
Diethyl ether	10.0	10.2		ug/L		102	70 - 146
Ethylbenzene	10.0	10.8		ug/L		108	80 - 120
Isopropylbenzene	10.0	10.4		ug/L		104	74 - 120
Methyl acetate	20.0	25.3		ug/L		127	52 - 145
Methyl tert-butyl ether	10.0	10.1		ug/L		101	51 - 133
Methylcyclohexane	10.0	10.0		ug/L		100	60 - 125
Methylene Chloride	10.0	10.1		ug/L		101	70 - 134
Styrene	10.0	10.1		ug/L		101	79 - 120
Tetrachloroethene	10.0	9.77		ug/L		98	74 - 130
Toluene	10.0	10.9		ug/L		109	78 - 129
trans-1,2-Dichloroethene	10.0	9.45		ug/L		94	78 - 133
trans-1,3-Dichloropropene	10.0	10.4		ug/L		104	55 - 128
Trichloroethene	10.0	8.90		ug/L		89	76 - 125
Trichlorofluoromethane	10.0	8.27		ug/L		83	51 - 164
Vinyl chloride	10.0	7.40		ug/L		74	58 - 143
Xylenes, Total	20.0	20.6		ug/L		103	80 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	97		59 - 120
Dibromofluoromethane (Surr)	89		75 - 128
1,2-Dichloroethane-d4 (Surr)	113		70 - 121
Toluene-d8 (Surr)	100		70 - 123

Lab Sample ID: 240-119813-H-3 MS
Matrix: Water
Analysis Batch: 405419

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	1.0	U F2	10.0	6.71		ug/L		67	51 - 138
1,1,2,2-Tetrachloroethane	1.0	U	10.0	10.2		ug/L		102	60 - 137
1,1,2-Trichloroethane	1.0	U	10.0	8.20		ug/L		82	76 - 132
1,1-Dichloroethane	1.0	U	10.0	8.02		ug/L		80	63 - 136
1,1-Dichloroethene	1.0	U F2	10.0	5.38		ug/L		54	53 - 140
1,2,4-Trichlorobenzene	1.0	U	10.0	5.82		ug/L		58	30 - 126
1,2,4-Trimethylbenzene	1.0	U	10.0	8.21		ug/L		82	62 - 120
1,2-Dichlorobenzene	1.0	U	10.0	7.52		ug/L		75	64 - 120
1,2-Dichloroethane	1.0	U	10.0	9.26		ug/L		93	65 - 135
1,2-Dichloropropane	1.0	U	10.0	7.59		ug/L		76	70 - 132
1,3,5-Trimethylbenzene	1.0	U F2	10.0	7.75		ug/L		77	64 - 120
1,3-Dichlorobenzene	1.0	U	10.0	7.64		ug/L		76	62 - 120
1,4-Dichlorobenzene	1.0	U	10.0	7.40		ug/L		74	63 - 120
2-Butanone (MEK)	10	U	20.0	16.3		ug/L		81	37 - 156

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-119813-H-3 MS

Matrix: Water

Analysis Batch: 405419

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
2-Hexanone	10	U	20.0	18.0		ug/L		90	42 - 150
4-Methyl-2-pentanone (MIBK)	10	U	20.0	16.3		ug/L		82	44 - 143
Acetone	10	U	20.0	18.3		ug/L		92	10 - 168
Benzene	1.0	U F2	10.0	7.16		ug/L		72	71 - 122
Bromodichloromethane	1.0	U	10.0	7.30		ug/L		73	64 - 125
Bromoform	1.0	U	10.0	5.58		ug/L		56	44 - 129
Bromomethane	1.0	U F2	10.0	4.91		ug/L		49	19 - 187
Carbon disulfide	5.0	U F2	10.0	5.21		ug/L		52	43 - 144
Carbon tetrachloride	1.0	U F2	10.0	5.94		ug/L		59	41 - 143
Chlorobenzene	1.0	U	10.0	7.53		ug/L		75	70 - 123
Chloroethane	1.0	U F2	10.0	5.68		ug/L		57	11 - 189
Chloroform	1.0	U	10.0	7.95		ug/L		79	68 - 130
Chloromethane	1.0	U F2	10.0	4.97		ug/L		50	31 - 154
cis-1,2-Dichloroethene	1.0	U	10.0	7.95		ug/L		79	64 - 130
cis-1,3-Dichloropropene	1.0	U	10.0	6.28		ug/L		63	48 - 127
Dibromochloromethane	1.0	U	10.0	6.44		ug/L		64	60 - 129
Dichlorodifluoromethane	1.0	U F2	10.0	3.13		ug/L		31	28 - 136
Ethylbenzene	1.0	U	10.0	7.18		ug/L		72	66 - 120
Isopropylbenzene	1.0	U	10.0	6.93		ug/L		69	59 - 120
Methyl tert-butyl ether	1.0	U	10.0	8.02		ug/L		80	41 - 136
Methylene Chloride	5.0	U	10.0	7.83		ug/L		78	61 - 130
Styrene	1.0	U	10.0	7.35		ug/L		74	68 - 120
Tetrachloroethene	1.0	U F2	10.0	5.39		ug/L		54	51 - 136
Toluene	1.0	U	10.0	7.85		ug/L		79	62 - 132
trans-1,2-Dichloroethene	1.0	U F2	10.0	6.84		ug/L		68	68 - 133
trans-1,3-Dichloropropene	1.0	U	10.0	6.54		ug/L		65	40 - 125
Trichloroethene	1.0	U	10.0	5.81		ug/L		58	55 - 131
Trichlorofluoromethane	1.0	U F2	10.0	5.18		ug/L		52	37 - 174
Vinyl chloride	1.0	U F2	10.0	4.64		ug/L		46	43 - 154
Xylenes, Total	2.0	U	20.0	14.6		ug/L		73	67 - 120

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	99		59 - 120
Dibromofluoromethane (Surr)	95		75 - 128
1,2-Dichloroethane-d4 (Surr)	118		70 - 121
Toluene-d8 (Surr)	101		70 - 123

Lab Sample ID: 240-119813-I-3 MSD

Matrix: Water

Analysis Batch: 405419

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier						
1,1,1-Trichloroethane	1.0	U F2	10.0	8.89	F2	ug/L		89	51 - 138	28	27
1,1,1,2-Tetrachloroethane	1.0	U	10.0	11.7		ug/L		117	60 - 137	14	31
1,1,2-Trichloroethane	1.0	U	10.0	10.1		ug/L		101	76 - 132	21	25
1,1-Dichloroethane	1.0	U	10.0	10.1		ug/L		101	63 - 136	23	23
1,1-Dichloroethene	1.0	U F2	10.0	7.97	F2	ug/L		80	53 - 140	39	35
1,2,4-Trichlorobenzene	1.0	U	10.0	8.16		ug/L		82	30 - 126	34	35

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-119813-I-3 MSD

Matrix: Water

Analysis Batch: 405419

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2,4-Trimethylbenzene	1.0	U	10.0	10.3		ug/L		103	62 - 120	22	27
1,2-Dichlorobenzene	1.0	U	10.0	9.12		ug/L		91	64 - 120	19	30
1,2-Dichloroethane	1.0	U	10.0	10.8		ug/L		108	65 - 135	15	24
1,2-Dichloropropane	1.0	U	10.0	9.71		ug/L		97	70 - 132	24	26
1,3,5-Trimethylbenzene	1.0	U F2	10.0	10.2	F2	ug/L		102	64 - 120	27	23
1,3-Dichlorobenzene	1.0	U	10.0	8.92		ug/L		89	62 - 120	15	31
1,4-Dichlorobenzene	1.0	U	10.0	9.30		ug/L		93	63 - 120	23	28
2-Butanone (MEK)	10	U	20.0	20.5		ug/L		102	37 - 156	23	35
2-Hexanone	10	U	20.0	22.9		ug/L		115	42 - 150	24	35
4-Methyl-2-pentanone (MIBK)	10	U	20.0	20.2		ug/L		101	44 - 143	21	35
Acetone	10	U	20.0	22.0		ug/L		110	10 - 168	18	35
Benzene	1.0	U F2	10.0	9.00	F2	ug/L		90	71 - 122	23	22
Bromodichloromethane	1.0	U	10.0	9.03		ug/L		90	64 - 125	21	27
Bromoform	1.0	U	10.0	7.13		ug/L		71	44 - 129	24	28
Bromomethane	1.0	U F2	10.0	7.22	F2	ug/L		72	19 - 187	38	35
Carbon disulfide	5.0	U F2	10.0	7.34	F2	ug/L		73	43 - 144	34	33
Carbon tetrachloride	1.0	U F2	10.0	8.45	F2	ug/L		84	41 - 143	35	30
Chlorobenzene	1.0	U	10.0	9.03		ug/L		90	70 - 123	18	23
Chloroethane	1.0	U F2	10.0	8.86	F2	ug/L		89	11 - 189	44	35
Chloroform	1.0	U	10.0	9.69		ug/L		97	68 - 130	20	23
Chloromethane	1.0	U F2	10.0	7.64	F2	ug/L		76	31 - 154	42	35
cis-1,2-Dichloroethene	1.0	U	10.0	9.21		ug/L		92	64 - 130	15	21
cis-1,3-Dichloropropene	1.0	U	10.0	7.77		ug/L		78	48 - 127	21	30
Dibromochloromethane	1.0	U	10.0	8.28		ug/L		83	60 - 129	25	26
Dichlorodifluoromethane	1.0	U F2	10.0	4.78	F2	ug/L		48	28 - 136	42	35
Ethylbenzene	1.0	U	10.0	8.94		ug/L		89	66 - 120	22	24
Isopropylbenzene	1.0	U	10.0	9.36		ug/L		94	59 - 120	30	31
Methyl tert-butyl ether	1.0	U	10.0	9.95		ug/L		100	41 - 136	22	29
Methylene Chloride	5.0	U	10.0	9.57		ug/L		96	61 - 130	20	29
Styrene	1.0	U	10.0	8.58		ug/L		86	68 - 120	15	26
Tetrachloroethene	1.0	U F2	10.0	7.78	F2	ug/L		78	51 - 136	36	23
Toluene	1.0	U	10.0	9.69		ug/L		97	62 - 132	21	23
trans-1,2-Dichloroethene	1.0	U F2	10.0	8.79	F2	ug/L		88	68 - 133	25	24
trans-1,3-Dichloropropene	1.0	U	10.0	8.34		ug/L		83	40 - 125	24	27
Trichloroethene	1.0	U	10.0	7.20		ug/L		72	55 - 131	21	23
Trichlorofluoromethane	1.0	U F2	10.0	8.23	F2	ug/L		82	37 - 174	45	35
Vinyl chloride	1.0	U F2	10.0	7.43	F2	ug/L		74	43 - 154	46	29
Xylenes, Total	2.0	U	20.0	18.3		ug/L		91	67 - 120	22	25

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		59 - 120
Dibromofluoromethane (Surr)	91		75 - 128
1,2-Dichloroethane-d4 (Surr)	114		70 - 121
Toluene-d8 (Surr)	101		70 - 123

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-404405/5
Matrix: Water
Analysis Batch: 404405

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			10/07/19 12:46	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		63 - 125					10/07/19 12:46	1

Lab Sample ID: LCS 240-404405/4
Matrix: Water
Analysis Batch: 404405

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.8		ug/L		118	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	100		63 - 125				

Lab Sample ID: 240-119753-A-3 MS
Matrix: Water
Analysis Batch: 404405

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.1	J	10.0	11.0		ug/L		99	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	104		63 - 125						

Lab Sample ID: 240-119753-A-3 MSD
Matrix: Water
Analysis Batch: 404405

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.1	J	10.0	10.6		ug/L		95	52 - 129	4	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	105		63 - 125								

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

GC/MS VOA

Analysis Batch: 404405

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119811-1	MW-124_093019	Total/NA	Water	8260B SIM	
MB 240-404405/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-404405/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-119753-A-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-119753-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 405419

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-119811-1	MW-124_093019	Total/NA	Water	8260B	
240-119811-2	TRIP BLANK	Total/NA	Water	8260B	
MB 240-405419/6	Method Blank	Total/NA	Water	8260B	
LCS 240-405419/4	Lab Control Sample	Total/NA	Water	8260B	
240-119813-H-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-119813-I-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Client Sample ID: MW-124_093019

Lab Sample ID: 240-119811-1

Date Collected: 09/30/19 13:57

Matrix: Water

Date Received: 10/02/19 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405419	10/12/19 18:57	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	404405	10/07/19 21:30	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-119811-2

Date Collected: 09/30/19 00:00

Matrix: Water

Date Received: 10/02/19 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	405419	10/12/19 19:19	LEE	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

Job ID: 240-119811-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login #: 11981
Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: [Signature]
Cooler Received on 10-02-19 Opened on 10-02-19
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 14 Foam Box Client Cooler Box Other
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

- Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
- Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Are these work share samples? Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.
- Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC991818
- Were VOAs on the COC? Yes No
- Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # NA Yes No
- Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: M.S.

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____
VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

DATA VERIFICATION REPORT



October 16, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30016346.0001B - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 119811-1
Sample date: 2019-09-30
Report received by CADENA: 2019-10-16
Initial Data Verification completed by CADENA: 2019-10-16
Number of Samples:2
Sample Matrices:Water
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

GCMS VOC QC batch MS/MSD recovery outliers or RPD outliers were not determined using a client sample so qualification was not required based on these sample-specific QC outliers.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 119811-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401198111	MW-124_093019	9/30/2019	1:57:00	X	X	
2401198112	TRIP BLANK	9/30/2019	12:00:00	X		

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 119811-1

Sample Name: MW-124_093019 TRIP BLANK
Lab Sample ID: 2401198111 2401198112
Sample Date: 9/30/2019 9/30/2019

Analyte	Cas No.	Report		Units	Valid Qualifier	Report		Units	Valid Qualifier	
		Result	Limit			Result	Limit			
GC/MS VOC										
<u>OSW-8260B</u>										
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	
cis-1,2-Dichloroethene	156-59-2	2.1	1.0	ug/l	---	ND	1.0	ug/l	---	
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	
trans-1,2-Dichloroethene	156-60-5	0.24	1.0	ug/l	J	ND	1.0	ug/l	---	
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	
<u>OSW-8260BBSim</u>										
1,4-Dioxane	123-91-1	ND	2.0	ug/l	---					

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-126152-1
Client Project/Site: Ford LTP On Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/26/2020 12:05:37 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
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Have a Question?



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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Job ID: 240-126152-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 240-126152-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/12/2020 8:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126152-1), MW-194_021020 (240-126152-2), MW-194S_021020 (240-126152-3), MW-195S_021020 (240-126152-4), MW-66_021020 (240-126152-5), MW-22_021020 (240-126152-6) and DUP-13 (240-126152-7) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/17/2020 and 02/20/2020.

Samples MW-195S_021020 (240-126152-4)[100X], MW-22_021020 (240-126152-6)[66.67X] and DUP-13 (240-126152-7)[66.67X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-194_021020 (240-126152-2), MW-194S_021020 (240-126152-3), MW-195S_021020 (240-126152-4), MW-66_021020 (240-126152-5), MW-22_021020 (240-126152-6) and DUP-13 (240-126152-7) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/14/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126152-1	TRIP BLANK	Water	02/10/20 00:00	02/12/20 08:10	
240-126152-2	MW-194_021020	Water	02/10/20 10:26	02/12/20 08:10	
240-126152-3	MW-194S_021020	Water	02/10/20 11:21	02/12/20 08:10	
240-126152-4	MW-195S_021020	Water	02/10/20 12:36	02/12/20 08:10	
240-126152-5	MW-66_021020	Water	02/10/20 14:40	02/12/20 08:10	
240-126152-6	MW-22_021020	Water	02/10/20 16:21	02/12/20 08:10	
240-126152-7	DUP-13	Water	02/10/20 00:00	02/12/20 08:10	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126152-1

No Detections.

Client Sample ID: MW-194_021020

Lab Sample ID: 240-126152-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.7	J	2.0	0.86	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-194S_021020

Lab Sample ID: 240-126152-3

No Detections.

Client Sample ID: MW-195S_021020

Lab Sample ID: 240-126152-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	82	J	100	16	ug/L	100		8260B	Total/NA
trans-1,2-Dichloroethene	100		100	19	ug/L	100		8260B	Total/NA
Trichloroethene	2300		100	10	ug/L	100		8260B	Total/NA

Client Sample ID: MW-66_021020

Lab Sample ID: 240-126152-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	2.4		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-22_021020

Lab Sample ID: 240-126152-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	15		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	110		67	11	ug/L	66.67		8260B	Total/NA
Vinyl chloride	1300		67	13	ug/L	66.67		8260B	Total/NA

Client Sample ID: DUP-13

Lab Sample ID: 240-126152-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	14		2.0	0.86	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	100		67	11	ug/L	66.67		8260B	Total/NA
Vinyl chloride	1300		67	13	ug/L	66.67		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126152-1

Date Collected: 02/10/20 00:00

Matrix: Water

Date Received: 02/12/20 08:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/17/20 20:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/17/20 20:57	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/17/20 20:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/17/20 20:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/17/20 20:57	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/17/20 20:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		75 - 130		02/17/20 20:57	1
4-Bromofluorobenzene (Surr)	102		47 - 134		02/17/20 20:57	1
Toluene-d8 (Surr)	93		69 - 122		02/17/20 20:57	1
Dibromofluoromethane (Surr)	86		78 - 129		02/17/20 20:57	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: MW-194_021020

Lab Sample ID: 240-126152-2

Date Collected: 02/10/20 10:26

Matrix: Water

Date Received: 02/12/20 08:10

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.7	J	2.0	0.86	ug/L			02/14/20 18:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		70 - 133		02/14/20 18:29	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/17/20 21:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/17/20 21:22	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/17/20 21:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/17/20 21:22	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/17/20 21:22	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/17/20 21:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130		02/17/20 21:22	1
4-Bromofluorobenzene (Surr)	101		47 - 134		02/17/20 21:22	1
Toluene-d8 (Surr)	95		69 - 122		02/17/20 21:22	1
Dibromofluoromethane (Surr)	86		78 - 129		02/17/20 21:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: MW-194S_021020

Lab Sample ID: 240-126152-3

Date Collected: 02/10/20 11:21

Matrix: Water

Date Received: 02/12/20 08:10

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		02/14/20 18:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 133		02/14/20 18:54	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/17/20 21:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		02/17/20 21:47	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/17/20 21:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/17/20 21:47	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/17/20 21:47	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		02/17/20 21:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	85		75 - 130		02/17/20 21:47	1
4-Bromofluorobenzene (Surr)	103		47 - 134		02/17/20 21:47	1
Toluene-d8 (Surr)	92		69 - 122		02/17/20 21:47	1
Dibromofluoromethane (Surr)	88		78 - 129		02/17/20 21:47	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: MW-195S_021020

Lab Sample ID: 240-126152-4

Date Collected: 02/10/20 12:36

Matrix: Water

Date Received: 02/12/20 08:10

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		02/14/20 19:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		70 - 133					02/14/20 19:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	100	U	100	19	ug/L	-		02/17/20 22:12	100
cis-1,2-Dichloroethene	82	J	100	16	ug/L			02/17/20 22:12	100
Tetrachloroethene	100	U	100	15	ug/L			02/17/20 22:12	100
trans-1,2-Dichloroethene	100		100	19	ug/L			02/17/20 22:12	100
Trichloroethene	2300		100	10	ug/L			02/17/20 22:12	100
Vinyl chloride	100	U	100	20	ug/L			02/17/20 22:12	100
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130					02/17/20 22:12	100
4-Bromofluorobenzene (Surr)	103		47 - 134					02/17/20 22:12	100
Toluene-d8 (Surr)	95		69 - 122					02/17/20 22:12	100
Dibromofluoromethane (Surr)	85		78 - 129					02/17/20 22:12	100

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: MW-66_021020

Lab Sample ID: 240-126152-5

Date Collected: 02/10/20 14:40

Matrix: Water

Date Received: 02/12/20 08:10

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		02/14/20 19:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 133		02/14/20 19:45	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/17/20 22:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		02/17/20 22:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/17/20 22:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/17/20 22:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/17/20 22:37	1
Vinyl chloride	2.4		1.0	0.20	ug/L	-		02/17/20 22:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		75 - 130		02/17/20 22:37	1
4-Bromofluorobenzene (Surr)	107		47 - 134		02/17/20 22:37	1
Toluene-d8 (Surr)	96		69 - 122		02/17/20 22:37	1
Dibromofluoromethane (Surr)	86		78 - 129		02/17/20 22:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: MW-22_021020

Lab Sample ID: 240-126152-6

Date Collected: 02/10/20 16:21

Matrix: Water

Date Received: 02/12/20 08:10

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	15		2.0	0.86	ug/L			02/14/20 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		70 - 133		02/14/20 20:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	67	U	67	13	ug/L			02/20/20 15:48	66.67
cis-1,2-Dichloroethene	110		67	11	ug/L			02/20/20 15:48	66.67
Tetrachloroethene	67	U	67	10	ug/L			02/20/20 15:48	66.67
trans-1,2-Dichloroethene	67	U	67	13	ug/L			02/20/20 15:48	66.67
Trichloroethene	67	U	67	6.7	ug/L			02/20/20 15:48	66.67
Vinyl chloride	1300		67	13	ug/L			02/20/20 15:48	66.67

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 130		02/20/20 15:48	66.67
4-Bromofluorobenzene (Surr)	66		47 - 134		02/20/20 15:48	66.67
Toluene-d8 (Surr)	89		69 - 122		02/20/20 15:48	66.67
Dibromofluoromethane (Surr)	122		78 - 129		02/20/20 15:48	66.67

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: DUP-13

Lab Sample ID: 240-126152-7

Date Collected: 02/10/20 00:00

Matrix: Water

Date Received: 02/12/20 08:10

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	14		2.0	0.86	ug/L			02/14/20 20:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		70 - 133					02/14/20 20:37	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	67	U	67	13	ug/L			02/20/20 16:12	66.67
cis-1,2-Dichloroethene	100		67	11	ug/L			02/20/20 16:12	66.67
Tetrachloroethene	67	U	67	10	ug/L			02/20/20 16:12	66.67
trans-1,2-Dichloroethene	67	U	67	13	ug/L			02/20/20 16:12	66.67
Trichloroethene	67	U	67	6.7	ug/L			02/20/20 16:12	66.67
Vinyl chloride	1300		67	13	ug/L			02/20/20 16:12	66.67
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		75 - 130					02/20/20 16:12	66.67
4-Bromofluorobenzene (Surr)	67		47 - 134					02/20/20 16:12	66.67
Toluene-d8 (Surr)	91		69 - 122					02/20/20 16:12	66.67
Dibromofluoromethane (Surr)	122		78 - 129					02/20/20 16:12	66.67

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
190-22324-G-6 MS	Matrix Spike	95	95	97	96
190-22324-H-6 MSD	Matrix Spike Duplicate	95	95	97	98
240-126098-D-3 MS	Matrix Spike	87	102	94	91
240-126098-D-3 MSD	Matrix Spike Duplicate	85	104	93	90
240-126152-1	TRIP BLANK	83	102	93	86
240-126152-2	MW-194_021020	87	101	95	86
240-126152-3	MW-194S_021020	85	103	92	88
240-126152-4	MW-195S_021020	87	103	95	85
240-126152-5	MW-66_021020	83	107	96	86
240-126152-6	MW-22_021020	111	66	89	122
240-126152-7	DUP-13	109	67	91	122
LCS 240-423052/4	Lab Control Sample	87	103	94	90
LCS 240-423592/4	Lab Control Sample	96	95	96	99
MB 240-423052/7	Method Blank	83	103	93	86
MB 240-423592/7	Method Blank	109	64	89	116

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-126097-C-5 MS	Matrix Spike	102
240-126097-C-5 MSD	Matrix Spike Duplicate	101
240-126152-2	MW-194_021020	99
240-126152-3	MW-194S_021020	100
240-126152-4	MW-195S_021020	104
240-126152-5	MW-66_021020	100
240-126152-6	MW-22_021020	106
240-126152-7	DUP-13	107
LCS 240-422866/4	Lab Control Sample	97
MB 240-422866/5	Method Blank	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-423052/7
Matrix: Water
Analysis Batch: 423052

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/17/20 14:14	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/17/20 14:14	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/17/20 14:14	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/17/20 14:14	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/17/20 14:14	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/17/20 14:14	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		75 - 130		02/17/20 14:14	1
4-Bromofluorobenzene (Surr)	103		47 - 134		02/17/20 14:14	1
Toluene-d8 (Surr)	93		69 - 122		02/17/20 14:14	1
Dibromofluoromethane (Surr)	86		78 - 129		02/17/20 14:14	1

Lab Sample ID: LCS 240-423052/4
Matrix: Water
Analysis Batch: 423052

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.3		ug/L		103	73 - 129
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	75 - 124
Tetrachloroethene	10.0	9.58		ug/L		96	70 - 125
trans-1,2-Dichloroethene	10.0	10.7		ug/L		107	74 - 130
Trichloroethene	10.0	9.60		ug/L		96	71 - 121
Vinyl chloride	10.0	10.9		ug/L		109	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		75 - 130
4-Bromofluorobenzene (Surr)	103		47 - 134
Toluene-d8 (Surr)	94		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

Lab Sample ID: 240-126098-D-3 MS
Matrix: Water
Analysis Batch: 423052

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	13	U	133	129		ug/L		97	64 - 132
cis-1,2-Dichloroethene	91		133	225		ug/L		100	68 - 121
Tetrachloroethene	13	U	133	116		ug/L		87	52 - 129
trans-1,2-Dichloroethene	13	U	133	135		ug/L		101	69 - 126
Trichloroethene	13	U	133	113		ug/L		85	56 - 124
Vinyl chloride	370		133	516		ug/L		107	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	87		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	94		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-126098-D-3 MS
Matrix: Water
Analysis Batch: 423052

Client Sample ID: Matrix Spike
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	91		78 - 129

Lab Sample ID: 240-126098-D-3 MSD
Matrix: Water
Analysis Batch: 423052

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	13	U	133	126		ug/L		95	64 - 132	2	35
cis-1,2-Dichloroethene	91		133	228		ug/L		103	68 - 121	1	35
Tetrachloroethene	13	U	133	115		ug/L		86	52 - 129	1	35
trans-1,2-Dichloroethene	13	U	133	130		ug/L		98	69 - 126	3	35
Trichloroethene	13	U	133	113		ug/L		84	56 - 124	0	35
Vinyl chloride	370		133	491		ug/L		88	49 - 136	5	35

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	85		75 - 130
<i>4-Bromofluorobenzene (Surr)</i>	104		47 - 134
<i>Toluene-d8 (Surr)</i>	93		69 - 122
<i>Dibromofluoromethane (Surr)</i>	90		78 - 129

Lab Sample ID: MB 240-423592/7
Matrix: Water
Analysis Batch: 423592

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/20/20 15:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/20/20 15:25	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/20/20 15:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/20/20 15:25	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/20/20 15:25	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/20/20 15:25	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	109		75 - 130		02/20/20 15:25	1
<i>4-Bromofluorobenzene (Surr)</i>	64		47 - 134		02/20/20 15:25	1
<i>Toluene-d8 (Surr)</i>	89		69 - 122		02/20/20 15:25	1
<i>Dibromofluoromethane (Surr)</i>	116		78 - 129		02/20/20 15:25	1

Lab Sample ID: LCS 240-423592/4
Matrix: Water
Analysis Batch: 423592

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.6		ug/L		106	73 - 129
cis-1,2-Dichloroethene	10.0	10.9		ug/L		109	75 - 124
Tetrachloroethene	10.0	10.8		ug/L		108	70 - 125
trans-1,2-Dichloroethene	10.0	11.5		ug/L		115	74 - 130
Trichloroethene	10.0	11.1		ug/L		111	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-423592/4
Matrix: Water
Analysis Batch: 423592

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	7.36		ug/L		74	61 - 134
Surrogate							
	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	96		75 - 130				
4-Bromofluorobenzene (Surr)	95		47 - 134				
Toluene-d8 (Surr)	96		69 - 122				
Dibromofluoromethane (Surr)	99		78 - 129				

Lab Sample ID: 190-22324-G-6 MS
Matrix: Water
Analysis Batch: 423592

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.91		ug/L		99	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	10.4		ug/L		104	68 - 121
Tetrachloroethene	1.0	U	10.0	10.5		ug/L		105	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	11.0		ug/L		110	69 - 126
Trichloroethene	1.0	U	10.0	10.1		ug/L		101	56 - 124
Vinyl chloride	1.0	U	10.0	7.02		ug/L		70	49 - 136
Surrogate									
	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	95		75 - 130						
4-Bromofluorobenzene (Surr)	95		47 - 134						
Toluene-d8 (Surr)	97		69 - 122						
Dibromofluoromethane (Surr)	96		78 - 129						

Lab Sample ID: 190-22324-H-6 MSD
Matrix: Water
Analysis Batch: 423592

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.2		ug/L		102	64 - 132	2	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.8		ug/L		108	68 - 121	4	35
Tetrachloroethene	1.0	U	10.0	10.3		ug/L		103	52 - 129	2	35
trans-1,2-Dichloroethene	1.0	U	10.0	11.3		ug/L		113	69 - 126	3	35
Trichloroethene	1.0	U	10.0	9.79		ug/L		98	56 - 124	3	35
Vinyl chloride	1.0	U	10.0	7.15		ug/L		72	49 - 136	2	35
Surrogate											
	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	95		75 - 130								
4-Bromofluorobenzene (Surr)	95		47 - 134								
Toluene-d8 (Surr)	97		69 - 122								
Dibromofluoromethane (Surr)	98		78 - 129								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-422866/5
Matrix: Water
Analysis Batch: 422866

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/14/20 12:34	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 133					02/14/20 12:34	1

Lab Sample ID: LCS 240-422866/4
Matrix: Water
Analysis Batch: 422866

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	11.2		ug/L		112	80 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	97		70 - 133				

Lab Sample ID: 240-126097-C-5 MS
Matrix: Water
Analysis Batch: 422866

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	1.5	J	10.0	9.37		ug/L		78	46 - 170
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	102		70 - 133						

Lab Sample ID: 240-126097-C-5 MSD
Matrix: Water
Analysis Batch: 422866

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	1.5	J	10.0	9.08		ug/L		75	46 - 170	3	26
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	101		70 - 133								

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

GC/MS VOA

Analysis Batch: 422866

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126152-2	MW-194_021020	Total/NA	Water	8260B SIM	
240-126152-3	MW-194S_021020	Total/NA	Water	8260B SIM	
240-126152-4	MW-195S_021020	Total/NA	Water	8260B SIM	
240-126152-5	MW-66_021020	Total/NA	Water	8260B SIM	
240-126152-6	MW-22_021020	Total/NA	Water	8260B SIM	
240-126152-7	DUP-13	Total/NA	Water	8260B SIM	
MB 240-422866/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-422866/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126097-C-5 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126097-C-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 423052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126152-1	TRIP BLANK	Total/NA	Water	8260B	
240-126152-2	MW-194_021020	Total/NA	Water	8260B	
240-126152-3	MW-194S_021020	Total/NA	Water	8260B	
240-126152-4	MW-195S_021020	Total/NA	Water	8260B	
240-126152-5	MW-66_021020	Total/NA	Water	8260B	
MB 240-423052/7	Method Blank	Total/NA	Water	8260B	
LCS 240-423052/4	Lab Control Sample	Total/NA	Water	8260B	
240-126098-D-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-126098-D-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 423592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126152-6	MW-22_021020	Total/NA	Water	8260B	
240-126152-7	DUP-13	Total/NA	Water	8260B	
MB 240-423592/7	Method Blank	Total/NA	Water	8260B	
LCS 240-423592/4	Lab Control Sample	Total/NA	Water	8260B	
190-22324-G-6 MS	Matrix Spike	Total/NA	Water	8260B	
190-22324-H-6 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126152-1

Date Collected: 02/10/20 00:00

Matrix: Water

Date Received: 02/12/20 08:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423052	02/17/20 20:57	LRW	TAL CAN

Client Sample ID: MW-194_021020

Lab Sample ID: 240-126152-2

Date Collected: 02/10/20 10:26

Matrix: Water

Date Received: 02/12/20 08:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423052	02/17/20 21:22	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	422866	02/14/20 18:29	TJL2	TAL CAN

Client Sample ID: MW-194S_021020

Lab Sample ID: 240-126152-3

Date Collected: 02/10/20 11:21

Matrix: Water

Date Received: 02/12/20 08:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423052	02/17/20 21:47	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	422866	02/14/20 18:54	TJL2	TAL CAN

Client Sample ID: MW-195S_021020

Lab Sample ID: 240-126152-4

Date Collected: 02/10/20 12:36

Matrix: Water

Date Received: 02/12/20 08:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		100	423052	02/17/20 22:12	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	422866	02/14/20 19:20	TJL2	TAL CAN

Client Sample ID: MW-66_021020

Lab Sample ID: 240-126152-5

Date Collected: 02/10/20 14:40

Matrix: Water

Date Received: 02/12/20 08:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423052	02/17/20 22:37	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	422866	02/14/20 19:45	TJL2	TAL CAN

Client Sample ID: MW-22_021020

Lab Sample ID: 240-126152-6

Date Collected: 02/10/20 16:21

Matrix: Water

Date Received: 02/12/20 08:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		66.67	423592	02/20/20 15:48	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	422866	02/14/20 20:11	TJL2	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Client Sample ID: DUP-13

Lab Sample ID: 240-126152-7

Date Collected: 02/10/20 00:00

Matrix: Water

Date Received: 02/12/20 08:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		66.67	423592	02/20/20 16:12	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	422866	02/14/20 20:37	TJL2	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126152-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20


* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 124152


Client Arceadis Site Name _____
 Cooler Received on 2-12-20 Opened on 2-12-20

Cooler unpacked by:


FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 27 °C Corrected Cooler Temp. 34 °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
 12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
 13. Were VOAs on the COC? Yes No
 14. Were air bubbles >6 mm in any VOA vials? Yes  Larger than this. Yes No NA
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:
Ab

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT

February 26, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30042006.0401.02 - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 126152-1
Sample date: 2020-02-10
Report received by CADENA: 2020-02-26
Initial Data Verification completed by CADENA: 2020-02-26
Number of Samples:7
Sample Matrices:Water
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 126152-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401261521	TRIP BLANK	2/10/2020	12:00:00	X		
2401261522	MW-194_021020	2/10/2020	10:26:00	X	X	
2401261523	MW-194S_021020	2/10/2020	11:21:00	X	X	
2401261524	MW-195S_021020	2/10/2020	12:36:00	X	X	
2401261525	MW-66_021020	2/10/2020	2:40:00	X	X	
2401261526	MW-22_021020	2/10/2020	4:21:00	X	X	
2401261527	DUP-13	2/10/2020	12:00:00	X	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126152-1

Analyte	Cas No.	Sample Name: TRIP BLANK				MW-194_021020				MW-194S_021020				MW-195S_021020				MW-66_021020				MW-22_021020				DUP-13			
		Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid
GC/MS VOC																													
<u>OSW-8260B</u>																													
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	100	ug/l	---	ND	1.0	ug/l	---	ND	67	ug/l	---	ND	67	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	82	100	ug/l	J	ND	1.0	ug/l	---	110	67	ug/l	---	100	67	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	100	ug/l	---	ND	1.0	ug/l	---	ND	67	ug/l	---	ND	67	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	100	100	ug/l	---	ND	1.0	ug/l	---	ND	67	ug/l	---	ND	67	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	2300	100	ug/l	---	ND	1.0	ug/l	---	ND	67	ug/l	---	ND	67	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	100	ug/l	---	2.4	1.0	ug/l	---	1300	67	ug/l	---	1300	67	ug/l	---
<u>OSW-8260BBSim</u>																													
1,4-Dioxane	123-91-1					1.7	2.0	ug/l	J	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	15	2.0	ug/l	---	14	2.0	ug/l	---

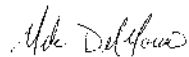
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-126247-1
Client Project/Site: Ford LTP On Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/27/2020 10:12:04 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Job ID: 240-126247-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 240-126247-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/13/2020 8:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.6° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126247-1), MW-196S_021120 (240-126247-2), MW-196_021120 (240-126247-3), MW-197S_021120 (240-126247-4) and TW-16-03_021120 (240-126247-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/18/2020 and 02/19/2020.

Samples MW-196S_021120 (240-126247-2)[2X], MW-196_021120 (240-126247-3)[25X] and TW-16-03_021120 (240-126247-5)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-196S_021120 (240-126247-2), MW-196_021120 (240-126247-3), MW-197S_021120 (240-126247-4) and TW-16-03_021120 (240-126247-5) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/19/2020 and 02/20/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126247-1	TRIP BLANK	Water	02/11/20 00:00	02/13/20 08:40	
240-126247-2	MW-196S_021120	Water	02/11/20 10:41	02/13/20 08:40	
240-126247-3	MW-196_021120	Water	02/11/20 11:36	02/13/20 08:40	
240-126247-4	MW-197S_021120	Water	02/11/20 12:51	02/13/20 08:40	
240-126247-5	TW-16-03_021120	Water	02/11/20 14:46	02/13/20 08:40	

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126247-1

No Detections.

Client Sample ID: MW-196S_021120

Lab Sample ID: 240-126247-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	51		2.0	0.32	ug/L	2		8260B	Total/NA
trans-1,2-Dichloroethene	1.3		1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	39		1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: MW-196_021120

Lab Sample ID: 240-126247-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	250		25	4.0	ug/L	25		8260B	Total/NA
trans-1,2-Dichloroethene	65		25	4.8	ug/L	25		8260B	Total/NA
Trichloroethene	520		25	2.5	ug/L	25		8260B	Total/NA

Client Sample ID: MW-197S_021120

Lab Sample ID: 240-126247-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.23	J	1.0	0.19	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	14		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.89	J	1.0	0.19	ug/L	1		8260B	Total/NA
Trichloroethene	31		1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	2.2		1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: TW-16-03_021120

Lab Sample ID: 240-126247-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	33		5.0	0.80	ug/L	5		8260B	Total/NA
Vinyl chloride	82		5.0	1.0	ug/L	5		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126247-1

Date Collected: 02/11/20 00:00

Matrix: Water

Date Received: 02/13/20 08:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/20 17:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/20 17:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/20 17:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/20 17:12	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/20 17:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/18/20 17:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130		02/18/20 17:12	1
4-Bromofluorobenzene (Surr)	100		47 - 134		02/18/20 17:12	1
Toluene-d8 (Surr)	93		69 - 122		02/18/20 17:12	1
Dibromofluoromethane (Surr)	86		78 - 129		02/18/20 17:12	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Client Sample ID: MW-196S_021120

Lab Sample ID: 240-126247-2

Date Collected: 02/11/20 10:41

Matrix: Water

Date Received: 02/13/20 08:40

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		02/19/20 15:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		70 - 133		02/19/20 15:39	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/18/20 21:51	1
cis-1,2-Dichloroethene	51		2.0	0.32	ug/L			02/19/20 15:28	2
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/18/20 21:51	1
trans-1,2-Dichloroethene	1.3		1.0	0.19	ug/L			02/18/20 21:51	1
Trichloroethene	39		1.0	0.10	ug/L			02/18/20 21:51	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		02/18/20 21:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130		02/18/20 21:51	1
1,2-Dichloroethane-d4 (Surr)	85		75 - 130		02/19/20 15:28	2
4-Bromofluorobenzene (Surr)	100		47 - 134		02/18/20 21:51	1
4-Bromofluorobenzene (Surr)	103		47 - 134		02/19/20 15:28	2
Toluene-d8 (Surr)	92		69 - 122		02/18/20 21:51	1
Toluene-d8 (Surr)	90		69 - 122		02/19/20 15:28	2
Dibromofluoromethane (Surr)	90		78 - 129		02/18/20 21:51	1
Dibromofluoromethane (Surr)	85		78 - 129		02/19/20 15:28	2

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Client Sample ID: MW-196_021120

Lab Sample ID: 240-126247-3

Date Collected: 02/11/20 11:36

Matrix: Water

Date Received: 02/13/20 08:40

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/20/20 08:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 133		02/20/20 08:45	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	25	U	25	4.8	ug/L			02/19/20 15:52	25
cis-1,2-Dichloroethene	250		25	4.0	ug/L			02/19/20 15:52	25
Tetrachloroethene	25	U	25	3.8	ug/L			02/19/20 15:52	25
trans-1,2-Dichloroethene	65		25	4.8	ug/L			02/19/20 15:52	25
Trichloroethene	520		25	2.5	ug/L			02/19/20 15:52	25
Vinyl chloride	25	U	25	5.0	ug/L			02/19/20 15:52	25

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130		02/19/20 15:52	25
4-Bromofluorobenzene (Surr)	100		47 - 134		02/19/20 15:52	25
Toluene-d8 (Surr)	90		69 - 122		02/19/20 15:52	25
Dibromofluoromethane (Surr)	85		78 - 129		02/19/20 15:52	25

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Client Sample ID: MW-197S_021120

Lab Sample ID: 240-126247-4

Date Collected: 02/11/20 12:51

Matrix: Water

Date Received: 02/13/20 08:40

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/20/20 09:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 133		02/20/20 09:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.23	J	1.0	0.19	ug/L			02/19/20 15:02	1
cis-1,2-Dichloroethene	14		1.0	0.16	ug/L			02/19/20 15:02	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/19/20 15:02	1
trans-1,2-Dichloroethene	0.89	J	1.0	0.19	ug/L			02/19/20 15:02	1
Trichloroethene	31		1.0	0.10	ug/L			02/19/20 15:02	1
Vinyl chloride	2.2		1.0	0.20	ug/L			02/19/20 15:02	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	87		75 - 130		02/19/20 15:02	1
4-Bromofluorobenzene (Surr)	104		47 - 134		02/19/20 15:02	1
Toluene-d8 (Surr)	90		69 - 122		02/19/20 15:02	1
Dibromofluoromethane (Surr)	89		78 - 129		02/19/20 15:02	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Client Sample ID: TW-16-03_021120

Lab Sample ID: 240-126247-5

Date Collected: 02/11/20 14:46

Matrix: Water

Date Received: 02/13/20 08:40

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/20/20 09:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 133		02/20/20 09:37	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	5.0	U	5.0	0.95	ug/L			02/19/20 16:17	5
cis-1,2-Dichloroethene	33		5.0	0.80	ug/L			02/19/20 16:17	5
Tetrachloroethene	5.0	U	5.0	0.75	ug/L			02/19/20 16:17	5
trans-1,2-Dichloroethene	5.0	U	5.0	0.95	ug/L			02/19/20 16:17	5
Trichloroethene	5.0	U	5.0	0.50	ug/L			02/19/20 16:17	5
Vinyl chloride	82		5.0	1.0	ug/L			02/19/20 16:17	5

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130		02/19/20 16:17	5
4-Bromofluorobenzene (Surr)	104		47 - 134		02/19/20 16:17	5
Toluene-d8 (Surr)	91		69 - 122		02/19/20 16:17	5
Dibromofluoromethane (Surr)	88		78 - 129		02/19/20 16:17	5

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-126243-E-2 MS	Matrix Spike	83	109	97	89
240-126243-F-2 MSD	Matrix Spike Duplicate	87	104	93	89
240-126247-1	TRIP BLANK	87	100	93	86
240-126247-2	MW-196S_021120	87	100	92	90
240-126247-2	MW-196S_021120	85	103	90	85
240-126247-3	MW-196_021120	88	100	90	85
240-126247-4	MW-197S_021120	87	104	90	89
240-126247-5	TW-16-03_021120	88	104	91	88
240-126251-E-5 MS	Matrix Spike	86	101	93	90
240-126251-F-5 MSD	Matrix Spike Duplicate	86	106	93	90
LCS 240-423222/4	Lab Control Sample	85	102	94	89
LCS 240-423408/4	Lab Control Sample	84	100	92	88
MB 240-423222/7	Method Blank	89	105	96	89
MB 240-423408/7	Method Blank	90	105	94	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-126247-2	MW-196S_021120	103
240-126247-3	MW-196_021120	100
240-126247-4	MW-197S_021120	98
240-126247-5	TW-16-03_021120	97
240-126250-C-3 MS	Matrix Spike	100
240-126250-C-3 MSD	Matrix Spike Duplicate	101
240-126251-C-5 MS	Matrix Spike	100
240-126251-C-5 MSD	Matrix Spike Duplicate	100
LCS 240-423320/4	Lab Control Sample	104
LCS 240-423494/4	Lab Control Sample	100
MB 240-423320/5	Method Blank	97
MB 240-423494/5	Method Blank	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-423222/7
Matrix: Water
Analysis Batch: 423222

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/20 14:41	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/18/20 14:41	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/18/20 14:41	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/18/20 14:41	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/18/20 14:41	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/18/20 14:41	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		02/18/20 14:41	1
4-Bromofluorobenzene (Surr)	105		47 - 134		02/18/20 14:41	1
Toluene-d8 (Surr)	96		69 - 122		02/18/20 14:41	1
Dibromofluoromethane (Surr)	89		78 - 129		02/18/20 14:41	1

Lab Sample ID: LCS 240-423222/4
Matrix: Water
Analysis Batch: 423222

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.76		ug/L		98	73 - 129
cis-1,2-Dichloroethene	10.0	9.53		ug/L		95	75 - 124
Tetrachloroethene	10.0	10.5		ug/L		105	70 - 125
trans-1,2-Dichloroethene	10.0	10.2		ug/L		102	74 - 130
Trichloroethene	10.0	9.46		ug/L		95	71 - 121
Vinyl chloride	10.0	11.2		ug/L		112	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		75 - 130
4-Bromofluorobenzene (Surr)	102		47 - 134
Toluene-d8 (Surr)	94		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-126243-E-2 MS
Matrix: Water
Analysis Batch: 423222

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.61		ug/L		96	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	9.56		ug/L		96	68 - 121
Tetrachloroethene	1.0	U	10.0	9.02		ug/L		90	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	9.94		ug/L		99	69 - 126
Trichloroethene	0.30	J	10.0	8.78		ug/L		85	56 - 124
Vinyl chloride	0.90	J	10.0	12.0		ug/L		111	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	109		47 - 134
Toluene-d8 (Surr)	97		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-126243-E-2 MS
Matrix: Water
Analysis Batch: 423222

Client Sample ID: Matrix Spike
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	89		78 - 129

Lab Sample ID: 240-126243-F-2 MSD
Matrix: Water
Analysis Batch: 423222

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,1-Dichloroethene	1.0	U	10.0	9.40		ug/L		94	64 - 132	2	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.1		ug/L		101	68 - 121	5	35
Tetrachloroethene	1.0	U	10.0	8.71		ug/L		87	52 - 129	3	35
trans-1,2-Dichloroethene	1.0	U	10.0	9.94		ug/L		99	69 - 126	0	35
Trichloroethene	0.30	J	10.0	8.88		ug/L		86	56 - 124	1	35
Vinyl chloride	0.90	J	10.0	12.4		ug/L		115	49 - 136	3	35

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	87		75 - 130
<i>4-Bromofluorobenzene (Surr)</i>	104		47 - 134
<i>Toluene-d8 (Surr)</i>	93		69 - 122
<i>Dibromofluoromethane (Surr)</i>	89		78 - 129

Lab Sample ID: MB 240-423408/7
Matrix: Water
Analysis Batch: 423408

Client Sample ID: Method Blank
Prep Type: Total/NA

<i>Analyte</i>	<i>MB Result</i>	<i>MB Qualifier</i>	<i>RL</i>	<i>MDL</i>	<i>Unit</i>	<i>D</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 14:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/19/20 14:37	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/19/20 14:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 14:37	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/19/20 14:37	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/19/20 14:37	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	90		75 - 130		02/19/20 14:37	1
<i>4-Bromofluorobenzene (Surr)</i>	105		47 - 134		02/19/20 14:37	1
<i>Toluene-d8 (Surr)</i>	94		69 - 122		02/19/20 14:37	1
<i>Dibromofluoromethane (Surr)</i>	95		78 - 129		02/19/20 14:37	1

Lab Sample ID: LCS 240-423408/4
Matrix: Water
Analysis Batch: 423408

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

<i>Analyte</i>	<i>Spike Added</i>	<i>LCS Result</i>	<i>LCS Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>
1,1-Dichloroethene	10.0	10.4		ug/L		104	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	10.5		ug/L		105	70 - 125
trans-1,2-Dichloroethene	10.0	10.6		ug/L		106	74 - 130
Trichloroethene	10.0	9.49		ug/L		95	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-423408/4
Matrix: Water
Analysis Batch: 423408

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	11.4		ug/L		114	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: 240-126251-E-5 MS
Matrix: Water
Analysis Batch: 423408

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	68 - 121
Tetrachloroethene	1.0	U	10.0	9.65		ug/L		96	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	10.5		ug/L		105	69 - 126
Trichloroethene	1.0	U	10.0	9.08		ug/L		91	56 - 124
Vinyl chloride	0.38	J	10.0	11.4		ug/L		110	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		75 - 130
4-Bromofluorobenzene (Surr)	101		47 - 134
Toluene-d8 (Surr)	93		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

Lab Sample ID: 240-126251-F-5 MSD
Matrix: Water
Analysis Batch: 423408

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	10.3		ug/L		103	64 - 132	1	35
cis-1,2-Dichloroethene	1.0	U	10.0	10.7		ug/L		107	68 - 121	2	35
Tetrachloroethene	1.0	U	10.0	9.57		ug/L		96	52 - 129	1	35
trans-1,2-Dichloroethene	1.0	U	10.0	10.7		ug/L		107	69 - 126	2	35
Trichloroethene	1.0	U	10.0	8.91		ug/L		89	56 - 124	2	35
Vinyl chloride	0.38	J	10.0	11.5		ug/L		111	49 - 136	1	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		75 - 130
4-Bromofluorobenzene (Surr)	106		47 - 134
Toluene-d8 (Surr)	93		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-423320/5
Matrix: Water
Analysis Batch: 423320

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		02/19/20 05:48	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		70 - 133					02/19/20 05:48	1

Lab Sample ID: LCS 240-423320/4
Matrix: Water
Analysis Batch: 423320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	8.53		ug/L	-	85	80 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	104		70 - 133				

Lab Sample ID: 240-126250-C-3 MS
Matrix: Water
Analysis Batch: 423320

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	10.9		ug/L	-	109	46 - 170
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	100		70 - 133						

Lab Sample ID: 240-126250-C-3 MSD
Matrix: Water
Analysis Batch: 423320

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	10.4		ug/L	-	104	46 - 170	5	26
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	101		70 - 133								

Lab Sample ID: MB 240-423494/5
Matrix: Water
Analysis Batch: 423494

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		02/20/20 06:39	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		70 - 133					02/20/20 06:39	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-423494/4
Matrix: Water
Analysis Batch: 423494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.25		ug/L		93	80 - 135
Surrogate							
	%Recovery	LCS Qualifier	LCS Limits				
1,2-Dichloroethane-d4 (Surr)	100		70 - 133				

Lab Sample ID: 240-126251-C-5 MS
Matrix: Water
Analysis Batch: 423494

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	8.86		ug/L		89	46 - 170
Surrogate									
	%Recovery	MS Qualifier	MS Limits						
1,2-Dichloroethane-d4 (Surr)	100		70 - 133						

Lab Sample ID: 240-126251-C-5 MSD
Matrix: Water
Analysis Batch: 423494

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.55		ug/L		95	46 - 170	7	26
Surrogate											
	%Recovery	MSD Qualifier	MSD Limits								
1,2-Dichloroethane-d4 (Surr)	100		70 - 133								

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

GC/MS VOA

Analysis Batch: 423222

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126247-1	TRIP BLANK	Total/NA	Water	8260B	
240-126247-2	MW-196S_021120	Total/NA	Water	8260B	
MB 240-423222/7	Method Blank	Total/NA	Water	8260B	
LCS 240-423222/4	Lab Control Sample	Total/NA	Water	8260B	
240-126243-E-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-126243-F-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 423320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126247-2	MW-196S_021120	Total/NA	Water	8260B SIM	
MB 240-423320/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-423320/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126250-C-3 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126250-C-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 423408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126247-2	MW-196S_021120	Total/NA	Water	8260B	
240-126247-3	MW-196_021120	Total/NA	Water	8260B	
240-126247-4	MW-197S_021120	Total/NA	Water	8260B	
240-126247-5	TW-16-03_021120	Total/NA	Water	8260B	
MB 240-423408/7	Method Blank	Total/NA	Water	8260B	
LCS 240-423408/4	Lab Control Sample	Total/NA	Water	8260B	
240-126251-E-5 MS	Matrix Spike	Total/NA	Water	8260B	
240-126251-F-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 423494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126247-3	MW-196_021120	Total/NA	Water	8260B SIM	
240-126247-4	MW-197S_021120	Total/NA	Water	8260B SIM	
240-126247-5	TW-16-03_021120	Total/NA	Water	8260B SIM	
MB 240-423494/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-423494/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126251-C-5 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126251-C-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126247-1

Date Collected: 02/11/20 00:00

Matrix: Water

Date Received: 02/13/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423222	02/18/20 17:12	LRW	TAL CAN

Client Sample ID: MW-196S_021120

Lab Sample ID: 240-126247-2

Date Collected: 02/11/20 10:41

Matrix: Water

Date Received: 02/13/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423222	02/18/20 21:51	LRW	TAL CAN
Total/NA	Analysis	8260B		2	423408	02/19/20 15:28	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	423320	02/19/20 15:39	TJL2	TAL CAN

Client Sample ID: MW-196_021120

Lab Sample ID: 240-126247-3

Date Collected: 02/11/20 11:36

Matrix: Water

Date Received: 02/13/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		25	423408	02/19/20 15:52	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	423494	02/20/20 08:45	SAM	TAL CAN

Client Sample ID: MW-197S_021120

Lab Sample ID: 240-126247-4

Date Collected: 02/11/20 12:51

Matrix: Water

Date Received: 02/13/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423408	02/19/20 15:02	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	423494	02/20/20 09:11	SAM	TAL CAN

Client Sample ID: TW-16-03_021120

Lab Sample ID: 240-126247-5

Date Collected: 02/11/20 14:46

Matrix: Water

Date Received: 02/13/20 08:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		5	423408	02/19/20 16:17	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	423494	02/20/20 09:37	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126247-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



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MICHIGAN
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11.7 / 5.4

Chain of Custody Record

TestAmerica

TestAmerica Laboratory Location: Brighton --- 10448 Chatham Drive, Suite 200, Brighton, MI 48116 | 810-225-2763

Company Name: Atracis
 Client Contact: Kevin Hinkley
 Site Contact: Julia Strachan
 Lab Contact: Mike DePomero

Address: 28550 Cabot Drive, Suite 500
 City: Sterling Heights, MI 48317
 Telephone: 248-994-2248
 Telephone: 330-497-9396

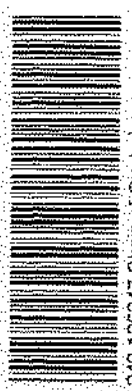
City: Sterling Heights, MI 48317
 State: MI
 ZIP: 48317
 Fax: 248-994-2248
 Email: k.hinkley@atracis.com

Project Name: *Casey S. Subler*
 Project Number: 30642016.0481.02
 Method of Shipment/Carrier: *UPS*

Shipping Tracking No.: 30642016.0481.02

Sample Identification: TRIP BLANK

Sample Date	Sample Time	Matrix						Filtered Sample (Y/N)	Composite C/Drill-G	Analysis						Sample Specific Notes / Special Instructions
		Asbestos	Lead	Mercury	PCB	PAH	Trace Metals			1:1-OCE R2608	09-1,2-OCE R2608	Trans-1,2-OCE R2608	PCB R2608	TCE R2608	Vinyl Chloride R2608	
02/11/20																TRIP BLANK
02/11/20	10:41									X	X	X	X	X	X	
02/11/20	11:36									X	X	X	X	X	X	
02/11/20	13:51									X	X	X	X	X	X	
02/11/20	14:46									X	X	X	X	X	X	



Possible Hazard Identification: Non-Hazard Hazardous

Special Instructions/OC Requirements & Comments: *Submit all results through Cadena at jromalia@cadenaco.com, Cadena #E203726*

Requested by	Requested by	Requested by	Requested by	Requested by	Requested by	Requested by	Requested by
<i>Julia Strachan</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>
Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>
Date Rec'd: <i>02/11/20 15:55</i>	Date Rec'd: <i>02/11/20 17:00</i>	Date Rec'd: <i>02/11/20 18:00</i>	Date Rec'd: <i>02/11/20 12:15</i>	Date Rec'd: <i>02/11/20 16:55</i>	Date Rec'd: <i>02/11/20 15:16</i>	Date Rec'd: <i>02/11/20 17:00</i>	Date Rec'd: <i>02/11/20 18:00</i>
Received by: <i>Kevin Hinkley</i>	Received by: <i>Kevin Hinkley</i>	Received by: <i>Kevin Hinkley</i>	Received by: <i>Kevin Hinkley</i>	Received by: <i>Kevin Hinkley</i>	Received by: <i>Kevin Hinkley</i>	Received by: <i>Kevin Hinkley</i>	Received by: <i>Kevin Hinkley</i>
Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>	Company: <i>Atracis</i>
<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>
<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>
<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>	<i>Kevin Hinkley</i>

2/12/20 12:36
 2-13-20 8:40



Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login #: 126247

Canton Facility

Client Arceadis Site Name _____ Cooler unpacked by: Ryan
 Cooler Received on 2-13-20 Opened on 2-15-20 840
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 29 °C Corrected Cooler Temp. 5.6 °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes/No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples?
 If yes, Questions 12-16 have been checked at the originating laboratory.
 12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
 13. Were VOAs on the COC? Yes No
 14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: Ab

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 27, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30042006.0401.02 - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - North Canton
Laboratory submittal: 126247-1
Sample date: 2020-02-11
Report received by CADENA: 2020-02-27
Initial Data Verification completed by CADENA: 2020-02-27
Number of Samples:5
Sample Matrices:Water
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 126247-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401262471	TRIP BLANK	2/11/2020	12:00:00	X		
2401262472	MW-196S_021120	2/11/2020	10:41:00	X	X	
2401262473	MW-196_021120	2/11/2020	11:36:00	X	X	
2401262474	MW-197S_021120	2/11/2020	12:51:00	X	X	
2401262475	TW-16-03_021120	2/11/2020	2:46:00	X	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126247-1

Sample Name: TRIP BLANK	MW-196S_021120	MW-196_021120	MW-197S_021120	TW-16-03_021120
Lab Sample ID: 2401262471	2401262472	2401262473	2401262474	2401262475
Sample Date: 2/11/2020	2/11/2020	2/11/2020	2/11/2020	2/11/2020

Analyte	Cas No.	TRIP BLANK				MW-196S_021120				MW-196_021120				MW-197S_021120				TW-16-03_021120			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																					
<u>OSW-8260B</u>																					
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	25	ug/l	---	0.23	1.0	ug/l	J	ND	5.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	51	2.0	ug/l	---	250	25	ug/l	---	14	1.0	ug/l	---	33	5.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	25	ug/l	---	ND	1.0	ug/l	---	ND	5.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	1.3	1.0	ug/l	---	65	25	ug/l	---	0.89	1.0	ug/l	J	ND	5.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	39	1.0	ug/l	---	520	25	ug/l	---	31	1.0	ug/l	---	ND	5.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	25	ug/l	---	2.2	1.0	ug/l	---	82	5.0	ug/l	---
<u>OSW-8260BBSim</u>																					
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---

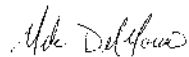
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-126339-1
Client Project/Site: Ford LTP On Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
2/28/2020 10:33:48 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Job ID: 240-126339-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 240-126339-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/14/2020 8:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 3.6° C, 4.4° C and 4.6° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126339-1), MW-198_021220 (240-126339-2), MW-198S_021220 (240-126339-3), MW-199S_021220 (240-126339-4), MW-200_021220 (240-126339-5) and MW-200S_021220 (240-126339-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/19/2020 and 02/20/2020.

1,2-Dichloroethane-d4 (Surr) failed the surrogate recovery criteria low for MW-199S_021220MS (240-126339-4MS).
1,2-Dichloroethane-d4 (Surr) and Dibromofluoromethane (Surr) failed the surrogate recovery criteria low for MW-199S_021220MSD (240-126339-4MSD). Refer to the QC report for details.

1,1-Dichloroethene and Tetrachloroethene failed the recovery criteria high for LCS 240-423576/4. Refer to the QC report for details.

The laboratory control sample (LCS) for 423576 recovered outside control limits for the following analytes: 1,1-Dichloroethene, Tetrachloroethene. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. MW-200_021220 (240-126339-5), MW-200S_021220 (240-126339-6) and (LCS 240-423576/4)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Job ID: 240-126339-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-198_021220 (240-126339-2), MW-198S_021220 (240-126339-3), MW-199S_021220 (240-126339-4), MW-200_021220 (240-126339-5) and MW-200S_021220 (240-126339-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/24/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126339-1	TRIP BLANK	Water	02/12/20 00:00	02/14/20 08:50	
240-126339-2	MW-198_021220	Water	02/12/20 09:51	02/14/20 08:50	
240-126339-3	MW-198S_021220	Water	02/12/20 10:46	02/14/20 08:50	
240-126339-4	MW-199S_021220	Water	02/12/20 12:41	02/14/20 08:50	
240-126339-5	MW-200_021220	Water	02/12/20 14:26	02/14/20 08:50	
240-126339-6	MW-200S_021220	Water	02/12/20 15:51	02/14/20 08:50	

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126339-1

No Detections.

Client Sample ID: MW-198_021220

Lab Sample ID: 240-126339-2

No Detections.

Client Sample ID: MW-198S_021220

Lab Sample ID: 240-126339-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.27	J	1.0	0.10	ug/L	1		8260B	Total/NA

Client Sample ID: MW-199S_021220

Lab Sample ID: 240-126339-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.9		2.0	0.86	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	0.32	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-200_021220

Lab Sample ID: 240-126339-5

No Detections.

Client Sample ID: MW-200S_021220

Lab Sample ID: 240-126339-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126339-1

Date Collected: 02/12/20 00:00

Matrix: Water

Date Received: 02/14/20 08:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 19:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/19/20 19:28	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/19/20 19:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 19:28	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/19/20 19:28	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/19/20 19:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		02/19/20 19:28	1
4-Bromofluorobenzene (Surr)	61		47 - 134		02/19/20 19:28	1
Toluene-d8 (Surr)	80		69 - 122		02/19/20 19:28	1
Dibromofluoromethane (Surr)	82		78 - 129		02/19/20 19:28	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Client Sample ID: MW-198_021220

Lab Sample ID: 240-126339-2

Date Collected: 02/12/20 09:51

Matrix: Water

Date Received: 02/14/20 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/24/20 13:21	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 133		02/24/20 13:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 19:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/19/20 19:50	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/19/20 19:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 19:50	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/19/20 19:50	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/19/20 19:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		75 - 130		02/19/20 19:50	1
4-Bromofluorobenzene (Surr)	62		47 - 134		02/19/20 19:50	1
Toluene-d8 (Surr)	79		69 - 122		02/19/20 19:50	1
Dibromofluoromethane (Surr)	82		78 - 129		02/19/20 19:50	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Client Sample ID: MW-198S_021220

Lab Sample ID: 240-126339-3

Date Collected: 02/12/20 10:46

Matrix: Water

Date Received: 02/14/20 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/24/20 13:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 133		02/24/20 13:47	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 20:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/19/20 20:12	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/19/20 20:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 20:12	1
Trichloroethene	0.27	J	1.0	0.10	ug/L			02/19/20 20:12	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/19/20 20:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		75 - 130		02/19/20 20:12	1
4-Bromofluorobenzene (Surr)	64		47 - 134		02/19/20 20:12	1
Toluene-d8 (Surr)	85		69 - 122		02/19/20 20:12	1
Dibromofluoromethane (Surr)	86		78 - 129		02/19/20 20:12	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Client Sample ID: MW-199S_021220

Lab Sample ID: 240-126339-4

Date Collected: 02/12/20 12:41

Matrix: Water

Date Received: 02/14/20 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.9		2.0	0.86	ug/L			02/24/20 14:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		70 - 133		02/24/20 14:13	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 20:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/19/20 20:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/19/20 20:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 20:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/19/20 20:34	1
Vinyl chloride	0.32	J	1.0	0.20	ug/L			02/19/20 20:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		75 - 130		02/19/20 20:34	1
4-Bromofluorobenzene (Surr)	63		47 - 134		02/19/20 20:34	1
Toluene-d8 (Surr)	80		69 - 122		02/19/20 20:34	1
Dibromofluoromethane (Surr)	85		78 - 129		02/19/20 20:34	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Client Sample ID: MW-200_021220

Lab Sample ID: 240-126339-5

Date Collected: 02/12/20 14:26

Matrix: Water

Date Received: 02/14/20 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/24/20 14:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 133		02/24/20 14:38	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U *	1.0	0.19	ug/L			02/20/20 13:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/20/20 13:05	1
Tetrachloroethene	1.0	U *	1.0	0.15	ug/L			02/20/20 13:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/20/20 13:05	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/20/20 13:05	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/20/20 13:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		75 - 130		02/20/20 13:05	1
4-Bromofluorobenzene (Surr)	63		47 - 134		02/20/20 13:05	1
Toluene-d8 (Surr)	85		69 - 122		02/20/20 13:05	1
Dibromofluoromethane (Surr)	85		78 - 129		02/20/20 13:05	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Client Sample ID: MW-200S_021220

Lab Sample ID: 240-126339-6

Date Collected: 02/12/20 15:51

Matrix: Water

Date Received: 02/14/20 08:50

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		02/24/20 15:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 133		02/24/20 15:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U *	1.0	0.19	ug/L	-		02/20/20 13:26	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		02/20/20 13:26	1
Tetrachloroethene	1.0	U *	1.0	0.15	ug/L	-		02/20/20 13:26	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/20/20 13:26	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/20/20 13:26	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		02/20/20 13:26	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		75 - 130		02/20/20 13:26	1
4-Bromofluorobenzene (Surr)	78		47 - 134		02/20/20 13:26	1
Toluene-d8 (Surr)	103		69 - 122		02/20/20 13:26	1
Dibromofluoromethane (Surr)	104		78 - 129		02/20/20 13:26	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-126339-1	TRIP BLANK	81	61	80	82
240-126339-2	MW-198_021220	82	62	79	82
240-126339-3	MW-198S_021220	86	64	85	86
240-126339-4	MW-199S_021220	84	63	80	85
240-126339-4 MS	MW-199S_021220	72 X	76	83	81
240-126339-4 MSD	MW-199S_021220	72 X	76	83	77 X
240-126339-5	MW-200_021220	84	63	85	85
240-126339-6	MW-200S_021220	105	78	103	104
240-126395-B-2 MS	Matrix Spike	81	82	94	87
240-126395-B-2 MSD	Matrix Spike Duplicate	76	77	90	83
LCS 240-423393/4	Lab Control Sample	75	80	87	79
LCS 240-423576/4	Lab Control Sample	90	92	108	101
MB 240-423393/7	Method Blank	81	67	80	80
MB 240-423576/7	Method Blank	77	61	79	79

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (70-133)
240-126339-2	MW-198_021220	100
240-126339-3	MW-198S_021220	102
240-126339-4	MW-199S_021220	100
240-126339-5	MW-200_021220	102
240-126339-6	MW-200S_021220	102
240-126349-G-5 MS	Matrix Spike	103
240-126349-G-5 MSD	Matrix Spike Duplicate	105
LCS 240-423939/4	Lab Control Sample	101
MB 240-423939/5	Method Blank	102

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-423393/7
Matrix: Water
Analysis Batch: 423393

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 13:17	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/19/20 13:17	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/19/20 13:17	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/19/20 13:17	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/19/20 13:17	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/19/20 13:17	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		02/19/20 13:17	1
4-Bromofluorobenzene (Surr)	67		47 - 134		02/19/20 13:17	1
Toluene-d8 (Surr)	80		69 - 122		02/19/20 13:17	1
Dibromofluoromethane (Surr)	80		78 - 129		02/19/20 13:17	1

Lab Sample ID: LCS 240-423393/4
Matrix: Water
Analysis Batch: 423393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.59		ug/L		96	73 - 129
cis-1,2-Dichloroethene	10.0	9.33		ug/L		93	75 - 124
Tetrachloroethene	10.0	11.3		ug/L		113	70 - 125
trans-1,2-Dichloroethene	10.0	9.21		ug/L		92	74 - 130
Trichloroethene	10.0	9.51		ug/L		95	71 - 121
Vinyl chloride	10.0	6.48		ug/L		65	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	75		75 - 130
4-Bromofluorobenzene (Surr)	80		47 - 134
Toluene-d8 (Surr)	87		69 - 122
Dibromofluoromethane (Surr)	79		78 - 129

Lab Sample ID: 240-126339-4 MS
Matrix: Water
Analysis Batch: 423393

Client Sample ID: MW-199S_021220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	10.0	9.09		ug/L		91	64 - 132
cis-1,2-Dichloroethene	1.0	U	10.0	8.76		ug/L		88	68 - 121
Tetrachloroethene	1.0	U	10.0	9.57		ug/L		96	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	8.57		ug/L		86	69 - 126
Trichloroethene	1.0	U	10.0	8.19		ug/L		82	56 - 124
Vinyl chloride	0.32	J	10.0	7.34		ug/L		70	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	72	X	75 - 130
4-Bromofluorobenzene (Surr)	76		47 - 134
Toluene-d8 (Surr)	83		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-126339-4 MS
Matrix: Water
Analysis Batch: 423393

Client Sample ID: MW-199S_021220
Prep Type: Total/NA

<i>Surrogate</i>	<i>%Recovery</i>	<i>MS MS Qualifier</i>	<i>Limits</i>
<i>Dibromofluoromethane (Surr)</i>	81		78 - 129

Lab Sample ID: 240-126339-4 MSD
Matrix: Water
Analysis Batch: 423393

Client Sample ID: MW-199S_021220
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	10.0	8.45		ug/L		85	64 - 132	7	35
cis-1,2-Dichloroethene	1.0	U	10.0	8.70		ug/L		87	68 - 121	1	35
Tetrachloroethene	1.0	U	10.0	9.65		ug/L		97	52 - 129	1	35
trans-1,2-Dichloroethene	1.0	U	10.0	8.48		ug/L		85	69 - 126	1	35
Trichloroethene	1.0	U	10.0	8.39		ug/L		84	56 - 124	2	35
Vinyl chloride	0.32	J	10.0	6.51		ug/L		62	49 - 136	12	35

<i>Surrogate</i>	<i>%Recovery</i>	<i>MSD MSD Qualifier</i>	<i>Limits</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	72	X	75 - 130
<i>4-Bromofluorobenzene (Surr)</i>	76		47 - 134
<i>Toluene-d8 (Surr)</i>	83		69 - 122
<i>Dibromofluoromethane (Surr)</i>	77	X	78 - 129

Lab Sample ID: MB 240-423576/7
Matrix: Water
Analysis Batch: 423576

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/20/20 12:21	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/20/20 12:21	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/20/20 12:21	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/20/20 12:21	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/20/20 12:21	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/20/20 12:21	1

<i>Surrogate</i>	<i>%Recovery</i>	<i>MB MB Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
<i>1,2-Dichloroethane-d4 (Surr)</i>	77		75 - 130		02/20/20 12:21	1
<i>4-Bromofluorobenzene (Surr)</i>	61		47 - 134		02/20/20 12:21	1
<i>Toluene-d8 (Surr)</i>	79		69 - 122		02/20/20 12:21	1
<i>Dibromofluoromethane (Surr)</i>	79		78 - 129		02/20/20 12:21	1

Lab Sample ID: LCS 240-423576/4
Matrix: Water
Analysis Batch: 423576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	13.0	*	ug/L		130	73 - 129
cis-1,2-Dichloroethene	10.0	11.8		ug/L		118	75 - 124
Tetrachloroethene	10.0	13.7	*	ug/L		137	70 - 125
trans-1,2-Dichloroethene	10.0	12.1		ug/L		121	74 - 130
Trichloroethene	10.0	11.5		ug/L		115	71 - 121

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-423576/4
Matrix: Water
Analysis Batch: 423576

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	10.0	8.74		ug/L		87	61 - 134
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	90		75 - 130				
4-Bromofluorobenzene (Surr)	92		47 - 134				
Toluene-d8 (Surr)	108		69 - 122				
Dibromofluoromethane (Surr)	101		78 - 129				

Lab Sample ID: 240-126395-B-2 MS
Matrix: Water
Analysis Batch: 423576

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1000	U *	10000	8450		ug/L		84	64 - 132
cis-1,2-Dichloroethene	18000		10000	26400		ug/L		85	68 - 121
Tetrachloroethene	1000	U *	10000	9350		ug/L		93	52 - 129
trans-1,2-Dichloroethene	1000	U	10000	9240		ug/L		92	69 - 126
Trichloroethene	1000	U	10000	8740		ug/L		87	56 - 124
Vinyl chloride	7000		10000	13500		ug/L		65	49 - 136
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	81		75 - 130						
4-Bromofluorobenzene (Surr)	82		47 - 134						
Toluene-d8 (Surr)	94		69 - 122						
Dibromofluoromethane (Surr)	87		78 - 129						

Lab Sample ID: 240-126395-B-2 MSD
Matrix: Water
Analysis Batch: 423576

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1000	U *	10000	8640		ug/L		86	64 - 132	2	35
cis-1,2-Dichloroethene	18000		10000	25900		ug/L		80	68 - 121	2	35
Tetrachloroethene	1000	U *	10000	9370		ug/L		94	52 - 129	0	35
trans-1,2-Dichloroethene	1000	U	10000	8480		ug/L		85	69 - 126	9	35
Trichloroethene	1000	U	10000	8130		ug/L		81	56 - 124	7	35
Vinyl chloride	7000		10000	13400		ug/L		64	49 - 136	1	35
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	76		75 - 130								
4-Bromofluorobenzene (Surr)	77		47 - 134								
Toluene-d8 (Surr)	90		69 - 122								
Dibromofluoromethane (Surr)	83		78 - 129								

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-423939/5
Matrix: Water
Analysis Batch: 423939

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/24/20 11:11	1
Surrogate	MB %Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		70 - 133					02/24/20 11:11	1

Lab Sample ID: LCS 240-423939/4
Matrix: Water
Analysis Batch: 423939

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.41		ug/L		94	80 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	101		70 - 133				

Lab Sample ID: 240-126349-G-5 MS
Matrix: Water
Analysis Batch: 423939

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	9.98		ug/L		100	46 - 170
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	103		70 - 133						

Lab Sample ID: 240-126349-G-5 MSD
Matrix: Water
Analysis Batch: 423939

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	10.2		ug/L		102	46 - 170	2	26
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	105		70 - 133								

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

GC/MS VOA

Analysis Batch: 423393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126339-1	TRIP BLANK	Total/NA	Water	8260B	
240-126339-2	MW-198_021220	Total/NA	Water	8260B	
240-126339-3	MW-198S_021220	Total/NA	Water	8260B	
240-126339-4	MW-199S_021220	Total/NA	Water	8260B	
MB 240-423393/7	Method Blank	Total/NA	Water	8260B	
LCS 240-423393/4	Lab Control Sample	Total/NA	Water	8260B	
240-126339-4 MS	MW-199S_021220	Total/NA	Water	8260B	
240-126339-4 MSD	MW-199S_021220	Total/NA	Water	8260B	

Analysis Batch: 423576

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126339-5	MW-200_021220	Total/NA	Water	8260B	
240-126339-6	MW-200S_021220	Total/NA	Water	8260B	
MB 240-423576/7	Method Blank	Total/NA	Water	8260B	
LCS 240-423576/4	Lab Control Sample	Total/NA	Water	8260B	
240-126395-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-126395-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 423939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126339-2	MW-198_021220	Total/NA	Water	8260B SIM	
240-126339-3	MW-198S_021220	Total/NA	Water	8260B SIM	
240-126339-4	MW-199S_021220	Total/NA	Water	8260B SIM	
240-126339-5	MW-200_021220	Total/NA	Water	8260B SIM	
240-126339-6	MW-200S_021220	Total/NA	Water	8260B SIM	
MB 240-423939/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-423939/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126349-G-5 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126349-G-5 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126339-1

Date Collected: 02/12/20 00:00

Matrix: Water

Date Received: 02/14/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423393	02/19/20 19:28	LEE	TAL CAN

Client Sample ID: MW-198_021220

Lab Sample ID: 240-126339-2

Date Collected: 02/12/20 09:51

Matrix: Water

Date Received: 02/14/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423393	02/19/20 19:50	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	423939	02/24/20 13:21	SAM	TAL CAN

Client Sample ID: MW-198S_021220

Lab Sample ID: 240-126339-3

Date Collected: 02/12/20 10:46

Matrix: Water

Date Received: 02/14/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423393	02/19/20 20:12	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	423939	02/24/20 13:47	SAM	TAL CAN

Client Sample ID: MW-199S_021220

Lab Sample ID: 240-126339-4

Date Collected: 02/12/20 12:41

Matrix: Water

Date Received: 02/14/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423393	02/19/20 20:34	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	423939	02/24/20 14:13	SAM	TAL CAN

Client Sample ID: MW-200_021220

Lab Sample ID: 240-126339-5

Date Collected: 02/12/20 14:26

Matrix: Water

Date Received: 02/14/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423576	02/20/20 13:05	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	423939	02/24/20 14:38	SAM	TAL CAN

Client Sample ID: MW-200S_021220

Lab Sample ID: 240-126339-6

Date Collected: 02/12/20 15:51

Matrix: Water

Date Received: 02/14/20 08:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	423576	02/20/20 13:26	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	423939	02/24/20 15:04	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126339-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20 *
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20 *
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica Laboratory location: Brighton, 10448 Catalina Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Client Contact		Regulatory program:		Lab Contact: Mike DeMunnice	
Company Name: Arcadis		Client Project Manager: Kris Hunsley		Lab Contact: Mike DeMunnice	
Address: 28558 Cabot Drive, Suite 500		Telephone: 248-994-2248		Telephone: 313-497-9396	
City/State/Zip: Nov, MI, 48377		Email: kris.hunsley@arcadis.com		Analysis	
Phone: 248-994-2240		Sample Name: Gary Schifer		Method of Shipping/Carrier:	
Project Name: Ford LTP On-Site		Shipping/Tracking No:		Matrix	
Project Number: 30842806.0401.02		Sample Date:		Sample Time	
TC # 30842806.0401.02		Sample Date: 08/13/20		Sample Time: 9:51	
Sample Identification		Sample Date: 08/13/20		Sample Time: 10:56	
TRIP BLANK		Sample Date: 08/13/20		Sample Time: 12:47	
MW-158-031220		Sample Date: 08/13/20		Sample Time: 14:26	
MW-155-031220		Sample Date: 08/13/20		Sample Time: 15:51	
MW-155-031220		Sample Date:		Sample Time:	
MW-200-031220		Sample Date:		Sample Time:	
MW-200-031220		Sample Date:		Sample Time:	



240-126339 Chain of Custody

Company	Date/Time	Received by	Received in	Company	Date/Time	Received by	Received in	Company
Arcadis	8/13/20 16:20	Miguel Trujillo	ARCADIS TRAILER	Arcadis	8/13/20 16:21	Miguel Trujillo	ARCADIS TRAILER	Arcadis
Arcadis	8/13/20 16:50	EMILY ROSSER/STOR	ARCADIS STORAGE	Arcadis	8/13/20 16:50	EMILY ROSSER/STOR	ARCADIS STORAGE	Arcadis
Arcadis	8/13/20 17:30	Molly Maxson	ARCADIS STORAGE	Arcadis	8/13/20 17:30	Molly Maxson	ARCADIS STORAGE	Arcadis
Arcadis	8/13/20 15:45	Molly Maxson	ARCADIS STORAGE	Arcadis	8/13/20 15:45	Molly Maxson	ARCADIS STORAGE	Arcadis
Arcadis	8/13/20 16:40	Molly Maxson	ARCADIS STORAGE	Arcadis	8/13/20 16:40	Molly Maxson	ARCADIS STORAGE	Arcadis

Canton Facility

Client Arcadis

Site Name _____

Cooler unpacked by: _____

Cooler Received on 2-14-20

Opened on 2-19-20

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____

Storage Location _____

TestAmerica Cooler # NA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. B °C Corrected Cooler Temp. _____ °C
IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 3 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials?  Larger than this. NA Yes No NA

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # NA Yes No

16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: Ag

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

DATA VERIFICATION REPORT



February 28, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30042006.0401.02 - onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 126339-1

Sample date: 2020-02-12

Report received by CADENA: 2020-02-28

Initial Data Verification completed by CADENA: 2020-02-28

Number of Samples:6

Sample Matrices:Water

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

GCMS VOC QC batch 423576 LCS recoveries were outliers biased high for the following analytes: 1,1-DICHLOROETHENE and TETRACHLOROETHENE. Associated client sample results were non-detect so qualification was not required based on these high bias QC outliers.

GCMS VOC sample -004MS/MSD surrogate recovery outliers did not result in qualification of client sample data.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, MS/MSD Recovery, MS/MSD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-North Canton

Laboratory Submittal: 126339-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS	8260B with Single Ion Monitoring	Comment
2401263391	TRIP BLANK	2/12/2020	12:00:00	X		
2401263392	MW-198_021220	2/12/2020	9:51:00	X	X	
2401263393	MW-198S_021220	2/12/2020	10:46:00	X	X	
2401263394	MW-199S_021220	2/12/2020	12:41:00	X	X	
2401263395	MW-200_021220	2/12/2020	2:26:00	X	X	
2401263396	MW-200S_021220	2/12/2020	3:51:00	X	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126339-1

Sample Name: TRIP BLANK	MW-198_021220	MW-198S_021220	MW-199S_021220	MW-200_021220	MW-200S_021220
Lab Sample ID: 2401263391	2401263392	2401263393	2401263394	2401263395	2401263396
Sample Date: 2/12/2020	2/12/2020	2/12/2020	2/12/2020	2/12/2020	2/12/2020

Analyte	Cas No.	Report			Valid			Report			Valid			Report			Valid			Report			Valid		
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																									
<u>OSW-8260B</u>																									
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.27	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.32	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
<u>OSW-8260BBSim</u>																									
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	2.9	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---

DATA VERIFICATION REPORT

March 06, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30042006.0401.02 - onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 126696-1

Sample date: 2020-02-20

Report received by CADENA: 2020-03-06

Initial Data Verification completed by CADENA: 2020-03-06

Number of Samples: 2 Water and 1 trip blank

Sample Matrices:Water

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126696-1

Sample Name:	TRIP BLANK	MW-124_022020	MW-19_022020
Lab Sample ID:	2401266961	2401266962	2401266963
Sample Date:	2/20/2020	2/20/2020	2/20/2020

Analyte	Cas No.	TRIP BLANK				MW-124_022020				MW-19_022020			
		Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC													
<u>OSW-8260B</u>													
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	1.8	1.0	ug/l	---	0.73	1.0	ug/l	J
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	0.20	1.0	ug/l	J	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.62	1.0	ug/l	J
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	0.27	1.0	ug/l	J	1.1	1.0	ug/l	---
<u>OSW-8260BBSim</u>													
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	540	10	ug/l	---

DATA VERIFICATION REPORT

March 06, 2020

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30042006.0401.02 - onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - North Canton

Laboratory submittal: 126746-1

Sample date: 2020-02-21

Report received by CADENA: 2020-03-06

Initial Data Verification completed by CADENA: 2020-03-06

Number of Samples: 3 Water and 1 trip blank

Sample Matrices:Water

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

Analytical Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - North Canton

Laboratory Submittal: 126746-1

Analyte	Cas No.	Sample Name: TRIP BLANK				MW-15-60D_022120				MW-15-59D_022120				MW-29_022120			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
		2401267461				2401267462				2401267463				2401267464			
		2/21/2020				2/21/2020				2/21/2020				2/21/2020			

GC/MS VOC

OSW-8260B

1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---

OSW-8260BBSim

1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---
-------------	----------	--	--	--	--	----	-----	------	-----	----	-----	------	-----	----	-----	------	-----

ANALYTICAL REPORT

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Tel: (732)549-3900

Laboratory Job ID: 460-197018-1
Client Project/Site: Ford LTP On-Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
12/4/2019 4:26:27 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

LINKS

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Have a Question?



Visit us at:
www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
□	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Job ID: 460-197018-1

Laboratory: Eurofins TestAmerica, Edison

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On-Site

Report Number: 460-197018-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Edison attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 11/19/2019 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 3.4° C and 3.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (460-197018-1), MW-114_111519 (460-197018-2), MW-26_111519 (460-197018-3), MW-113_111519 (460-197018-4) and MW-124_111519 (460-197018-5) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 11/26/2019.

trans-1,2-Dichloroethene failed the recovery criteria low for LCS 460-658365/4. trans-1,2-Dichloroethene failed the recovery criteria low for LCSD 460-658365/5. Refer to the QC report for details.

The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 460-658365 recovered outside control limits for the following analyte: trans-1,2-Dichloroethene. This analyte was biased low in the LCS/LCSD and was not detected in the associated samples.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples MW-114_111519 (460-197018-2), MW-26_111519 (460-197018-3), MW-113_111519 (460-197018-4) and MW-124_111519

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Job ID: 460-197018-1 (Continued)

Laboratory: Eurofins TestAmerica, Edison (Continued)

(460-197018-5) were analyzed for Volatile organic compounds (GC/MS) in accordance with SW-846 Method 8260C SIM. The samples were analyzed on 11/25/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 460-197018-1

No Detections.

Client Sample ID: MW-114_111519

Lab Sample ID: 460-197018-2

No Detections.

Client Sample ID: MW-26_111519

Lab Sample ID: 460-197018-3

No Detections.

Client Sample ID: MW-113_111519

Lab Sample ID: 460-197018-4

No Detections.

Client Sample ID: MW-124_111519

Lab Sample ID: 460-197018-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.3		1.0	0.22	ug/L	1			8260C	Total/NA
trans-1,2-Dichloroethene	0.27	J *	1.0	0.24	ug/L	1			8260C	Total/NA
Vinyl chloride	0.19	J	1.0	0.17	ug/L	1			8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Edison

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 460-197018-1

Date Collected: 11/15/19 00:00

Matrix: Water

Date Received: 11/19/19 09:10

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		11/26/19 13:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		11/26/19 13:13	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		11/26/19 13:13	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L	-		11/26/19 13:13	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		11/26/19 13:13	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		11/26/19 13:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		74 - 132		11/26/19 13:13	1
Toluene-d8 (Surr)	100		80 - 120		11/26/19 13:13	1
Dibromofluoromethane (Surr)	105		72 - 131		11/26/19 13:13	1
4-Bromofluorobenzene	93		77 - 124		11/26/19 13:13	1

Client Sample ID: MW-114_111519

Lab Sample ID: 460-197018-2

Date Collected: 11/15/19 10:17

Matrix: Water

Date Received: 11/19/19 09:10

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/25/19 18:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	89		72 - 133		11/25/19 18:34	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		11/26/19 15:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		11/26/19 15:47	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		11/26/19 15:47	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L	-		11/26/19 15:47	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		11/26/19 15:47	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		11/26/19 15:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		74 - 132		11/26/19 15:47	1
Toluene-d8 (Surr)	99		80 - 120		11/26/19 15:47	1
Dibromofluoromethane (Surr)	107		72 - 131		11/26/19 15:47	1
4-Bromofluorobenzene	92		77 - 124		11/26/19 15:47	1

Client Sample ID: MW-26_111519

Lab Sample ID: 460-197018-3

Date Collected: 11/15/19 11:22

Matrix: Water

Date Received: 11/19/19 09:10

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/25/19 18:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	86		72 - 133		11/25/19 18:59	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Client Sample ID: MW-26_111519

Lab Sample ID: 460-197018-3

Date Collected: 11/15/19 11:22

Matrix: Water

Date Received: 11/19/19 09:10

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		11/26/19 16:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		11/26/19 16:13	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		11/26/19 16:13	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L	-		11/26/19 16:13	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		11/26/19 16:13	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		11/26/19 16:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		74 - 132		11/26/19 16:13	1
Toluene-d8 (Surr)	102		80 - 120		11/26/19 16:13	1
Dibromofluoromethane (Surr)	103		72 - 131		11/26/19 16:13	1
4-Bromofluorobenzene	95		77 - 124		11/26/19 16:13	1

Client Sample ID: MW-113_111519

Lab Sample ID: 460-197018-4

Date Collected: 11/15/19 12:27

Matrix: Water

Date Received: 11/19/19 09:10

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/25/19 19:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	90		72 - 133		11/25/19 19:24	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		11/26/19 16:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		11/26/19 16:39	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		11/26/19 16:39	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.24	ug/L	-		11/26/19 16:39	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		11/26/19 16:39	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		11/26/19 16:39	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		74 - 132		11/26/19 16:39	1
Toluene-d8 (Surr)	107		80 - 120		11/26/19 16:39	1
Dibromofluoromethane (Surr)	108		72 - 131		11/26/19 16:39	1
4-Bromofluorobenzene	97		77 - 124		11/26/19 16:39	1

Client Sample ID: MW-124_111519

Lab Sample ID: 460-197018-5

Date Collected: 11/15/19 13:37

Matrix: Water

Date Received: 11/19/19 09:10

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/25/19 19:49	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	89		72 - 133		11/25/19 19:49	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Client Sample ID: MW-124_111519

Lab Sample ID: 460-197018-5

Date Collected: 11/15/19 13:37

Matrix: Water

Date Received: 11/19/19 09:10

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			11/26/19 17:05	1
cis-1,2-Dichloroethene	2.3		1.0	0.22	ug/L			11/26/19 17:05	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/26/19 17:05	1
trans-1,2-Dichloroethene	0.27	J *	1.0	0.24	ug/L			11/26/19 17:05	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			11/26/19 17:05	1
Vinyl chloride	0.19	J	1.0	0.17	ug/L			11/26/19 17:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		74 - 132		11/26/19 17:05	1
Toluene-d8 (Surr)	102		80 - 120		11/26/19 17:05	1
Dibromofluoromethane (Surr)	104		72 - 131		11/26/19 17:05	1
4-Bromofluorobenzene	95		77 - 124		11/26/19 17:05	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (74-132)	TOL (80-120)	DBFM (72-131)	BFB (77-124)
460-197018-1	TRIP BLANK	104	100	105	93
460-197018-2	MW-114_111519	105	99	107	92
460-197018-3	MW-26_111519	106	102	103	95
460-197018-4	MW-113_111519	104	107	108	97
460-197018-5	MW-124_111519	104	102	104	95
LCS 460-658365/4	Lab Control Sample	82	93	94	114
LCSD 460-658365/5	Lab Control Sample Dup	80	91	90	115
MB 460-658365/9	Method Blank	117	114	116	103

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB
		(72-133)
460-197018-2	MW-114_111519	89
460-197018-3	MW-26_111519	86
460-197018-4	MW-113_111519	90
460-197018-5	MW-124_111519	89
LCS 460-658048/3	Lab Control Sample	90
LCSD 460-658048/4	Lab Control Sample Dup	88
MB 460-658048/8	Method Blank	91

Surrogate Legend

BFB = 4-Bromofluorobenzene

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 460-658365/9
Matrix: Water
Analysis Batch: 658365

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			11/26/19 11:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			11/26/19 11:30	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/26/19 11:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			11/26/19 11:30	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			11/26/19 11:30	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			11/26/19 11:30	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		74 - 132		11/26/19 11:30	1
Toluene-d8 (Surr)	114		80 - 120		11/26/19 11:30	1
Dibromofluoromethane (Surr)	116		72 - 131		11/26/19 11:30	1
4-Bromofluorobenzene	103		77 - 124		11/26/19 11:30	1

Lab Sample ID: LCS 460-658365/4
Matrix: Water
Analysis Batch: 658365

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	20.0	15.7		ug/L		78	74 - 123
cis-1,2-Dichloroethene	20.0	19.8		ug/L		99	80 - 120
Tetrachloroethene	20.0	20.2		ug/L		101	78 - 122
trans-1,2-Dichloroethene	20.0	15.3	*	ug/L		76	79 - 120
Trichloroethene	20.0	20.4		ug/L		102	77 - 120
Vinyl chloride	20.0	17.4		ug/L		87	62 - 138

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	82		74 - 132
Toluene-d8 (Surr)	93		80 - 120
Dibromofluoromethane (Surr)	94		72 - 131
4-Bromofluorobenzene	114		77 - 124

Lab Sample ID: LCSD 460-658365/5
Matrix: Water
Analysis Batch: 658365

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	20.0	15.7		ug/L		79	74 - 123	0	30
cis-1,2-Dichloroethene	20.0	20.1		ug/L		100	80 - 120	1	30
Tetrachloroethene	20.0	19.4		ug/L		97	78 - 122	4	30
trans-1,2-Dichloroethene	20.0	15.5	*	ug/L		77	79 - 120	1	30
Trichloroethene	20.0	20.1		ug/L		101	77 - 120	1	30
Vinyl chloride	20.0	18.2		ug/L		91	62 - 138	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	80		74 - 132
Toluene-d8 (Surr)	91		80 - 120
Dibromofluoromethane (Surr)	90		72 - 131

Eurofins TestAmerica, Edison

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 460-658365/5
Matrix: Water
Analysis Batch: 658365

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	115		77 - 124

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-658048/8
Matrix: Water
Analysis Batch: 658048

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L			11/25/19 11:28	1
Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac			
4-Bromofluorobenzene	91		72 - 133		11/25/19 11:28	1			

Lab Sample ID: LCS 460-658048/3
Matrix: Water
Analysis Batch: 658048

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	5.00	4.57		ug/L		91	66 - 135
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
4-Bromofluorobenzene	90		72 - 133				

Lab Sample ID: LCSD 460-658048/4
Matrix: Water
Analysis Batch: 658048

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	5.00	3.89		ug/L		78	66 - 135	16	30
Surrogate	LCSD %Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	88		72 - 133						

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

GC/MS VOA

Analysis Batch: 658048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197018-2	MW-114_111519	Total/NA	Water	8260C SIM	
460-197018-3	MW-26_111519	Total/NA	Water	8260C SIM	
460-197018-4	MW-113_111519	Total/NA	Water	8260C SIM	
460-197018-5	MW-124_111519	Total/NA	Water	8260C SIM	
MB 460-658048/8	Method Blank	Total/NA	Water	8260C SIM	
LCS 460-658048/3	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 460-658048/4	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Analysis Batch: 658365

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197018-1	TRIP BLANK	Total/NA	Water	8260C	
460-197018-2	MW-114_111519	Total/NA	Water	8260C	
460-197018-3	MW-26_111519	Total/NA	Water	8260C	
460-197018-4	MW-113_111519	Total/NA	Water	8260C	
460-197018-5	MW-124_111519	Total/NA	Water	8260C	
MB 460-658365/9	Method Blank	Total/NA	Water	8260C	
LCS 460-658365/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-658365/5	Lab Control Sample Dup	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 460-197018-1

Date Collected: 11/15/19 00:00

Matrix: Water

Date Received: 11/19/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	658365	11/26/19 13:13	EMM	TAL EDI

Client Sample ID: MW-114_111519

Lab Sample ID: 460-197018-2

Date Collected: 11/15/19 10:17

Matrix: Water

Date Received: 11/19/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	658365	11/26/19 15:47	EMM	TAL EDI
Total/NA	Analysis	8260C SIM		1	658048	11/25/19 18:34	SZD	TAL EDI

Client Sample ID: MW-26_111519

Lab Sample ID: 460-197018-3

Date Collected: 11/15/19 11:22

Matrix: Water

Date Received: 11/19/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	658365	11/26/19 16:13	EMM	TAL EDI
Total/NA	Analysis	8260C SIM		1	658048	11/25/19 18:59	SZD	TAL EDI

Client Sample ID: MW-113_111519

Lab Sample ID: 460-197018-4

Date Collected: 11/15/19 12:27

Matrix: Water

Date Received: 11/19/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	658365	11/26/19 16:39	EMM	TAL EDI
Total/NA	Analysis	8260C SIM		1	658048	11/25/19 19:24	SZD	TAL EDI

Client Sample ID: MW-124_111519

Lab Sample ID: 460-197018-5

Date Collected: 11/15/19 13:37

Matrix: Water

Date Received: 11/19/19 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	658365	11/26/19 17:05	EMM	TAL EDI
Total/NA	Analysis	8260C SIM		1	658048	11/25/19 19:49	SZD	TAL EDI

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Laboratory: Eurofins TestAmerica, Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0200	09-30-20
DE Haz. Subst. Cleanup Act (HSCA)	State	<cert No.>	12-31-21
Georgia	State	12028 (NJ)	06-30-20
Massachusetts	State Program	M-NJ312	06-30-20
New Jersey	NELAP	12028	06-30-20
New York	NELAP	11452	04-01-20
Pennsylvania	NELAP	68-00522	02-28-20
Rhode Island	State	LAO00132	12-30-19
USDA	US Federal Programs	P330-18-00135	05-03-21

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197018-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
460-197018-1	TRIP BLANK	Water	11/15/19 00:00	11/19/19 09:10	
460-197018-2	MW-114_111519	Water	11/15/19 10:17	11/19/19 09:10	
460-197018-3	MW-26_111519	Water	11/15/19 11:22	11/19/19 09:10	
460-197018-4	MW-113_111519	Water	11/15/19 12:27	11/19/19 09:10	
460-197018-5	MW-124_111519	Water	11/15/19 13:37	11/19/19 09:10	

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TestAmerica Laboratory location: Brighton --- 1044B Citation Drive, Suite 200 / Brighton, MI 48116 / 810-225-2763

Client Contact Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP On-Site Project Number: 30016346.0001B PO # 30016346.0001B		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other		Site Contact: Rachel Binskey Telephone: 248-946-6331 Email: kristoffer.binskey@arcadis.com		Lab Contact: Mike DeMonte Telephone: 330-497-9396		TestAmerica Laboratories, Inc. COC No:	
Sampler Name: Heather Maxson		Method of Shipment/Carrier:		Shipping/Tracking No:		Analyses: cis-1,2-DCE 8260B Trans-1,2-DCE 8260B PCE 8260B TCE 8260B Vinyl Chloride 8260B 1,4-Dioxane 8260B SIM		For job use only Walk in cabinet Lab sampling Job/SIG No: 197-018 Sample Specific Notes / Special Instructions: 1 Trip Blank 3 VOA for 8260B 3 VOA for 8260B SIM	
Sample Identification		Sample Date		Sample Time		Matrix: Air <input type="checkbox"/> Solid <input type="checkbox"/> Other:		Analysis Results: H2SO4 <input type="checkbox"/> HNO3 <input type="checkbox"/> HCl <input type="checkbox"/> NaOH <input type="checkbox"/> ZnOH <input type="checkbox"/> Umpres <input type="checkbox"/> Other:	
TRIP BLANK		---		---		X		NG	
MW-114-111519		11/15/19		1017		X		X	
MW-26-111519		1		1122		X		X	
MW-113-111519		1		1227		X		X	
MW-124-111519		1		1337		X		X	



460-197018 Chain of Custody

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return to Client Disposal By Lab Archive For _____ Months

Special Instructions/QC Requirements & Comments:
 Submit all results through Cadena at jim.tomalia@cadena.com. Cadena #E203728
 Level IV Reporting requested

Relinquished by: <i>Heather Maxson</i>	Company: Arcadis	Date/Time: 11/15/19 1615	Received by: <i>Northrop Grumman</i>	Company: Arcadis	Date/Time: 11/15/19 1615
Relinquished by: <i>RACHEL BINSKEY</i>	Company: Arcadis	Date/Time: 11/18/19 1240	Received by: <i>Molly Maxson</i>	Company: ETAL-MI	Date/Time: 11/18/19 1240
Relinquished by: <i>Molly Maxson</i>	Company: ETAL-MI	Date/Time: 11/18/19 1516	Received by: <i>Kyara</i>	Company: ETA	Date/Time: 11/19/19 910

VIAFT dex

seal - 1055338; 1055339

IR # 11-3115-y 32/3.5



Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 460-197018-1

Login Number: 197018

List Source: Eurofins TestAmerica, Edison

List Number: 1

Creator: Infante, Warleny M

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	CS#1055338,1055339
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DATA VERIFICATION REPORT



December 05, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30016346.0001B - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - Edison
Laboratory submittal: 197018-1
Sample date: 2019-11-15
Report received by CADENA: 2019-12-04
Initial Data Verification completed by CADENA: 2019-12-05
Number of Samples:5
Sample Matrices:Water
Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

LCS - GCMS VOC QC batch 658365 LCS/LCD recoveries were outliers biased low for the following analyte: TRANS-1,2-DICHLOROETHENE. The following client sample results should be considered to be estimated and qualified with J flags if detected or UJ flags if non-detect: -001, -002, -003, -004, -005.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-Edison

Laboratory Submittal: 197018-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	GCMS VOC Volatiles	GCMS VOC SIM	Comment
4601970181	TRIP BLANK	11/15/2019	12:00:00	X		
4601970182	MW-114_111519	11/15/2019	10:17:00	X	X	
4601970183	MW-26_111519	11/15/2019	11:22:00	X	X	
4601970184	MW-113_111519	11/15/2019	12:27:00	X	X	
4601970185	MW-124_111519	11/15/2019	1:37:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728
 Laboratory: TestAmerica - Edison
 Laboratory Submittal: 197018-1

Sample Name: TRIP BLANK	MW-114_111519	MW-26_111519	MW-113_111519	MW-124_111519
Lab Sample ID: 4601970181	4601970182	4601970183	4601970184	4601970185
Sample Date: 11/15/2019	11/15/2019	11/15/2019	11/15/2019	11/15/2019

Analyte	Cas No.	TRIP BLANK				MW-114_111519				MW-26_111519				MW-113_111519				MW-124_111519			
		Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid	Result	Limit	Units	Valid
GC/MS VOC																					
<u>OSW-8260C</u>																					
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	0.27	1.0	ug/l	J

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - Edison

Laboratory Submittal: 197018-1

Sample Name: TRIP BLANK	MW-114_111519	MW-26_111519	MW-113_111519	MW-124_111519
Lab Sample ID: 4601970181	4601970182	4601970183	4601970184	4601970185
Sample Date: 11/15/2019	11/15/2019	11/15/2019	11/15/2019	11/15/2019

Analyte	Cas No.	TRIP BLANK				MW-114_111519				MW-26_111519				MW-113_111519				MW-124_111519			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																					
<u>OSW-8260C</u>																					
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	2.3	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	ND	1.0	ug/l	UJ	0.27	1.0	ug/l	J
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.19	1.0	ug/l	J
GC/MS SVOC																					
<u>OSW-8260CSIM</u>																					
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---

ANALYTICAL REPORT

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Tel: (732)549-3900

Laboratory Job ID: 460-197430-1
Client Project/Site: Ford LTP On-Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
11/30/2019 4:31:20 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

LINKS

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results through
TotalAccess

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Job ID: 460-197430-1

Laboratory: Eurofins TestAmerica, Edison

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On-Site

Report Number: 460-197430-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 11/22/2019 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 4.3° C and 4.7° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (460-197430-1), MW-196_112019 (460-197430-2), MW-196S_112019 (460-197430-3), MW-195S_112019 (460-197430-4), MW-194S_112019 (460-197430-5), MW-194_112019 (460-197430-6) and MW-198S_112019 (460-197430-7) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 11/27/2019.

Samples MW-196_112019 (460-197430-2)[2X] and MW-195S_112019 (460-197430-4)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

The following samples were diluted to bring the concentration of target analytes within the calibration range: MW-196_112019 (460-197430-2) and MW-195S_112019 (460-197430-4). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples MW-196_112019 (460-197430-2), MW-196S_112019 (460-197430-3), MW-195S_112019 (460-197430-4), MW-194S_112019

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Job ID: 460-197430-1 (Continued)

Laboratory: Eurofins TestAmerica, Edison (Continued)

(460-197430-5), MW-194_112019 (460-197430-6) and MW-198S_112019 (460-197430-7) were analyzed for Volatile organic compounds (GC/MS) in accordance with SW-846 Method 8260C SIM. The samples were analyzed on 11/25/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 460-197430-1

No Detections.

Client Sample ID: MW-196_112019

Lab Sample ID: 460-197430-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	0.73	J	2.0	0.53	ug/L	2		8260C	Total/NA
cis-1,2-Dichloroethene	210		2.0	0.44	ug/L	2		8260C	Total/NA
trans-1,2-Dichloroethene	55		2.0	0.47	ug/L	2		8260C	Total/NA
Trichloroethene	490		2.0	0.63	ug/L	2		8260C	Total/NA

Client Sample ID: MW-196S_112019

Lab Sample ID: 460-197430-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	68		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	1.7		1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	78		1.0	0.31	ug/L	1		8260C	Total/NA

Client Sample ID: MW-195S_112019

Lab Sample ID: 460-197430-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	120		10	2.2	ug/L	10		8260C	Total/NA
trans-1,2-Dichloroethene	150		10	2.4	ug/L	10		8260C	Total/NA
Trichloroethene	3400		10	3.1	ug/L	10		8260C	Total/NA
Vinyl chloride	16		10	1.7	ug/L	10		8260C	Total/NA

Client Sample ID: MW-194S_112019

Lab Sample ID: 460-197430-5

No Detections.

Client Sample ID: MW-194_112019

Lab Sample ID: 460-197430-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.5	J	2.0	0.33	ug/L	1		8260C SIM	Total/NA

Client Sample ID: MW-198S_112019

Lab Sample ID: 460-197430-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.43	J	1.0	0.31	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Edison

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 460-197430-1

Date Collected: 11/20/19 00:00

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		11/27/19 04:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		11/27/19 04:12	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		11/27/19 04:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L	-		11/27/19 04:12	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		11/27/19 04:12	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		11/27/19 04:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		11/27/19 04:12	1
Toluene-d8 (Surr)	98		80 - 120		11/27/19 04:12	1
Dibromofluoromethane (Surr)	102		72 - 131		11/27/19 04:12	1
4-Bromofluorobenzene	101		77 - 124		11/27/19 04:12	1

Client Sample ID: MW-196_112019

Lab Sample ID: 460-197430-2

Date Collected: 11/20/19 09:55

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/25/19 17:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		72 - 133		11/25/19 17:13	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.73	J	2.0	0.53	ug/L	-		11/27/19 09:30	2
cis-1,2-Dichloroethene	210		2.0	0.44	ug/L	-		11/27/19 09:30	2
Tetrachloroethene	2.0	U	2.0	0.50	ug/L	-		11/27/19 09:30	2
trans-1,2-Dichloroethene	55		2.0	0.47	ug/L	-		11/27/19 09:30	2
Trichloroethene	490		2.0	0.63	ug/L	-		11/27/19 09:30	2
Vinyl chloride	2.0	U	2.0	0.34	ug/L	-		11/27/19 09:30	2

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		11/27/19 09:30	2
Toluene-d8 (Surr)	99		80 - 120		11/27/19 09:30	2
Dibromofluoromethane (Surr)	103		72 - 131		11/27/19 09:30	2
4-Bromofluorobenzene	104		77 - 124		11/27/19 09:30	2

Client Sample ID: MW-196S_112019

Lab Sample ID: 460-197430-3

Date Collected: 11/20/19 10:50

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/25/19 17:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	90		72 - 133		11/25/19 17:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Client Sample ID: MW-196S_112019

Lab Sample ID: 460-197430-3

Date Collected: 11/20/19 10:50

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		11/27/19 09:03	1
cis-1,2-Dichloroethene	68		1.0	0.22	ug/L			11/27/19 09:03	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/27/19 09:03	1
trans-1,2-Dichloroethene	1.7		1.0	0.24	ug/L			11/27/19 09:03	1
Trichloroethene	78		1.0	0.31	ug/L			11/27/19 09:03	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			11/27/19 09:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		74 - 132		11/27/19 09:03	1
Toluene-d8 (Surr)	97		80 - 120		11/27/19 09:03	1
Dibromofluoromethane (Surr)	100		72 - 131		11/27/19 09:03	1
4-Bromofluorobenzene	100		77 - 124		11/27/19 09:03	1

Client Sample ID: MW-195S_112019

Lab Sample ID: 460-197430-4

Date Collected: 11/20/19 11:45

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/25/19 18:00	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		72 - 133		11/25/19 18:00	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	10	U	10	2.6	ug/L	-		11/27/19 09:56	10
cis-1,2-Dichloroethene	120		10	2.2	ug/L			11/27/19 09:56	10
Tetrachloroethene	10	U	10	2.5	ug/L			11/27/19 09:56	10
trans-1,2-Dichloroethene	150		10	2.4	ug/L			11/27/19 09:56	10
Trichloroethene	3400		10	3.1	ug/L			11/27/19 09:56	10
Vinyl chloride	16		10	1.7	ug/L			11/27/19 09:56	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		74 - 132		11/27/19 09:56	10
Toluene-d8 (Surr)	98		80 - 120		11/27/19 09:56	10
Dibromofluoromethane (Surr)	102		72 - 131		11/27/19 09:56	10
4-Bromofluorobenzene	104		77 - 124		11/27/19 09:56	10

Client Sample ID: MW-194S_112019

Lab Sample ID: 460-197430-5

Date Collected: 11/20/19 13:00

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/25/19 18:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		72 - 133		11/25/19 18:46	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Client Sample ID: MW-194S_112019

Lab Sample ID: 460-197430-5

Date Collected: 11/20/19 13:00

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		11/27/19 07:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		11/27/19 07:44	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		11/27/19 07:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L	-		11/27/19 07:44	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		11/27/19 07:44	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		11/27/19 07:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		11/27/19 07:44	1
Toluene-d8 (Surr)	98		80 - 120		11/27/19 07:44	1
Dibromofluoromethane (Surr)	101		72 - 131		11/27/19 07:44	1
4-Bromofluorobenzene	103		77 - 124		11/27/19 07:44	1

Client Sample ID: MW-194_112019

Lab Sample ID: 460-197430-6

Date Collected: 11/20/19 13:55

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.5	J	2.0	0.33	ug/L	-		11/25/19 18:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	95		72 - 133		11/25/19 18:23	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		11/27/19 08:10	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		11/27/19 08:10	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		11/27/19 08:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L	-		11/27/19 08:10	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		11/27/19 08:10	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		11/27/19 08:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		74 - 132		11/27/19 08:10	1
Toluene-d8 (Surr)	97		80 - 120		11/27/19 08:10	1
Dibromofluoromethane (Surr)	101		72 - 131		11/27/19 08:10	1
4-Bromofluorobenzene	103		77 - 124		11/27/19 08:10	1

Client Sample ID: MW-198S_112019

Lab Sample ID: 460-197430-7

Date Collected: 11/20/19 15:15

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/25/19 19:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	92		72 - 133		11/25/19 19:10	1

Eurofins TestAmerica, Edison

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Client Sample ID: MW-198S_112019

Lab Sample ID: 460-197430-7

Date Collected: 11/20/19 15:15

Matrix: Water

Date Received: 11/22/19 10:15

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			11/27/19 08:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			11/27/19 08:37	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/27/19 08:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			11/27/19 08:37	1
Trichloroethene	0.43	J	1.0	0.31	ug/L			11/27/19 08:37	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			11/27/19 08:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		11/27/19 08:37	1
Toluene-d8 (Surr)	97		80 - 120		11/27/19 08:37	1
Dibromofluoromethane (Surr)	102		72 - 131		11/27/19 08:37	1
4-Bromofluorobenzene	102		77 - 124		11/27/19 08:37	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (74-132)	TOL (80-120)	DBFM (72-131)	BFB (77-124)
460-197430-1	TRIP BLANK	96	98	102	101
460-197430-2	MW-196_112019	95	99	103	104
460-197430-3	MW-196S_112019	94	97	100	100
460-197430-4	MW-195S_112019	94	98	102	104
460-197430-5	MW-194S_112019	95	98	101	103
460-197430-6	MW-194_112019	95	97	101	103
460-197430-7	MW-198S_112019	96	97	102	102
LCS 460-658572/3	Lab Control Sample	93	99	98	103
LCSD 460-658572/4	Lab Control Sample Dup	99	99	100	104
MB 460-658572/8	Method Blank	96	99	101	101

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (72-133)
460-197430-2	MW-196_112019	95
460-197430-3	MW-196S_112019	90
460-197430-4	MW-195S_112019	94
460-197430-5	MW-194S_112019	93
460-197430-6	MW-194_112019	95
460-197430-7	MW-198S_112019	92
LCS 460-658046/3	Lab Control Sample	99
LCSD 460-658046/4	Lab Control Sample Dup	99
MB 460-658046/8	Method Blank	94

Surrogate Legend

BFB = 4-Bromofluorobenzene

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 460-658572/8
Matrix: Water
Analysis Batch: 658572

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			11/27/19 01:49	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			11/27/19 01:49	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			11/27/19 01:49	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			11/27/19 01:49	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			11/27/19 01:49	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			11/27/19 01:49	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		11/27/19 01:49	1
Toluene-d8 (Surr)	99		80 - 120		11/27/19 01:49	1
Dibromofluoromethane (Surr)	101		72 - 131		11/27/19 01:49	1
4-Bromofluorobenzene	101		77 - 124		11/27/19 01:49	1

Lab Sample ID: LCS 460-658572/3
Matrix: Water
Analysis Batch: 658572

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	20.0	20.8		ug/L		104	74 - 123
cis-1,2-Dichloroethene	20.0	21.1		ug/L		105	80 - 120
Tetrachloroethene	20.0	21.3		ug/L		107	78 - 122
trans-1,2-Dichloroethene	20.0	21.3		ug/L		107	79 - 120
Trichloroethene	20.0	21.9		ug/L		110	77 - 120
Vinyl chloride	20.0	19.7		ug/L		98	62 - 138

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	93		74 - 132
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	98		72 - 131
4-Bromofluorobenzene	103		77 - 124

Lab Sample ID: LCSD 460-658572/4
Matrix: Water
Analysis Batch: 658572

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	20.0	18.9		ug/L		94	74 - 123	9	30
cis-1,2-Dichloroethene	20.0	20.0		ug/L		100	80 - 120	5	30
Tetrachloroethene	20.0	19.3		ug/L		97	78 - 122	10	30
trans-1,2-Dichloroethene	20.0	19.6		ug/L		98	79 - 120	8	30
Trichloroethene	20.0	20.1		ug/L		101	77 - 120	9	30
Vinyl chloride	20.0	17.7		ug/L		89	62 - 138	10	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		74 - 132
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	100		72 - 131

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 460-658572/4
Matrix: Water
Analysis Batch: 658572

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

	LCSD	LCSD	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene	104		77 - 124

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-658046/8
Matrix: Water
Analysis Batch: 658046

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L			11/25/19 11:20	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	94		72 - 133					11/25/19 11:20	1

Lab Sample ID: LCS 460-658046/3
Matrix: Water
Analysis Batch: 658046

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
	Added	Result	Qualifier				Limits	
1,4-Dioxane	5.00	4.32		ug/L		86	66 - 135	
Surrogate	LCS	LCS	Limits				Limits	
4-Bromofluorobenzene	99		72 - 133					

Lab Sample ID: LCSD 460-658046/4
Matrix: Water
Analysis Batch: 658046

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	%Rec	%Rec.	RPD	RPD	Limit
	Added	Result	Qualifier				Limits	RPD	Limit	
1,4-Dioxane	5.00	5.18		ug/L		104	66 - 135	18	30	
Surrogate	LCSD	LCSD	Limits				Limits			
4-Bromofluorobenzene	99		72 - 133							

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

GC/MS VOA

Analysis Batch: 658046

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197430-2	MW-196_112019	Total/NA	Water	8260C SIM	
460-197430-3	MW-196S_112019	Total/NA	Water	8260C SIM	
460-197430-4	MW-195S_112019	Total/NA	Water	8260C SIM	
460-197430-5	MW-194S_112019	Total/NA	Water	8260C SIM	
460-197430-6	MW-194_112019	Total/NA	Water	8260C SIM	
460-197430-7	MW-198S_112019	Total/NA	Water	8260C SIM	
MB 460-658046/8	Method Blank	Total/NA	Water	8260C SIM	
LCS 460-658046/3	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 460-658046/4	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Analysis Batch: 658572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197430-1	TRIP BLANK	Total/NA	Water	8260C	
460-197430-2	MW-196_112019	Total/NA	Water	8260C	
460-197430-3	MW-196S_112019	Total/NA	Water	8260C	
460-197430-4	MW-195S_112019	Total/NA	Water	8260C	
460-197430-5	MW-194S_112019	Total/NA	Water	8260C	
460-197430-6	MW-194_112019	Total/NA	Water	8260C	
460-197430-7	MW-198S_112019	Total/NA	Water	8260C	
MB 460-658572/8	Method Blank	Total/NA	Water	8260C	
LCS 460-658572/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-658572/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 460-197430-1

Date Collected: 11/20/19 00:00

Matrix: Water

Date Received: 11/22/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	658572	11/27/19 04:12	MZS	TAL EDI

Client Sample ID: MW-196_112019

Lab Sample ID: 460-197430-2

Date Collected: 11/20/19 09:55

Matrix: Water

Date Received: 11/22/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		2	658572	11/27/19 09:30	MZS	TAL EDI
Total/NA	Analysis	8260C SIM		1	658046	11/25/19 17:13	SZD	TAL EDI

Client Sample ID: MW-196S_112019

Lab Sample ID: 460-197430-3

Date Collected: 11/20/19 10:50

Matrix: Water

Date Received: 11/22/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	658572	11/27/19 09:03	MZS	TAL EDI
Total/NA	Analysis	8260C SIM		1	658046	11/25/19 17:37	SZD	TAL EDI

Client Sample ID: MW-195S_112019

Lab Sample ID: 460-197430-4

Date Collected: 11/20/19 11:45

Matrix: Water

Date Received: 11/22/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		10	658572	11/27/19 09:56	MZS	TAL EDI
Total/NA	Analysis	8260C SIM		1	658046	11/25/19 18:00	SZD	TAL EDI

Client Sample ID: MW-194S_112019

Lab Sample ID: 460-197430-5

Date Collected: 11/20/19 13:00

Matrix: Water

Date Received: 11/22/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	658572	11/27/19 07:44	MZS	TAL EDI
Total/NA	Analysis	8260C SIM		1	658046	11/25/19 18:46	SZD	TAL EDI

Client Sample ID: MW-194_112019

Lab Sample ID: 460-197430-6

Date Collected: 11/20/19 13:55

Matrix: Water

Date Received: 11/22/19 10:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	658572	11/27/19 08:10	MZS	TAL EDI
Total/NA	Analysis	8260C SIM		1	658046	11/25/19 18:23	SZD	TAL EDI

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Client Sample ID: MW-198S_112019

Lab Sample ID: 460-197430-7

Date Collected: 11/20/19 15:15

Matrix: Water

Date Received: 11/22/19 10:15

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Prepared or Analyzed</u>	<u>Analyst</u>	<u>Lab</u>
Total/NA	Analysis	8260C		1	658572	11/27/19 08:37	MZS	TAL EDI
Total/NA	Analysis	8260C SIM		1	658046	11/25/19 19:10	SZD	TAL EDI

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Laboratory: Eurofins TestAmerica, Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0200	09-30-20
DE Haz. Subst. Cleanup Act (HSCA)	State	<cert No.>	12-31-21
Georgia	State	12028 (NJ)	06-30-20
Massachusetts	State Program	M-NJ312	06-30-20
New Jersey	NELAP	12028	06-30-20
New York	NELAP	11452	04-01-20
Pennsylvania	NELAP	68-00522	02-28-20
Rhode Island	State	LAO00132	12-30-19
USDA	US Federal Programs	P330-18-00135	05-03-21

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On-Site

Job ID: 460-197430-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
460-197430-1	TRIP BLANK	Water	11/20/19 00:00	11/22/19 10:15	
460-197430-2	MW-196_112019	Water	11/20/19 09:55	11/22/19 10:15	
460-197430-3	MW-196S_112019	Water	11/20/19 10:50	11/22/19 10:15	
460-197430-4	MW-195S_112019	Water	11/20/19 11:45	11/22/19 10:15	
460-197430-5	MW-194S_112019	Water	11/20/19 13:00	11/22/19 10:15	
460-197430-6	MW-194_112019	Water	11/20/19 13:55	11/22/19 10:15	
460-197430-7	MW-198S_112019	Water	11/20/19 15:15	11/22/19 10:15	

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Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 460-197430-1

Login Number: 197430

List Number: 1

Creator: Rivera, Kenneth

List Source: Eurofins TestAmerica, Edison

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Refer to Job Narrative for details.
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DATA VERIFICATION REPORT



December 01, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30016346.0001B - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - Edison
Laboratory submittal: 197430-1
Sample date: 2019-11-20
Report received by CADENA: 2019-11-30
Initial Data Verification completed by CADENA: 2019-12-01
Number of Samples:7
Sample Matrices:Water
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-Edison

Laboratory Submittal: 197430-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	GCMS VOC Volatiles	GCMS VOC SIM	Comment
4601974301	TRIP BLANK	11/20/2019	12:00:00	X		
4601974302	MW-196_112019	11/20/2019	9:55:00	X	X	
4601974303	MW-196S_112019	11/20/2019	10:50:00	X	X	
4601974304	MW-195S_112019	11/20/2019	11:45:00	X	X	
4601974305	MW-194S_112019	11/20/2019	1:00:00	X	X	
4601974306	MW-194_112019	11/20/2019	1:55:00	X	X	
4601974307	MW-198S_112019	11/20/2019	3:15:00	X	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728
 Laboratory: TestAmerica - Edison
 Laboratory Submittal: 197430-1

Analyte	Cas No.	Sample Name: TRIP BLANK				MW-196_112019				MW-196S_112019				MW-195S_112019				MW-194S_112019				MW-194_112019				MW-198S_112019							
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier				
GC/MS VOC																																	
<u>OSW-8260C</u>																																	
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	0.73	2.0	ug/l	J	ND	1.0	ug/l	---	ND	10	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	210	2.0	ug/l	---	68	1.0	ug/l	---	120	10	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	ND	10	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	55	2.0	ug/l	---	1.7	1.0	ug/l	---	150	10	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	490	2.0	ug/l	---	78	1.0	ug/l	---	3400	10	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	0.43	1.0	ug/l	J
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	2.0	ug/l	---	ND	1.0	ug/l	---	16	10	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
GC/MS SVOC																																	
<u>OSW-8260CSIM</u>																																	
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	ND	2.0	ug/l	---	1.5	2.0	ug/l	J	ND	2.0	ug/l	---	ND	2.0	ug/l	---

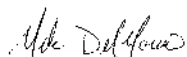
ANALYTICAL REPORT

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Tel: (732)549-3900

Laboratory Job ID: 460-197710-1
Client Project/Site: Ford LTP On Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
12/11/2019 4:37:07 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Job ID: 460-197710-1

Laboratory: Eurofins TestAmerica, Edison

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 460-197710-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Edison attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 11/26/2019 9:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.3° C, 2.3° C and 4.6° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples Trip Blank (460-197710-1), MW-15-60D_112219 (460-197710-2) and MW-15-59D_112219 (460-197710-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 12/04/2019.

Trichloroethene failed the recovery criteria low for LCS 460-659770/3. Refer to the QC report for details.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples MW-15-60D_112219 (460-197710-2) and MW-15-59D_112219 (460-197710-3) were analyzed for Volatile organic compounds (GC/MS) in accordance with SW-846 Method 8260C SIM. The samples were analyzed on 12/01/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Client Sample ID: Trip Blank

Lab Sample ID: 460-197710-1

No Detections.

Client Sample ID: MW-15-60D_112219

Lab Sample ID: 460-197710-2

No Detections.

Client Sample ID: MW-15-59D_112219

Lab Sample ID: 460-197710-3

No Detections.

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This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Edison

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Client Sample ID: Trip Blank

Lab Sample ID: 460-197710-1

Date Collected: 11/22/19 14:32

Matrix: Water

Date Received: 11/26/19 09:05

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		12/04/19 02:43	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		12/04/19 02:43	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		12/04/19 02:43	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L	-		12/04/19 02:43	1
Trichloroethene	1.0	U *	1.0	0.31	ug/L	-		12/04/19 02:43	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		12/04/19 02:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/04/19 02:43	1
Toluene-d8 (Surr)	97		80 - 120		12/04/19 02:43	1
Dibromofluoromethane (Surr)	94		72 - 131		12/04/19 02:43	1
4-Bromofluorobenzene	96		77 - 124		12/04/19 02:43	1

Client Sample ID: MW-15-60D_112219

Lab Sample ID: 460-197710-2

Date Collected: 11/22/19 11:45

Matrix: Water

Date Received: 11/26/19 09:05

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		12/01/19 12:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	92		72 - 133		12/01/19 12:46	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		12/04/19 16:29	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		12/04/19 16:29	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		12/04/19 16:29	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L	-		12/04/19 16:29	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		12/04/19 16:29	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		12/04/19 16:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		74 - 132		12/04/19 16:29	1
Toluene-d8 (Surr)	97		80 - 120		12/04/19 16:29	1
Dibromofluoromethane (Surr)	98		72 - 131		12/04/19 16:29	1
4-Bromofluorobenzene	97		77 - 124		12/04/19 16:29	1

Client Sample ID: MW-15-59D_112219

Lab Sample ID: 460-197710-3

Date Collected: 11/22/19 14:32

Matrix: Water

Date Received: 11/26/19 09:05

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		12/01/19 13:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		72 - 133		12/01/19 13:11	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Client Sample ID: MW-15-59D_112219

Lab Sample ID: 460-197710-3

Date Collected: 11/22/19 14:32

Matrix: Water

Date Received: 11/26/19 09:05

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			12/04/19 16:53	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/04/19 16:53	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			12/04/19 16:53	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/04/19 16:53	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/04/19 16:53	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/04/19 16:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		74 - 132		12/04/19 16:53	1
Toluene-d8 (Surr)	97		80 - 120		12/04/19 16:53	1
Dibromofluoromethane (Surr)	96		72 - 131		12/04/19 16:53	1
4-Bromofluorobenzene	96		77 - 124		12/04/19 16:53	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (74-132)	TOL (80-120)	DBFM (72-131)	BFB (77-124)
460-197710-1	Trip Blank	97	97	94	96
460-197710-2	MW-15-60D_112219	99	97	98	97
460-197710-3	MW-15-59D_112219	98	97	96	96
LCS 460-659770/3	Lab Control Sample	95	98	95	96
LCS 460-659860/3	Lab Control Sample	96	97	98	96
LCSD 460-659770/4	Lab Control Sample Dup	96	98	96	97
LCSD 460-659860/4	Lab Control Sample Dup	95	98	96	97
MB 460-659770/7	Method Blank	101	99	100	96
MB 460-659860/7	Method Blank	97	98	96	96

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (72-133)
460-197710-2	MW-15-60D_112219	92
460-197710-3	MW-15-59D_112219	93
LCS 460-659329/3	Lab Control Sample	92
LCSD 460-659329/4	Lab Control Sample Dup	94
MB 460-659329/8	Method Blank	93

Surrogate Legend

BFB = 4-Bromofluorobenzene

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 460-659770/7
Matrix: Water
Analysis Batch: 659770

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			12/03/19 20:18	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/03/19 20:18	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			12/03/19 20:18	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/03/19 20:18	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/03/19 20:18	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/03/19 20:18	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		74 - 132		12/03/19 20:18	1
Toluene-d8 (Surr)	99		80 - 120		12/03/19 20:18	1
Dibromofluoromethane (Surr)	100		72 - 131		12/03/19 20:18	1
4-Bromofluorobenzene	96		77 - 124		12/03/19 20:18	1

Lab Sample ID: LCS 460-659770/3
Matrix: Water
Analysis Batch: 659770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	20.0	17.4		ug/L		87	74 - 123
cis-1,2-Dichloroethene	20.0	17.1		ug/L		86	80 - 120
Tetrachloroethene	20.0	16.7		ug/L		84	78 - 122
trans-1,2-Dichloroethene	20.0	17.5		ug/L		88	79 - 120
Trichloroethene	20.0	15.3	*	ug/L		76	77 - 120
Vinyl chloride	20.0	18.3		ug/L		91	62 - 138

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		74 - 132
Toluene-d8 (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	95		72 - 131
4-Bromofluorobenzene	96		77 - 124

Lab Sample ID: LCSD 460-659770/4
Matrix: Water
Analysis Batch: 659770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	20.0	17.5		ug/L		87	74 - 123	0	30
cis-1,2-Dichloroethene	20.0	17.4		ug/L		87	80 - 120	2	30
Tetrachloroethene	20.0	17.0		ug/L		85	78 - 122	2	30
trans-1,2-Dichloroethene	20.0	17.6		ug/L		88	79 - 120	0	30
Trichloroethene	20.0	16.0		ug/L		80	77 - 120	4	30
Vinyl chloride	20.0	18.8		ug/L		94	62 - 138	3	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	96		74 - 132
Toluene-d8 (Surr)	98		80 - 120
Dibromofluoromethane (Surr)	96		72 - 131

Eurofins TestAmerica, Edison

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 460-659770/4
Matrix: Water
Analysis Batch: 659770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	97		77 - 124

Lab Sample ID: MB 460-659860/7
Matrix: Water
Analysis Batch: 659860

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			12/04/19 08:27	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/04/19 08:27	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			12/04/19 08:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/04/19 08:27	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/04/19 08:27	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/04/19 08:27	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/04/19 08:27	1
Toluene-d8 (Surr)	98		80 - 120		12/04/19 08:27	1
Dibromofluoromethane (Surr)	96		72 - 131		12/04/19 08:27	1
4-Bromofluorobenzene	96		77 - 124		12/04/19 08:27	1

Lab Sample ID: LCS 460-659860/3
Matrix: Water
Analysis Batch: 659860

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,1-Dichloroethene	20.0	18.2		ug/L		91	74 - 123
cis-1,2-Dichloroethene	20.0	18.6		ug/L		93	80 - 120
Tetrachloroethene	20.0	18.3		ug/L		91	78 - 122
trans-1,2-Dichloroethene	20.0	18.7		ug/L		94	79 - 120
Trichloroethene	20.0	17.0		ug/L		85	77 - 120
Vinyl chloride	20.0	18.8		ug/L		94	62 - 138

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		74 - 132
Toluene-d8 (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	98		72 - 131
4-Bromofluorobenzene	96		77 - 124

Lab Sample ID: LCSD 460-659860/4
Matrix: Water
Analysis Batch: 659860

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD LCSD		Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
		Result	Qualifier						
1,1-Dichloroethene	20.0	20.6		ug/L		103	74 - 123	13	30
cis-1,2-Dichloroethene	20.0	20.9		ug/L		104	80 - 120	11	30
Tetrachloroethene	20.0	20.6		ug/L		103	78 - 122	12	30
trans-1,2-Dichloroethene	20.0	21.0		ug/L		105	79 - 120	11	30
Trichloroethene	20.0	18.8		ug/L		94	77 - 120	10	30

Eurofins TestAmerica, Edison

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 460-659860/4
Matrix: Water
Analysis Batch: 659860

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Vinyl chloride	20.0	21.5		ug/L		108	62 - 138	14	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	95		74 - 132						
Toluene-d8 (Surr)	98		80 - 120						
Dibromofluoromethane (Surr)	96		72 - 131						
4-Bromofluorobenzene	97		77 - 124						

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-659329/8
Matrix: Water
Analysis Batch: 659329

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L			12/01/19 10:40	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	93		72 - 133					12/01/19 10:40	1

Lab Sample ID: LCS 460-659329/3
Matrix: Water
Analysis Batch: 659329

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
1,4-Dioxane	5.00	4.21		ug/L		84	66 - 135		
Surrogate	%Recovery	LCS Qualifier	Limits						
4-Bromofluorobenzene	92		72 - 133						

Lab Sample ID: LCSD 460-659329/4
Matrix: Water
Analysis Batch: 659329

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	5.00	4.20		ug/L		84	66 - 135	0	30
Surrogate	%Recovery	LCSD Qualifier	Limits						
4-Bromofluorobenzene	94		72 - 133						

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

GC/MS VOA

Analysis Batch: 659329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197710-2	MW-15-60D_112219	Total/NA	Water	8260C SIM	
460-197710-3	MW-15-59D_112219	Total/NA	Water	8260C SIM	
MB 460-659329/8	Method Blank	Total/NA	Water	8260C SIM	
LCS 460-659329/3	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 460-659329/4	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Analysis Batch: 659770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197710-1	Trip Blank	Total/NA	Water	8260C	
MB 460-659770/7	Method Blank	Total/NA	Water	8260C	
LCS 460-659770/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-659770/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 659860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197710-2	MW-15-60D_112219	Total/NA	Water	8260C	
460-197710-3	MW-15-59D_112219	Total/NA	Water	8260C	
MB 460-659860/7	Method Blank	Total/NA	Water	8260C	
LCS 460-659860/3	Lab Control Sample	Total/NA	Water	8260C	
LCSD 460-659860/4	Lab Control Sample Dup	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Client Sample ID: Trip Blank

Date Collected: 11/22/19 14:32

Date Received: 11/26/19 09:05

Lab Sample ID: 460-197710-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	659770	12/04/19 02:43	VBP	TAL EDI

Client Sample ID: MW-15-60D_112219

Date Collected: 11/22/19 11:45

Date Received: 11/26/19 09:05

Lab Sample ID: 460-197710-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	659860	12/04/19 16:29	SZD	TAL EDI
Total/NA	Analysis	8260C SIM		1	659329	12/01/19 12:46	KLB	TAL EDI

Client Sample ID: MW-15-59D_112219

Date Collected: 11/22/19 14:32

Date Received: 11/26/19 09:05

Lab Sample ID: 460-197710-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	659860	12/04/19 16:53	SZD	TAL EDI
Total/NA	Analysis	8260C SIM		1	659329	12/01/19 13:11	KLB	TAL EDI

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Laboratory: Eurofins TestAmerica, Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0200	09-30-20
DE Haz. Subst. Cleanup Act (HSCA)	State	<cert No.>	12-31-21
Georgia	State	12028 (NJ)	06-30-20
Massachusetts	State	M-NJ312	06-30-20
Massachusetts	State Program	M-NJ312	06-30-20
New Jersey	NELAP	12028	06-30-20
New York	NELAP	11452	04-01-20
Pennsylvania	NELAP	68-00522	02-28-20
Rhode Island	State	LAO00132	12-30-19
USDA	US Federal Programs	P330-18-00135	05-03-21

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197710-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
460-197710-1	Trip Blank	Water	11/22/19 14:32	11/26/19 09:05	
460-197710-2	MW-15-60D_112219	Water	11/22/19 11:45	11/26/19 09:05	
460-197710-3	MW-15-59D_112219	Water	11/22/19 14:32	11/26/19 09:05	

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Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

MCSINGALE
19

TestAmerica Laboratory location: Brighton --- 10448 Cilation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Regulatory program: DW NPDES RCRA Other

Client Contact
Company Name: Arcadis
Address: 28550 Cabot Drive, Suite 500
City/State/Zip: Novi, MI, 48377
Phone: 248-994-2240
Project Name: Ford LTP On-Site
Project Number: 38016346.0001B
PO # 38016346.0001B

Client Project Manager: Kris Hinskey
Telephone: 248-994-2240
Email: krisoffier.hinskey@arcadis.com

Site Contact: Rachel Bielak
Telephone: 248-946-0331

Lab Contact: Mike DeMunico
Telephone: 330-497-9396

Company Name: WEATHER WATERS
Method of Shipment/Carrier: WATERS
Shipping Tracking No:

Sample Identification	Sample Date	Sample Time	Analytes										Sample Specific Notes / Special Instructions			
			1,1-DCE 8260B	1,2-DCE 8260B	Trans-1,2-DCE 8260B	PCE 8260B	Vinyl Chloride 8260B	1,4-Dioxane 8260B SIM	Other:	Solid	Sediment	Aqueous				
TRIP BLANK															1 Trip Blank	
MW-15-60D-12219	11/22/19	1145	X	X	X	X	X	X	X	X	X	X	X	X	X	X
MW-15-59D-12219	11/22/19	1732	X	X	X	X	X	X	X	X	X	X	X	X	X	X



Possible Hazard Identification
 Non-Hazard Flammable Irritant Poison B Unknown

Special Instructions/QC Requirements & Comments:
Submit all results through Cadena at jim.tomatia@cadena.com. Cadena #E203728
Level IV Reporting requested.

Requisitioned by: [Signature]
Requisitioned by: [Signature]
Requisitioned by: [Signature]

Company: Arcadis
Date/Time: 11/22/19 1530
Company: Arcadis
Date/Time: 11/22/19 830
Company: Arcadis
Date/Time: 11/25/19 1048
Company: Arcadis
Date/Time: 11/25/19 1127

Company: Arcadis
Date/Time: 11/22/19 1530
Company: Arcadis
Date/Time: 11/22/19 1820
Company: Arcadis
Date/Time: 11/25/19 1050

Notes: 1-0/1-3 2-0/3-3 4-3/4-6
1093638/1093639/1093641
ferry - day runs on 11/26/19 09:05



Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 460-197710-1

Login Number: 197710

List Number: 1

Creator: Rivera, Kenneth

List Source: Eurofins TestAmerica, Edison

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	1093638,1093639,1093641
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Refer to Job Narrative for details.
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DATA VERIFICATION REPORT



December 11, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728

Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil

Project number: 30016346.0001B - onsite groundwater

Event Specific Scope of Work References: Sample COC

Laboratory: TestAmerica - Edison

Laboratory submittal: 197710-1

Sample date: 2019-11-22

Report received by CADENA: 2019-12-11

Initial Data Verification completed by CADENA: 2019-12-11

Number of Samples:3

Sample Matrices:Water

Test Categories:GCMS VOC

Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

The following minor QC exceptions or missing information were noted:

LCS - GCMS VOC QC batch 659770 LCS recovery was outlying biased low for the following analyte: TRICHLOROETHENE. The following client sample results should be considered to be estimated and qualified with UJ flags if non-detect: trip blank.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Inc, 1099 Highland Drive, Suite E, Ann Arbor, MI 48108 517-819-0356

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-Edison

Laboratory Submittal: 197710-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	GCMS VOC Volatiles	GCMS VOC SIM	Comment
4601977101	Trip Blank	11/22/2019	2:32:00	X		
4601977102	MW-15-60D_112219	11/22/2019	11:45:00	X	X	
4601977103	MW-15-59D_112219	11/22/2019	2:32:00	X	X	

Qualified Results Summary

CADENA Project ID: E203728

Laboratory: TestAmerica - Edison

Laboratory Submittal: 197710-1

Sample Name: Trip Blank
Lab Sample ID: 4601977101
Sample Date: 11/22/2019

Analyte	Cas No.	Result	Report		Units	Valid Qualifier
			Limit			
GC/MS VOC						
<u>OSW-8260C</u>						
Trichloroethene	79-01-6	ND	1.0		ug/l	UJ

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - Edison

Laboratory Submittal: 197710-1

Sample Name:	Trip Blank	MW-15-60D_112219	MW-15-59D_112219
Lab Sample ID:	4601977101	4601977102	4601977103
Sample Date:	11/22/2019	11/22/2019	11/22/2019

Analyte	Cas No.	Report				Valid				Report				Valid			
		Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier	Result	Limit	Units	Qualifier
GC/MS VOC																	
<u>OSW-8260C</u>																	
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	UJ	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
GC/MS SVOC																	
<u>OSW-8260CSIM</u>																	
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---				

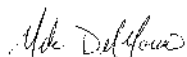
ANALYTICAL REPORT

Eurofins TestAmerica, Edison
777 New Durham Road
Edison, NJ 08817
Tel: (732)549-3900

Laboratory Job ID: 460-197711-1
Client Project/Site: Ford LTP On Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
12/3/2019 4:43:38 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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www.testamericainc.com

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Job ID: 460-197711-1

Laboratory: Eurofins TestAmerica, Edison

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 460-197711-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Edison attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 11/27/2019 10:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples Trip Blank (460-197711-1), MW-197S_112519 (460-197711-2), MW-198_112519 (460-197711-3) and MW-199S_112519 (460-197711-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260C. The samples were analyzed on 12/02/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples MW-197S_112519 (460-197711-2), MW-198_112519 (460-197711-3) and MW-199S_112519 (460-197711-4) were analyzed for Volatile organic compounds (GC/MS) in accordance with SW-846 Method 8260C SIM. The samples were analyzed on 11/30/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Client Sample ID: Trip Blank

Lab Sample ID: 460-197711-1

No Detections.

Client Sample ID: MW-197S_112519

Lab Sample ID: 460-197711-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	10		1.0	0.22	ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	0.43	J	1.0	0.24	ug/L	1		8260C	Total/NA
Trichloroethene	14		1.0	0.31	ug/L	1		8260C	Total/NA
Vinyl chloride	2.1		1.0	0.17	ug/L	1		8260C	Total/NA

Client Sample ID: MW-198_112519

Lab Sample ID: 460-197711-3

No Detections.

Client Sample ID: MW-199S_112519

Lab Sample ID: 460-197711-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.6		2.0	0.33	ug/L	1		8260C SIM	Total/NA
Vinyl chloride	0.33	J	1.0	0.17	ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Edison

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Client Sample ID: Trip Blank

Lab Sample ID: 460-197711-1

Date Collected: 11/25/19 12:05

Matrix: Water

Date Received: 11/27/19 10:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		12/02/19 12:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L	-		12/02/19 12:35	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		12/02/19 12:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L	-		12/02/19 12:35	1
Trichloroethene	1.0	U	1.0	0.31	ug/L	-		12/02/19 12:35	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L	-		12/02/19 12:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		74 - 132		12/02/19 12:35	1
Toluene-d8 (Surr)	99		80 - 120		12/02/19 12:35	1
Dibromofluoromethane (Surr)	96		72 - 131		12/02/19 12:35	1
4-Bromofluorobenzene	96		77 - 124		12/02/19 12:35	1

Client Sample ID: MW-197S_112519

Lab Sample ID: 460-197711-2

Date Collected: 11/25/19 12:05

Matrix: Water

Date Received: 11/27/19 10:30

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/30/19 07:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	80		72 - 133		11/30/19 07:18	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L	-		12/02/19 16:35	1
cis-1,2-Dichloroethene	10		1.0	0.22	ug/L	-		12/02/19 16:35	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L	-		12/02/19 16:35	1
trans-1,2-Dichloroethene	0.43	J	1.0	0.24	ug/L	-		12/02/19 16:35	1
Trichloroethene	14		1.0	0.31	ug/L	-		12/02/19 16:35	1
Vinyl chloride	2.1		1.0	0.17	ug/L	-		12/02/19 16:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/02/19 16:35	1
Toluene-d8 (Surr)	98		80 - 120		12/02/19 16:35	1
Dibromofluoromethane (Surr)	96		72 - 131		12/02/19 16:35	1
4-Bromofluorobenzene	96		77 - 124		12/02/19 16:35	1

Client Sample ID: MW-198_112519

Lab Sample ID: 460-197711-3

Date Collected: 11/25/19 11:10

Matrix: Water

Date Received: 11/27/19 10:30

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L	-		11/30/19 07:41	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	79		72 - 133		11/30/19 07:41	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Client Sample ID: MW-198_112519

Lab Sample ID: 460-197711-3

Date Collected: 11/25/19 11:10

Matrix: Water

Date Received: 11/27/19 10:30

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			12/02/19 15:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/02/19 15:47	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			12/02/19 15:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/02/19 15:47	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/02/19 15:47	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/02/19 15:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/02/19 15:47	1
Toluene-d8 (Surr)	100		80 - 120		12/02/19 15:47	1
Dibromofluoromethane (Surr)	95		72 - 131		12/02/19 15:47	1
4-Bromofluorobenzene	95		77 - 124		12/02/19 15:47	1

Client Sample ID: MW-199S_112519

Lab Sample ID: 460-197711-4

Date Collected: 11/25/19 10:05

Matrix: Water

Date Received: 11/27/19 10:30

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.6		2.0	0.33	ug/L			11/30/19 08:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	80		72 - 133		11/30/19 08:04	1

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			12/02/19 16:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/02/19 16:11	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			12/02/19 16:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/02/19 16:11	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/02/19 16:11	1
Vinyl chloride	0.33	J	1.0	0.17	ug/L			12/02/19 16:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		74 - 132		12/02/19 16:11	1
Toluene-d8 (Surr)	99		80 - 120		12/02/19 16:11	1
Dibromofluoromethane (Surr)	96		72 - 131		12/02/19 16:11	1
4-Bromofluorobenzene	96		77 - 124		12/02/19 16:11	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (74-132)	TOL (80-120)	DBFM (72-131)	BFB (77-124)
460-197683-B-1 MS	Matrix Spike	95	100	96	97
460-197683-B-1 MSD	Matrix Spike Duplicate	94	100	95	98
460-197711-1	Trip Blank	98	99	96	96
460-197711-2	MW-197S_112519	97	98	96	96
460-197711-3	MW-198_112519	97	100	95	95
460-197711-4	MW-199S_112519	96	99	96	96
LCS 460-659418/3	Lab Control Sample	94	101	95	99
MB 460-659418/7	Method Blank	97	99	95	95

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (72-133)
460-197711-2	MW-197S_112519	80
460-197711-3	MW-198_112519	79
460-197711-4	MW-199S_112519	80
LCS 460-659108/3	Lab Control Sample	79
LCSD 460-659108/4	Lab Control Sample Dup	80
MB 460-659108/8	Method Blank	84

Surrogate Legend

BFB = 4-Bromofluorobenzene

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Method: 8260C - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 460-659418/7
Matrix: Water
Analysis Batch: 659418

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.26	ug/L			12/02/19 08:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.22	ug/L			12/02/19 08:33	1
Tetrachloroethene	1.0	U	1.0	0.25	ug/L			12/02/19 08:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.24	ug/L			12/02/19 08:33	1
Trichloroethene	1.0	U	1.0	0.31	ug/L			12/02/19 08:33	1
Vinyl chloride	1.0	U	1.0	0.17	ug/L			12/02/19 08:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		74 - 132		12/02/19 08:33	1
Toluene-d8 (Surr)	99		80 - 120		12/02/19 08:33	1
Dibromofluoromethane (Surr)	95		72 - 131		12/02/19 08:33	1
4-Bromofluorobenzene	95		77 - 124		12/02/19 08:33	1

Lab Sample ID: LCS 460-659418/3
Matrix: Water
Analysis Batch: 659418

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	20.0	17.5		ug/L		88	74 - 123
cis-1,2-Dichloroethene	20.0	17.5		ug/L		87	80 - 120
Tetrachloroethene	20.0	18.4		ug/L		92	78 - 122
trans-1,2-Dichloroethene	20.0	17.7		ug/L		88	79 - 120
Trichloroethene	20.0	15.6		ug/L		78	77 - 120
Vinyl chloride	20.0	18.4		ug/L		92	62 - 138

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		74 - 132
Toluene-d8 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	95		72 - 131
4-Bromofluorobenzene	99		77 - 124

Lab Sample ID: 460-197683-B-1 MS
Matrix: Water
Analysis Batch: 659418

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	1.0	U	200	200		ug/L		100	74 - 123
cis-1,2-Dichloroethene	1.0	U	200	194		ug/L		97	80 - 120
Tetrachloroethene	1.0	U	200	201		ug/L		100	78 - 122
trans-1,2-Dichloroethene	1.0	U	200	196		ug/L		98	79 - 120
Trichloroethene	1.0	U	200	176		ug/L		88	77 - 120
Vinyl chloride	1.0	U	200	213		ug/L		106	62 - 138

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	95		74 - 132
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	96		72 - 131

Eurofins TestAmerica, Edison

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Method: 8260C - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 460-197683-B-1 MS
Matrix: Water
Analysis Batch: 659418

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene	97		77 - 124

Lab Sample ID: 460-197683-B-1 MSD
Matrix: Water
Analysis Batch: 659418

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	1.0	U	200	206		ug/L		103	74 - 123	3	30
cis-1,2-Dichloroethene	1.0	U	200	197		ug/L		99	80 - 120	2	30
Tetrachloroethene	1.0	U	200	212		ug/L		106	78 - 122	5	30
trans-1,2-Dichloroethene	1.0	U	200	201		ug/L		101	79 - 120	3	30
Trichloroethene	1.0	U	200	181		ug/L		90	77 - 120	3	30
Vinyl chloride	1.0	U	200	221		ug/L		111	62 - 138	4	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		74 - 132
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	95		72 - 131
4-Bromofluorobenzene	98		77 - 124

Method: 8260C SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 460-659108/8
Matrix: Water
Analysis Batch: 659108

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.33	ug/L			11/30/19 01:05	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	84		72 - 133		11/30/19 01:05	1

Lab Sample ID: LCS 460-659108/3
Matrix: Water
Analysis Batch: 659108

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	5.00	5.24		ug/L		105	66 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	79		72 - 133

Lab Sample ID: LCSD 460-659108/4
Matrix: Water
Analysis Batch: 659108

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	5.00	5.04		ug/L		101	66 - 135	4	30

Eurofins TestAmerica, Edison

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Method: 8260C SIM - Volatile Organic Compounds (GC/MS) (Continued)

<i>Surrogate</i>	<i>LCS</i>	<i>D</i>	<i>LCS</i>	<i>D</i>	<i>Limits</i>
	<i>%Recovery</i>	<i>Qualifier</i>			
4-Bromofluorobenzene	80				72 - 133

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

GC/MS VOA

Analysis Batch: 659108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197711-2	MW-197S_112519	Total/NA	Water	8260C SIM	
460-197711-3	MW-198_112519	Total/NA	Water	8260C SIM	
460-197711-4	MW-199S_112519	Total/NA	Water	8260C SIM	
MB 460-659108/8	Method Blank	Total/NA	Water	8260C SIM	
LCS 460-659108/3	Lab Control Sample	Total/NA	Water	8260C SIM	
LCSD 460-659108/4	Lab Control Sample Dup	Total/NA	Water	8260C SIM	

Analysis Batch: 659418

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
460-197711-1	Trip Blank	Total/NA	Water	8260C	
460-197711-2	MW-197S_112519	Total/NA	Water	8260C	
460-197711-3	MW-198_112519	Total/NA	Water	8260C	
460-197711-4	MW-199S_112519	Total/NA	Water	8260C	
MB 460-659418/7	Method Blank	Total/NA	Water	8260C	
LCS 460-659418/3	Lab Control Sample	Total/NA	Water	8260C	
460-197683-B-1 MS	Matrix Spike	Total/NA	Water	8260C	
460-197683-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260C	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Client Sample ID: Trip Blank

Date Collected: 11/25/19 12:05

Date Received: 11/27/19 10:30

Lab Sample ID: 460-197711-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	659418	12/02/19 12:35	SZD	TAL EDI

Client Sample ID: MW-197S_112519

Date Collected: 11/25/19 12:05

Date Received: 11/27/19 10:30

Lab Sample ID: 460-197711-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	659418	12/02/19 16:35	SZD	TAL EDI
Total/NA	Analysis	8260C SIM		1	659108	11/30/19 07:18	DAS	TAL EDI

Client Sample ID: MW-198_112519

Date Collected: 11/25/19 11:10

Date Received: 11/27/19 10:30

Lab Sample ID: 460-197711-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	659418	12/02/19 15:47	SZD	TAL EDI
Total/NA	Analysis	8260C SIM		1	659108	11/30/19 07:41	DAS	TAL EDI

Client Sample ID: MW-199S_112519

Date Collected: 11/25/19 10:05

Date Received: 11/27/19 10:30

Lab Sample ID: 460-197711-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	659418	12/02/19 16:11	SZD	TAL EDI
Total/NA	Analysis	8260C SIM		1	659108	11/30/19 08:04	DAS	TAL EDI

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Laboratory: Eurofins TestAmerica, Edison

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Connecticut	State	PH-0200	09-30-20
DE Haz. Subst. Cleanup Act (HSCA)	State	<cert No.>	12-31-21
Georgia	State	12028 (NJ)	06-30-20
Massachusetts	State Program	M-NJ312	06-30-20
New Jersey	NELAP	12028	06-30-20
New York	NELAP	11452	04-01-20
Pennsylvania	NELAP	68-00522	02-28-20
Rhode Island	State	LAO00132	12-30-19
USDA	US Federal Programs	P330-18-00135	05-03-21

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-20
Connecticut	State	PH-0590	12-31-19
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-19
Minnesota	NELAP	OH00048	12-31-19
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-20
West Virginia DEP	State	210	12-31-19

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds by GC/MS	SW846	TAL EDI
8260C SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL EDI
5030C	Purge and Trap	SW846	TAL EDI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL EDI = Eurofins TestAmerica, Edison, 777 New Durham Road, Edison, NJ 08817, TEL (732)549-3900



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 460-197711-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
460-197711-1	Trip Blank	Water	11/25/19 12:05	11/27/19 10:30	
460-197711-2	MW-197S_112519	Water	11/25/19 12:05	11/27/19 10:30	
460-197711-3	MW-198_112519	Water	11/25/19 11:10	11/27/19 10:30	
460-197711-4	MW-199S_112519	Water	11/25/19 10:05	11/27/19 10:30	

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Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: Brighton --- 10448 Claiton Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

197711

Regulatory program: DW NPDES RCRA Other

Client Project Manager: Kris Hinsky
Site Contact: Rachel Bielak
Telephone: 248-994-2240
Telephone: 248-946-6331

Company Name: Arcadis
Address: 28558 Cabot Drive, Suite 500
City/State/Zip: Novi, MI, 48377
Phone: 248-994-2240

Project Name: Ford LTP On-Site
Project Number: 30016346.0001B
PO # 30016346.0001B

Sampler Name: Christina Weaver
Method of Shipment/Carrier: 3 days
Shipping/Tracking No: CASH

Sample Date: 11/25/19 1205
11/25/19 1110
11/25/19 1005

Sample Identification: TRIP BLANK
MW-1975-112519
MW-198-112519
MW-1995-112519

Sample Matrix: Aqueous
Other: X

Sample Volume: 6
Other: X

Sample Storage: 1-1-DCE 8260B
6s-1,2-DCE 8260B
Trans-1,2-DCE 8260B
PCE 8260B
TCE 8260B
Vinyl Chloride 8260B
1,4-Dioxane 8260B SIM

Sample Specific Notes / Special Instructions: TRIP BLANK
3 vials method 8260B
3 vials method 8260B

Sample Specific Notes / Special Instructions: " "

Sample Specific Notes / Special Instructions: " "

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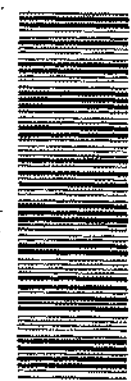
Sample Specific Notes / Special Instructions: " "

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Sample Specific Notes / Special Instructions: " "



3-DAY RUSH

Submit all results through Cadena at jim.tomalia@cadena.com. Cadena #E203728
Level IV Reporting requested.

Relinquished by: May Cathershaw
Relinquished by: May Cathershaw
Relinquished by: Rachel Bielak and Philak

Relinquished by: May Cathershaw
Relinquished by: May Cathershaw
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Relinquished by: May Cathershaw

CS # 1194016

3.5/3.8°C

ETA: MI 11/26/19 1515

via FedEx

ETA: MI 11/27/19 1030

ETA: MI 11/26/19 1100

ETA: MI 11/25/19 15:30

ETA: MI 11/25/19 12:50

ETA: MI 11/25/19 12:50

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Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 460-197711-1

Login Number: 197711

List Source: Eurofins TestAmerica, Edison

List Number: 1

Creator: Rivera, Kenneth

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	1194016
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Refer to Job Narrative for details.
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

DATA VERIFICATION REPORT



December 03, 2019

Kris Hinskey
Arcadis of Michigan
28550 Cabot Drive
Suite 500
Novi, MI US 48377

CADENA project ID: E203728
Project: Ford Livonia Transmission Plant - ON-SITE -Soil Gas, Ground water and Soil
Project number: 30016346.0001B - onsite groundwater
Event Specific Scope of Work References: Sample COC
Laboratory: TestAmerica - Edison
Laboratory submittal: 197711-1
Sample date: 2019-11-25
Report received by CADENA: 2019-12-03
Initial Data Verification completed by CADENA: 2019-12-03
Number of Samples:4
Sample Matrices:Water
Test Categories:GCMS VOC
Please see attached criteria report or sample result/qualified analytical result summary for qualifier flags assigned to sample data.

There were no significant QC anomalies or exceptions to report.

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, LCS/LCD RPD, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the CADENA Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

The definitions of the qualifiers used for this data package are defined in the analytical report. CADENA valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory analytical report access the CADENA CLMS at <http://clms.cadenaco.com/index.cfm>.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

CADENA Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
J-	The result is an estimated quantity, but the result may be biased low.
JB	NON-DETECT AT THE CONCENTRATION REPORTED AND ESTIMATED
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
JUB	NON-DETECT AT THE REPORTING LIMIT AND ESTIMATED
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminants) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

CADENA Project ID: E203728

Laboratory: TestAmerica-Edison

Laboratory Submittal: 197711-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	GCMS VOC Volatiles	GCMS VOC SIM	Comment
4601977111	Trip Blank	11/25/2019	12:05:00	X		
4601977112	MW-197S_112519	11/25/2019	12:05:00	X	X	
4601977113	MW-198_112519	11/25/2019	11:10:00	X	X	
4601977114	MW-199S_112519	11/25/2019	10:05:00	X	X	

Analytical Results Summary

Reportable Results Only

CADENA Project ID: E203728

Laboratory: TestAmerica - Edison

Laboratory Submittal: 197711-1

Sample Name: Trip Blank	MW-197S_112519	MW-198_112519	MW-199S_112519
Lab Sample ID: 4601977111	4601977112	4601977113	4601977114
Sample Date: 11/25/2019	11/25/2019	11/25/2019	11/25/2019

Analyte	Cas No.	Sample 1				Sample 2				Sample 3				Sample 4			
		Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier	Result	Limit	Units	Valid Qualifier
GC/MS VOC																	
<u>OSW-8260C</u>																	
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	10	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	0.43	1.0	ug/l	J	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	14	1.0	ug/l	---	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	2.1	1.0	ug/l	---	ND	1.0	ug/l	---	0.33	1.0	ug/l	J
GC/MS SVOC																	
<u>OSW-8260CSIM</u>																	
1,4-Dioxane	123-91-1					ND	2.0	ug/l	---	ND	2.0	ug/l	---	2.6	2.0	ug/l	---

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-91358-1

Client Project/Site: Ford LTP Livonia MI - E203728

For:

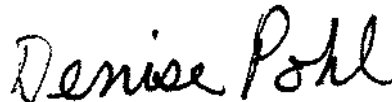
ARCADIS U.S., Inc.

28550 Cabot Drive

Suite 500

Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:

2/19/2018 4:36:33 PM

Denise Pohl, Project Manager II

(330)966-9789

denise.pohl@testamericainc.com

LINKS

Review your project
results through

TotalAccess

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.
B	Compound was found in the blank and sample.
X	Surrogate is outside control limits
*	LCS or LCSD is outside acceptance limits.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Job ID: 240-91358-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-91358-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 2/9/2018 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 1.3° C, 1.7° C and 3.1° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-65-020618 (240-91358-1), MW-44-020618 (240-91358-2), MW-22-020618 (240-91358-3), MW-62-020618 (240-91358-4), MW-15-59D-020618 (240-91358-5), MW-15-60D-020618 (240-91358-6), MW-15-61D-020618 (240-91358-7), MW-23-020618 (240-91358-8), TRIP BLANK (240-91358-9), MW-28-020718 (240-91358-10), MW-58-020718 (240-91358-11), MW-55-020718 (240-91358-12), MW-54-020718 (240-91358-13), MW-53-020718 (240-91358-14), MW-63-020718 (240-91358-15), PW-16-01-020718 (240-91358-16) and TW-16-01-020718 (240-91358-17) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/13/2018, 02/14/2018 and 02/15/2018.

Methylene Chloride was detected in method blanks MB 240-314579/6, MB 240-314760/6 and MB 240-314918/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Chloromethane and Toluene failed the recovery criteria high for LCS 240-314579/4. Refer to the QC report for details.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Job ID: 240-91358-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

1,1,2-Trichloro-1,2,2-trifluoroethane failed the recovery criteria low for the MS of sample 240-91308-3 in batch 240-314579. 1,1,2,2-Tetrachloroethane and 1,1,2-Trichloroethane failed the recovery criteria high. 1,1,2,2-Tetrachloroethane failed the recovery criteria high for the MSD of sample 240-91308-3 in batch 240-314579. Acetone and Trichlorofluoromethane exceeded the RPD limit. Several analytes exceeded the RPD limit for the MSD of sample 240-91314-3 in batch 240-314760. Chloromethane failed the recovery criteria low for the MS of sample 240-91339-9 in batch 240-314918. Vinyl chloride exceeded the RPD limit for the MSD of sample 240-91339-9 in batch 240-314918.

Samples MW-65-020618 (240-91358-1)[2X], MW-44-020618 (240-91358-2)[6.67X], MW-22-020618 (240-91358-3)[142.86X], MW-23-020618 (240-91358-8)[1000X], PW-16-01-020718 (240-91358-16)[14.28X] and TW-16-01-020718 (240-91358-17)[33.33X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Method(s) 8260B: The continuing calibration verification (CCV) associated with batch 314579 recovered above the upper control limit for multiple analytes. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW-62-020618 (240-91358-4), MW-15-59D-020618 (240-91358-5), MW-15-60D-020618 (240-91358-6), MW-15-61D-020618 (240-91358-7) and (240-91308-B-3).

Method(s) 8260B: The laboratory control sample (LCS) for 314579 recovered outside control limits for multiple analytes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported: MW-62-020618 (240-91358-4), MW-15-59D-020618 (240-91358-5), MW-15-60D-020618 (240-91358-6), MW-15-61D-020618 (240-91358-7) and (LCS 240-314579/4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-65-020618 (240-91358-1), MW-44-020618 (240-91358-2), MW-22-020618 (240-91358-3), MW-62-020618 (240-91358-4), MW-15-59D-020618 (240-91358-5), MW-15-60D-020618 (240-91358-6), MW-15-61D-020618 (240-91358-7), MW-23-020618 (240-91358-8), MW-28-020718 (240-91358-10), MW-58-020718 (240-91358-11), MW-55-020718 (240-91358-12), MW-54-020718 (240-91358-13), MW-53-020718 (240-91358-14), MW-63-020718 (240-91358-15), PW-16-01-020718 (240-91358-16) and TW-16-01-020718 (240-91358-17) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/13/2018, 02/14/2018 and 02/15/2018.

1,2-Dichloroethane-d4 (Surr) failed the surrogate recovery criteria high for TW-16-01-020718 (240-91358-17) and 500-140728-B-11 MSD.

Sample MW-23-020618 (240-91358-8)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Method(s) 8260B SIM: Surrogate recovery for the following sample was outside control limits: (500-140728-B-11 MSD). Reanalysis was not required.

Method(s) 8260B SIM: The following sample was diluted due to the nature of the sample matrix: MW-23-020618 (240-91358-8). Elevated reporting limits (RLs) are provided.

Method(s) 8260B SIM: Surrogate recovery for the following sample was outside the upper control limit: TW-16-01-020718 (240-91358-17). This sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-91358-1	MW-65-020618	Water	02/06/18 17:02	02/09/18 09:20
240-91358-2	MW-44-020618	Water	02/06/18 16:07	02/09/18 09:20
240-91358-3	MW-22-020618	Water	02/06/18 15:02	02/09/18 09:20
240-91358-4	MW-62-020618	Water	02/06/18 12:56	02/09/18 09:20
240-91358-5	MW-15-59D-020618	Water	02/06/18 12:12	02/09/18 09:20
240-91358-6	MW-15-60D-020618	Water	02/06/18 10:27	02/09/18 09:20
240-91358-7	MW-15-61D-020618	Water	02/06/18 14:32	02/09/18 09:20
240-91358-8	MW-23-020618	Water	02/06/18 16:02	02/09/18 09:20
240-91358-9	TRIP BLANK	Water	02/06/18 00:00	02/09/18 09:20
240-91358-10	MW-28-020718	Water	02/07/18 12:57	02/09/18 09:20
240-91358-11	MW-58-020718	Water	02/07/18 16:57	02/09/18 09:20
240-91358-12	MW-55-020718	Water	02/07/18 13:52	02/09/18 09:20
240-91358-13	MW-54-020718	Water	02/07/18 15:07	02/09/18 09:20
240-91358-14	MW-53-020718	Water	02/07/18 16:02	02/09/18 09:20
240-91358-15	MW-63-020718	Water	02/07/18 17:05	02/09/18 09:20
240-91358-16	PW-16-01-020718	Water	02/07/18 15:55	02/09/18 09:20
240-91358-17	TW-16-01-020718	Water	02/07/18 14:55	02/09/18 09:20



Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-65-020618

Lab Sample ID: 240-91358-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	3.4		2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	4.1		2.0	0.60	ug/L	2		8260B	Total/NA
Methylene Chloride	1.5	J B	10	1.1	ug/L	2		8260B	Total/NA
Vinyl chloride	36		2.0	0.90	ug/L	2		8260B	Total/NA

Client Sample ID: MW-44-020618

Lab Sample ID: 240-91358-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	9.0		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Methylene Chloride	4.1	J B	33	3.5	ug/L	6.67		8260B	Total/NA
Vinyl chloride	210		6.7	3.0	ug/L	6.67		8260B	Total/NA

Client Sample ID: MW-22-020618

Lab Sample ID: 240-91358-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	22		2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	200		140	43	ug/L	142.86		8260B	Total/NA
Methylene Chloride	120	J B	710	76	ug/L	142.86		8260B	Total/NA
Vinyl chloride	1500		140	64	ug/L	142.86		8260B	Total/NA

Client Sample ID: MW-62-020618

Lab Sample ID: 240-91358-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.1		2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.30	J	1.0	0.30	ug/L	1		8260B	Total/NA
Vinyl chloride	1.3		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-15-59D-020618

Lab Sample ID: 240-91358-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyclohexane	0.76	J	1.0	0.44	ug/L	1		8260B	Total/NA
Toluene	0.31	J *	1.0	0.23	ug/L	1		8260B	Total/NA

Client Sample ID: MW-15-60D-020618

Lab Sample ID: 240-91358-6

No Detections.

Client Sample ID: MW-15-61D-020618

Lab Sample ID: 240-91358-7

No Detections.

Client Sample ID: MW-23-020618

Lab Sample ID: 240-91358-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	33000		1000	300	ug/L	1000		8260B	Total/NA
Methylene Chloride	750	J B	5000	530	ug/L	1000		8260B	Total/NA
trans-1,2-Dichloroethene	1800		1000	290	ug/L	1000		8260B	Total/NA
Trichloroethene	11000		1000	330	ug/L	1000		8260B	Total/NA
Vinyl chloride	820	J	1000	450	ug/L	1000		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-91358-9

No Detections.

Client Sample ID: MW-28-020718

Lab Sample ID: 240-91358-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.50	J	1.0	0.30	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	10		1.0	0.25	ug/L	1		8260B	Total/NA
1,1-Dichloroethene	0.90	J	1.0	0.27	ug/L	1		8260B	Total/NA
1,1,1-Trichloroethane	25		1.0	0.23	ug/L	1		8260B	Total/NA
Trichloroethene	0.45	J	1.0	0.33	ug/L	1		8260B	Total/NA

Client Sample ID: MW-58-020718

Lab Sample ID: 240-91358-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	9.6		2.0	0.24	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-55-020718

Lab Sample ID: 240-91358-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.96	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-54-020718

Lab Sample ID: 240-91358-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	2.7		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Vinyl chloride	1.2		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-53-020718

Lab Sample ID: 240-91358-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA

Client Sample ID: MW-63-020718

Lab Sample ID: 240-91358-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.30	ug/L	1		8260B	Total/NA
Styrene	0.23	J	1.0	0.23	ug/L	1		8260B	Total/NA

Client Sample ID: PW-16-01-020718

Lab Sample ID: 240-91358-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.76	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
cis-1,2-Dichloroethene	82		14	4.3	ug/L	14.28		8260B	Total/NA
Methylene Chloride	11	J B	71	7.6	ug/L	14.28		8260B	Total/NA
trans-1,2-Dichloroethene	5.4	J	14	4.1	ug/L	14.28		8260B	Total/NA
Vinyl chloride	160		14	6.4	ug/L	14.28		8260B	Total/NA

Client Sample ID: TW-16-01-020718

Lab Sample ID: 240-91358-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	34		33	10	ug/L	33.33		8260B	Total/NA
Methylene Chloride	23	J B	170	18	ug/L	33.33		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: TW-16-01-020718 (Continued)

Lab Sample ID: 240-91358-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	380		33	15	ug/L	33.33		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-65-020618

Lab Sample ID: 240-91358-1

Date Collected: 02/06/18 17:02

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.4		2.0	0.24	ug/L			02/13/18 20:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	125		63 - 125					02/13/18 20:29	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	20	U	20	3.5	ug/L			02/14/18 18:20	2
Benzene	2.0	U	2.0	0.56	ug/L			02/14/18 18:20	2
Bromodichloromethane	2.0	U	2.0	0.60	ug/L			02/14/18 18:20	2
Bromoform	2.0	U	2.0	0.86	ug/L			02/14/18 18:20	2
Bromomethane	2.0	U	2.0	0.84	ug/L			02/14/18 18:20	2
2-Butanone (MEK)	20	U	20	2.0	ug/L			02/14/18 18:20	2
Carbon disulfide	10	U	10	0.68	ug/L			02/14/18 18:20	2
Carbon tetrachloride	2.0	U	2.0	0.70	ug/L			02/14/18 18:20	2
Chlorobenzene	2.0	U	2.0	0.64	ug/L			02/14/18 18:20	2
Chloroethane	2.0	U	2.0	0.82	ug/L			02/14/18 18:20	2
Chloroform	2.0	U	2.0	0.62	ug/L			02/14/18 18:20	2
Chloromethane	2.0	U	2.0	0.86	ug/L			02/14/18 18:20	2
cis-1,2-Dichloroethene	4.1		2.0	0.60	ug/L			02/14/18 18:20	2
cis-1,3-Dichloropropene	2.0	U	2.0	0.52	ug/L			02/14/18 18:20	2
Cyclohexane	2.0	U	2.0	0.88	ug/L			02/14/18 18:20	2
Dibromochloromethane	2.0	U	2.0	0.50	ug/L			02/14/18 18:20	2
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.94	ug/L			02/14/18 18:20	2
1,2-Dibromoethane	2.0	U	2.0	0.46	ug/L			02/14/18 18:20	2
1,2-Dichlorobenzene	2.0	U	2.0	0.52	ug/L			02/14/18 18:20	2
1,3-Dichlorobenzene	2.0	U	2.0	0.64	ug/L			02/14/18 18:20	2
1,4-Dichlorobenzene	2.0	U	2.0	0.46	ug/L			02/14/18 18:20	2
Dichlorodifluoromethane	2.0	U	2.0	1.0	ug/L			02/14/18 18:20	2
1,1-Dichloroethane	2.0	U	2.0	0.50	ug/L			02/14/18 18:20	2
1,2-Dichloroethane	2.0	U	2.0	0.60	ug/L			02/14/18 18:20	2
1,1-Dichloroethene	2.0	U	2.0	0.54	ug/L			02/14/18 18:20	2
1,2-Dichloropropane	2.0	U	2.0	0.60	ug/L			02/14/18 18:20	2
Diethyl ether	4.0	U	4.0	0.70	ug/L			02/14/18 18:20	2
Ethylbenzene	2.0	U	2.0	0.52	ug/L			02/14/18 18:20	2
2-Hexanone	20	U	20	2.5	ug/L			02/14/18 18:20	2
Isopropylbenzene	2.0	U	2.0	0.42	ug/L			02/14/18 18:20	2
Methyl acetate	20	U	20	2.9	ug/L			02/14/18 18:20	2
Methylcyclohexane	2.0	U	2.0	0.90	ug/L			02/14/18 18:20	2
Methylene Chloride	1.5	J B	10	1.1	ug/L			02/14/18 18:20	2
4-Methyl-2-pentanone (MIBK)	20	U	20	1.4	ug/L			02/14/18 18:20	2
Methyl tert-butyl ether	2.0	U	2.0	0.54	ug/L			02/14/18 18:20	2
Styrene	2.0	U	2.0	0.46	ug/L			02/14/18 18:20	2
1,1,2,2-Tetrachloroethane	2.0	U	2.0	0.64	ug/L			02/14/18 18:20	2
Tetrachloroethene	2.0	U	2.0	0.60	ug/L			02/14/18 18:20	2
Toluene	2.0	U	2.0	0.46	ug/L			02/14/18 18:20	2
trans-1,2-Dichloroethene	2.0	U	2.0	0.58	ug/L			02/14/18 18:20	2
trans-1,3-Dichloropropene	2.0	U	2.0	0.62	ug/L			02/14/18 18:20	2
1,2,4-Trichlorobenzene	2.0	U	2.0	0.54	ug/L			02/14/18 18:20	2
1,1,1-Trichloroethane	2.0	U	2.0	0.46	ug/L			02/14/18 18:20	2

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-65-020618

Lab Sample ID: 240-91358-1

Date Collected: 02/06/18 17:02

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	2.0	U	2.0	0.68	ug/L			02/14/18 18:20	2
Trichloroethene	2.0	U	2.0	0.66	ug/L			02/14/18 18:20	2
Trichlorofluoromethane	2.0	U	2.0	1.0	ug/L			02/14/18 18:20	2
1,1,2-Trichloro-1,2,2-trifluoroethane	2.0	U	2.0	0.82	ug/L			02/14/18 18:20	2
1,2,3-Trimethylbenzene	10	U	10	0.44	ug/L			02/14/18 18:20	2
1,2,4-Trimethylbenzene	2.0	U	2.0	0.48	ug/L			02/14/18 18:20	2
1,3,5-Trimethylbenzene	2.0	U	2.0	0.48	ug/L			02/14/18 18:20	2
Vinyl chloride	36		2.0	0.90	ug/L			02/14/18 18:20	2
Xylenes, Total	4.0	U	4.0	0.48	ug/L			02/14/18 18:20	2
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		69 - 120					02/14/18 18:20	2
Dibromofluoromethane (Surr)	95		69 - 124					02/14/18 18:20	2
1,2-Dichloroethane-d4 (Surr)	93		61 - 138					02/14/18 18:20	2
Toluene-d8 (Surr)	95		73 - 120					02/14/18 18:20	2

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-44-020618

Lab Sample ID: 240-91358-2

Date Collected: 02/06/18 16:07

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	9.0		2.0	0.24	ug/L			02/13/18 20:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		63 - 125					02/13/18 20:54	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	67	U	67	12	ug/L			02/15/18 15:12	6.67
Benzene	6.7	U	6.7	1.9	ug/L			02/15/18 15:12	6.67
Bromodichloromethane	6.7	U	6.7	2.0	ug/L			02/15/18 15:12	6.67
Bromoform	6.7	U	6.7	2.9	ug/L			02/15/18 15:12	6.67
Bromomethane	6.7	U	6.7	2.8	ug/L			02/15/18 15:12	6.67
2-Butanone (MEK)	67	U	67	6.8	ug/L			02/15/18 15:12	6.67
Carbon disulfide	33	U	33	2.3	ug/L			02/15/18 15:12	6.67
Carbon tetrachloride	6.7	U	6.7	2.3	ug/L			02/15/18 15:12	6.67
Chlorobenzene	6.7	U	6.7	2.1	ug/L			02/15/18 15:12	6.67
Chloroethane	6.7	U	6.7	2.7	ug/L			02/15/18 15:12	6.67
Chloroform	6.7	U	6.7	2.1	ug/L			02/15/18 15:12	6.67
Chloromethane	6.7	U	6.7	2.9	ug/L			02/15/18 15:12	6.67
cis-1,2-Dichloroethene	6.7	U	6.7	2.0	ug/L			02/15/18 15:12	6.67
cis-1,3-Dichloropropene	6.7	U	6.7	1.7	ug/L			02/15/18 15:12	6.67
Cyclohexane	6.7	U	6.7	2.9	ug/L			02/15/18 15:12	6.67
Dibromochloromethane	6.7	U	6.7	1.7	ug/L			02/15/18 15:12	6.67
1,2-Dibromo-3-Chloropropane	6.7	U	6.7	3.1	ug/L			02/15/18 15:12	6.67
1,2-Dibromoethane	6.7	U	6.7	1.5	ug/L			02/15/18 15:12	6.67
1,2-Dichlorobenzene	6.7	U	6.7	1.7	ug/L			02/15/18 15:12	6.67
1,3-Dichlorobenzene	6.7	U	6.7	2.1	ug/L			02/15/18 15:12	6.67
1,4-Dichlorobenzene	6.7	U	6.7	1.5	ug/L			02/15/18 15:12	6.67
Dichlorodifluoromethane	6.7	U	6.7	3.3	ug/L			02/15/18 15:12	6.67
1,1-Dichloroethane	6.7	U	6.7	1.7	ug/L			02/15/18 15:12	6.67
1,2-Dichloroethane	6.7	U	6.7	2.0	ug/L			02/15/18 15:12	6.67
1,1-Dichloroethene	6.7	U	6.7	1.8	ug/L			02/15/18 15:12	6.67
1,2-Dichloropropane	6.7	U	6.7	2.0	ug/L			02/15/18 15:12	6.67
Diethyl ether	13	U	13	2.3	ug/L			02/15/18 15:12	6.67
Ethylbenzene	6.7	U	6.7	1.7	ug/L			02/15/18 15:12	6.67
2-Hexanone	67	U	67	8.2	ug/L			02/15/18 15:12	6.67
Isopropylbenzene	6.7	U	6.7	1.4	ug/L			02/15/18 15:12	6.67
Methyl acetate	67	U	67	9.5	ug/L			02/15/18 15:12	6.67
Methylcyclohexane	6.7	U	6.7	3.0	ug/L			02/15/18 15:12	6.67
Methylene Chloride	4.1	J B	33	3.5	ug/L			02/15/18 15:12	6.67
4-Methyl-2-pentanone (MIBK)	67	U	67	4.7	ug/L			02/15/18 15:12	6.67
Methyl tert-butyl ether	6.7	U	6.7	1.8	ug/L			02/15/18 15:12	6.67
Styrene	6.7	U	6.7	1.5	ug/L			02/15/18 15:12	6.67
1,1,1,2-Tetrachloroethane	6.7	U	6.7	2.1	ug/L			02/15/18 15:12	6.67
Tetrachloroethene	6.7	U	6.7	2.0	ug/L			02/15/18 15:12	6.67
Toluene	6.7	U	6.7	1.5	ug/L			02/15/18 15:12	6.67
trans-1,2-Dichloroethene	6.7	U	6.7	1.9	ug/L			02/15/18 15:12	6.67
trans-1,3-Dichloropropene	6.7	U	6.7	2.1	ug/L			02/15/18 15:12	6.67
1,2,4-Trichlorobenzene	6.7	U	6.7	1.8	ug/L			02/15/18 15:12	6.67
1,1,1-Trichloroethane	6.7	U	6.7	1.5	ug/L			02/15/18 15:12	6.67

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-44-020618

Lab Sample ID: 240-91358-2

Date Collected: 02/06/18 16:07

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	6.7	U	6.7	2.3	ug/L			02/15/18 15:12	6.67
Trichloroethene	6.7	U	6.7	2.2	ug/L			02/15/18 15:12	6.67
Trichlorofluoromethane	6.7	U	6.7	3.3	ug/L			02/15/18 15:12	6.67
1,1,2-Trichloro-1,2,2-trifluoroethane	6.7	U	6.7	2.7	ug/L			02/15/18 15:12	6.67
1,2,3-Trimethylbenzene	33	U	33	1.5	ug/L			02/15/18 15:12	6.67
1,2,4-Trimethylbenzene	6.7	U	6.7	1.6	ug/L			02/15/18 15:12	6.67
1,3,5-Trimethylbenzene	6.7	U	6.7	1.6	ug/L			02/15/18 15:12	6.67
Vinyl chloride	210		6.7	3.0	ug/L			02/15/18 15:12	6.67
Xylenes, Total	13	U	13	1.6	ug/L			02/15/18 15:12	6.67
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		69 - 120					02/15/18 15:12	6.67
Dibromofluoromethane (Surr)	101		69 - 124					02/15/18 15:12	6.67
1,2-Dichloroethane-d4 (Surr)	94		61 - 138					02/15/18 15:12	6.67
Toluene-d8 (Surr)	98		73 - 120					02/15/18 15:12	6.67

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-22-020618

Lab Sample ID: 240-91358-3

Date Collected: 02/06/18 15:02

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	22		2.0	0.24	ug/L			02/13/18 21:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	122		63 - 125					02/13/18 21:20	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1400	U	1400	250	ug/L			02/14/18 19:03	142.86
Benzene	140	U	140	40	ug/L			02/14/18 19:03	142.86
Bromodichloromethane	140	U	140	43	ug/L			02/14/18 19:03	142.86
Bromoform	140	U	140	61	ug/L			02/14/18 19:03	142.86
Bromomethane	140	U	140	60	ug/L			02/14/18 19:03	142.86
2-Butanone (MEK)	1400	U	1400	150	ug/L			02/14/18 19:03	142.86
Carbon disulfide	710	U	710	49	ug/L			02/14/18 19:03	142.86
Carbon tetrachloride	140	U	140	50	ug/L			02/14/18 19:03	142.86
Chlorobenzene	140	U	140	46	ug/L			02/14/18 19:03	142.86
Chloroethane	140	U	140	59	ug/L			02/14/18 19:03	142.86
Chloroform	140	U	140	44	ug/L			02/14/18 19:03	142.86
Chloromethane	140	U	140	61	ug/L			02/14/18 19:03	142.86
cis-1,2-Dichloroethene	200		140	43	ug/L			02/14/18 19:03	142.86
cis-1,3-Dichloropropene	140	U	140	37	ug/L			02/14/18 19:03	142.86
Cyclohexane	140	U	140	63	ug/L			02/14/18 19:03	142.86
Dibromochloromethane	140	U	140	36	ug/L			02/14/18 19:03	142.86
1,2-Dibromo-3-Chloropropane	140	U	140	67	ug/L			02/14/18 19:03	142.86
1,2-Dibromoethane	140	U	140	33	ug/L			02/14/18 19:03	142.86
1,2-Dichlorobenzene	140	U	140	37	ug/L			02/14/18 19:03	142.86
1,3-Dichlorobenzene	140	U	140	46	ug/L			02/14/18 19:03	142.86
1,4-Dichlorobenzene	140	U	140	33	ug/L			02/14/18 19:03	142.86
Dichlorodifluoromethane	140	U	140	71	ug/L			02/14/18 19:03	142.86
1,1-Dichloroethane	140	U	140	36	ug/L			02/14/18 19:03	142.86
1,2-Dichloroethane	140	U	140	43	ug/L			02/14/18 19:03	142.86
1,1-Dichloroethene	140	U	140	39	ug/L			02/14/18 19:03	142.86
1,2-Dichloropropane	140	U	140	43	ug/L			02/14/18 19:03	142.86
Diethyl ether	290	U	290	50	ug/L			02/14/18 19:03	142.86
Ethylbenzene	140	U	140	37	ug/L			02/14/18 19:03	142.86
2-Hexanone	1400	U	1400	180	ug/L			02/14/18 19:03	142.86
Isopropylbenzene	140	U	140	30	ug/L			02/14/18 19:03	142.86
Methyl acetate	1400	U	1400	200	ug/L			02/14/18 19:03	142.86
Methylcyclohexane	140	U	140	64	ug/L			02/14/18 19:03	142.86
Methylene Chloride	120	J B	710	76	ug/L			02/14/18 19:03	142.86
4-Methyl-2-pentanone (MIBK)	1400	U	1400	100	ug/L			02/14/18 19:03	142.86
Methyl tert-butyl ether	140	U	140	39	ug/L			02/14/18 19:03	142.86
Styrene	140	U	140	33	ug/L			02/14/18 19:03	142.86
1,1,1,2-Tetrachloroethane	140	U	140	46	ug/L			02/14/18 19:03	142.86
Tetrachloroethene	140	U	140	43	ug/L			02/14/18 19:03	142.86
Toluene	140	U	140	33	ug/L			02/14/18 19:03	142.86
trans-1,2-Dichloroethene	140	U	140	41	ug/L			02/14/18 19:03	142.86
trans-1,3-Dichloropropene	140	U	140	44	ug/L			02/14/18 19:03	142.86
1,2,4-Trichlorobenzene	140	U	140	39	ug/L			02/14/18 19:03	142.86
1,1,1-Trichloroethane	140	U	140	33	ug/L			02/14/18 19:03	142.86

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-22-020618

Lab Sample ID: 240-91358-3

Date Collected: 02/06/18 15:02

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	140	U	140	49	ug/L			02/14/18 19:03	142.86
Trichloroethene	140	U	140	47	ug/L			02/14/18 19:03	142.86
Trichlorofluoromethane	140	U	140	71	ug/L			02/14/18 19:03	142.86
1,1,2-Trichloro-1,2,2-trifluoroethane	140	U	140	59	ug/L			02/14/18 19:03	142.86
1,2,3-Trimethylbenzene	710	U	710	31	ug/L			02/14/18 19:03	142.86
1,2,4-Trimethylbenzene	140	U	140	34	ug/L			02/14/18 19:03	142.86
1,3,5-Trimethylbenzene	140	U	140	34	ug/L			02/14/18 19:03	142.86
Vinyl chloride	1500		140	64	ug/L			02/14/18 19:03	142.86
Xylenes, Total	290	U	290	34	ug/L			02/14/18 19:03	142.86
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		69 - 120					02/14/18 19:03	142.86
Dibromofluoromethane (Surr)	99		69 - 124					02/14/18 19:03	142.86
1,2-Dichloroethane-d4 (Surr)	97		61 - 138					02/14/18 19:03	142.86
Toluene-d8 (Surr)	95		73 - 120					02/14/18 19:03	142.86

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-62-020618

Lab Sample ID: 240-91358-4

Date Collected: 02/06/18 12:56

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.1		2.0	0.24	ug/L			02/13/18 21:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		63 - 125					02/13/18 21:45	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/13/18 19:31	1
Benzene	1.0	U	1.0	0.28	ug/L			02/13/18 19:31	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/13/18 19:31	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/13/18 19:31	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/13/18 19:31	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/13/18 19:31	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/13/18 19:31	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/13/18 19:31	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 19:31	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/13/18 19:31	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/13/18 19:31	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			02/13/18 19:31	1
cis-1,2-Dichloroethene	0.30	J	1.0	0.30	ug/L			02/13/18 19:31	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/13/18 19:31	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/13/18 19:31	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/13/18 19:31	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/13/18 19:31	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/13/18 19:31	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/13/18 19:31	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 19:31	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/13/18 19:31	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 19:31	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/13/18 19:31	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/13/18 19:31	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/13/18 19:31	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/13/18 19:31	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/13/18 19:31	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/13/18 19:31	1
2-Hexanone	10	U	10	1.2	ug/L			02/13/18 19:31	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/13/18 19:31	1
Methyl acetate	10	U	10	1.4	ug/L			02/13/18 19:31	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/13/18 19:31	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/13/18 19:31	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/13/18 19:31	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/13/18 19:31	1
Styrene	1.0	U	1.0	0.23	ug/L			02/13/18 19:31	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/13/18 19:31	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/13/18 19:31	1
Toluene	1.0	U *	1.0	0.23	ug/L			02/13/18 19:31	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/13/18 19:31	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/13/18 19:31	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/13/18 19:31	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/13/18 19:31	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-62-020618

Lab Sample ID: 240-91358-4

Date Collected: 02/06/18 12:56

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/13/18 19:31	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/13/18 19:31	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 19:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/13/18 19:31	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/13/18 19:31	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 19:31	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 19:31	1
Vinyl chloride	1.3		1.0	0.45	ug/L			02/13/18 19:31	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/13/18 19:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		69 - 120					02/13/18 19:31	1
Dibromofluoromethane (Surr)	99		69 - 124					02/13/18 19:31	1
1,2-Dichloroethane-d4 (Surr)	111		61 - 138					02/13/18 19:31	1
Toluene-d8 (Surr)	108		73 - 120					02/13/18 19:31	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-15-59D-020618

Lab Sample ID: 240-91358-5

Date Collected: 02/06/18 12:12

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/13/18 22:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		63 - 125					02/13/18 22:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/13/18 19:54	1
Benzene	1.0	U	1.0	0.28	ug/L			02/13/18 19:54	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/13/18 19:54	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/13/18 19:54	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/13/18 19:54	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/13/18 19:54	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/13/18 19:54	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/13/18 19:54	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 19:54	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/13/18 19:54	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/13/18 19:54	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			02/13/18 19:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/13/18 19:54	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/13/18 19:54	1
Cyclohexane	0.76	J	1.0	0.44	ug/L			02/13/18 19:54	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/13/18 19:54	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/13/18 19:54	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/13/18 19:54	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/13/18 19:54	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 19:54	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/13/18 19:54	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 19:54	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/13/18 19:54	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/13/18 19:54	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/13/18 19:54	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/13/18 19:54	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/13/18 19:54	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/13/18 19:54	1
2-Hexanone	10	U	10	1.2	ug/L			02/13/18 19:54	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/13/18 19:54	1
Methyl acetate	10	U	10	1.4	ug/L			02/13/18 19:54	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/13/18 19:54	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/13/18 19:54	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/13/18 19:54	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/13/18 19:54	1
Styrene	1.0	U	1.0	0.23	ug/L			02/13/18 19:54	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/13/18 19:54	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/13/18 19:54	1
Toluene	0.31	J *	1.0	0.23	ug/L			02/13/18 19:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/13/18 19:54	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/13/18 19:54	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/13/18 19:54	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/13/18 19:54	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-15-59D-020618

Lab Sample ID: 240-91358-5

Date Collected: 02/06/18 12:12

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/13/18 19:54	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/13/18 19:54	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 19:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/13/18 19:54	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/13/18 19:54	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 19:54	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 19:54	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/13/18 19:54	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/13/18 19:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		69 - 120		02/13/18 19:54	1
Dibromofluoromethane (Surr)	100		69 - 124		02/13/18 19:54	1
1,2-Dichloroethane-d4 (Surr)	110		61 - 138		02/13/18 19:54	1
Toluene-d8 (Surr)	106		73 - 120		02/13/18 19:54	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-15-60D-020618

Lab Sample ID: 240-91358-6

Date Collected: 02/06/18 10:27

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/14/18 17:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		63 - 125					02/14/18 17:50	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/13/18 20:16	1
Benzene	1.0	U	1.0	0.28	ug/L			02/13/18 20:16	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/13/18 20:16	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/13/18 20:16	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/13/18 20:16	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/13/18 20:16	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/13/18 20:16	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/13/18 20:16	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 20:16	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/13/18 20:16	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/13/18 20:16	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			02/13/18 20:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/13/18 20:16	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/13/18 20:16	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/13/18 20:16	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/13/18 20:16	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/13/18 20:16	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/13/18 20:16	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/13/18 20:16	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 20:16	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/13/18 20:16	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 20:16	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/13/18 20:16	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/13/18 20:16	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/13/18 20:16	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/13/18 20:16	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/13/18 20:16	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/13/18 20:16	1
2-Hexanone	10	U	10	1.2	ug/L			02/13/18 20:16	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/13/18 20:16	1
Methyl acetate	10	U	10	1.4	ug/L			02/13/18 20:16	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/13/18 20:16	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/13/18 20:16	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/13/18 20:16	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/13/18 20:16	1
Styrene	1.0	U	1.0	0.23	ug/L			02/13/18 20:16	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/13/18 20:16	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/13/18 20:16	1
Toluene	1.0	U *	1.0	0.23	ug/L			02/13/18 20:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/13/18 20:16	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/13/18 20:16	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/13/18 20:16	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/13/18 20:16	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-15-60D-020618

Lab Sample ID: 240-91358-6

Date Collected: 02/06/18 10:27

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/13/18 20:16	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/13/18 20:16	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 20:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/13/18 20:16	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/13/18 20:16	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 20:16	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 20:16	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/13/18 20:16	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/13/18 20:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	81		69 - 120					02/13/18 20:16	1
Dibromofluoromethane (Surr)	103		69 - 124					02/13/18 20:16	1
1,2-Dichloroethane-d4 (Surr)	101		61 - 138					02/13/18 20:16	1
Toluene-d8 (Surr)	106		73 - 120					02/13/18 20:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-15-61D-020618

Lab Sample ID: 240-91358-7

Date Collected: 02/06/18 14:32

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/14/18 18:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	113		63 - 125					02/14/18 18:16	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/13/18 20:39	1
Benzene	1.0	U	1.0	0.28	ug/L			02/13/18 20:39	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/13/18 20:39	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/13/18 20:39	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/13/18 20:39	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/13/18 20:39	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/13/18 20:39	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/13/18 20:39	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 20:39	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/13/18 20:39	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/13/18 20:39	1
Chloromethane	1.0	U *	1.0	0.43	ug/L			02/13/18 20:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/13/18 20:39	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/13/18 20:39	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/13/18 20:39	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/13/18 20:39	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/13/18 20:39	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/13/18 20:39	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/13/18 20:39	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 20:39	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/13/18 20:39	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 20:39	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/13/18 20:39	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/13/18 20:39	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/13/18 20:39	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/13/18 20:39	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/13/18 20:39	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/13/18 20:39	1
2-Hexanone	10	U	10	1.2	ug/L			02/13/18 20:39	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/13/18 20:39	1
Methyl acetate	10	U	10	1.4	ug/L			02/13/18 20:39	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/13/18 20:39	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/13/18 20:39	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/13/18 20:39	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/13/18 20:39	1
Styrene	1.0	U	1.0	0.23	ug/L			02/13/18 20:39	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/13/18 20:39	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/13/18 20:39	1
Toluene	1.0	U *	1.0	0.23	ug/L			02/13/18 20:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/13/18 20:39	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/13/18 20:39	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/13/18 20:39	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/13/18 20:39	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-15-61D-020618

Lab Sample ID: 240-91358-7

Date Collected: 02/06/18 14:32

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/13/18 20:39	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/13/18 20:39	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 20:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/13/18 20:39	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/13/18 20:39	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 20:39	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 20:39	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/13/18 20:39	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/13/18 20:39	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	86		69 - 120					02/13/18 20:39	1
Dibromofluoromethane (Surr)	99		69 - 124					02/13/18 20:39	1
1,2-Dichloroethane-d4 (Surr)	106		61 - 138					02/13/18 20:39	1
Toluene-d8 (Surr)	109		73 - 120					02/13/18 20:39	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-23-020618

Lab Sample ID: 240-91358-8

Date Collected: 02/06/18 16:02

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	20	U	20	2.4	ug/L			02/14/18 18:42	10
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		63 - 125					02/14/18 18:42	10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10000	U	10000	1800	ug/L			02/15/18 15:33	1000
Benzene	1000	U	1000	280	ug/L			02/15/18 15:33	1000
Bromodichloromethane	1000	U	1000	300	ug/L			02/15/18 15:33	1000
Bromoform	1000	U	1000	430	ug/L			02/15/18 15:33	1000
Bromomethane	1000	U	1000	420	ug/L			02/15/18 15:33	1000
2-Butanone (MEK)	10000	U	10000	1000	ug/L			02/15/18 15:33	1000
Carbon disulfide	5000	U	5000	340	ug/L			02/15/18 15:33	1000
Carbon tetrachloride	1000	U	1000	350	ug/L			02/15/18 15:33	1000
Chlorobenzene	1000	U	1000	320	ug/L			02/15/18 15:33	1000
Chloroethane	1000	U	1000	410	ug/L			02/15/18 15:33	1000
Chloroform	1000	U	1000	310	ug/L			02/15/18 15:33	1000
Chloromethane	1000	U	1000	430	ug/L			02/15/18 15:33	1000
cis-1,2-Dichloroethene	33000		1000	300	ug/L			02/15/18 15:33	1000
cis-1,3-Dichloropropene	1000	U	1000	260	ug/L			02/15/18 15:33	1000
Cyclohexane	1000	U	1000	440	ug/L			02/15/18 15:33	1000
Dibromochloromethane	1000	U	1000	250	ug/L			02/15/18 15:33	1000
1,2-Dibromo-3-Chloropropane	1000	U	1000	470	ug/L			02/15/18 15:33	1000
1,2-Dibromoethane	1000	U	1000	230	ug/L			02/15/18 15:33	1000
1,2-Dichlorobenzene	1000	U	1000	260	ug/L			02/15/18 15:33	1000
1,3-Dichlorobenzene	1000	U	1000	320	ug/L			02/15/18 15:33	1000
1,4-Dichlorobenzene	1000	U	1000	230	ug/L			02/15/18 15:33	1000
Dichlorodifluoromethane	1000	U	1000	500	ug/L			02/15/18 15:33	1000
1,1-Dichloroethane	1000	U	1000	250	ug/L			02/15/18 15:33	1000
1,2-Dichloroethane	1000	U	1000	300	ug/L			02/15/18 15:33	1000
1,1-Dichloroethene	1000	U	1000	270	ug/L			02/15/18 15:33	1000
1,2-Dichloropropane	1000	U	1000	300	ug/L			02/15/18 15:33	1000
Diethyl ether	2000	U	2000	350	ug/L			02/15/18 15:33	1000
Ethylbenzene	1000	U	1000	260	ug/L			02/15/18 15:33	1000
2-Hexanone	10000	U	10000	1200	ug/L			02/15/18 15:33	1000
Isopropylbenzene	1000	U	1000	210	ug/L			02/15/18 15:33	1000
Methyl acetate	10000	U	10000	1400	ug/L			02/15/18 15:33	1000
Methylcyclohexane	1000	U	1000	450	ug/L			02/15/18 15:33	1000
Methylene Chloride	750	J B	5000	530	ug/L			02/15/18 15:33	1000
4-Methyl-2-pentanone (MIBK)	10000	U	10000	710	ug/L			02/15/18 15:33	1000
Methyl tert-butyl ether	1000	U	1000	270	ug/L			02/15/18 15:33	1000
Styrene	1000	U	1000	230	ug/L			02/15/18 15:33	1000
1,1,2,2-Tetrachloroethane	1000	U	1000	320	ug/L			02/15/18 15:33	1000
Tetrachloroethene	1000	U	1000	300	ug/L			02/15/18 15:33	1000
Toluene	1000	U	1000	230	ug/L			02/15/18 15:33	1000
trans-1,2-Dichloroethene	1800		1000	290	ug/L			02/15/18 15:33	1000
trans-1,3-Dichloropropene	1000	U	1000	310	ug/L			02/15/18 15:33	1000
1,2,4-Trichlorobenzene	1000	U	1000	270	ug/L			02/15/18 15:33	1000
1,1,1-Trichloroethane	1000	U	1000	230	ug/L			02/15/18 15:33	1000

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-23-020618

Lab Sample ID: 240-91358-8

Date Collected: 02/06/18 16:02

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1000	U	1000	340	ug/L			02/15/18 15:33	1000
Trichloroethene	11000		1000	330	ug/L			02/15/18 15:33	1000
Trichlorofluoromethane	1000	U	1000	500	ug/L			02/15/18 15:33	1000
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	U	1000	410	ug/L			02/15/18 15:33	1000
1,2,3-Trimethylbenzene	5000	U	5000	220	ug/L			02/15/18 15:33	1000
1,2,4-Trimethylbenzene	1000	U	1000	240	ug/L			02/15/18 15:33	1000
1,3,5-Trimethylbenzene	1000	U	1000	240	ug/L			02/15/18 15:33	1000
Vinyl chloride	820	J	1000	450	ug/L			02/15/18 15:33	1000
Xylenes, Total	2000	U	2000	240	ug/L			02/15/18 15:33	1000
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		69 - 120					02/15/18 15:33	1000
Dibromofluoromethane (Surr)	99		69 - 124					02/15/18 15:33	1000
1,2-Dichloroethane-d4 (Surr)	93		61 - 138					02/15/18 15:33	1000
Toluene-d8 (Surr)	97		73 - 120					02/15/18 15:33	1000

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-91358-9

Date Collected: 02/06/18 00:00

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/14/18 19:47	1
Benzene	1.0	U	1.0	0.28	ug/L			02/14/18 19:47	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/14/18 19:47	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/14/18 19:47	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/14/18 19:47	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/14/18 19:47	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/14/18 19:47	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/14/18 19:47	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 19:47	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/14/18 19:47	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/14/18 19:47	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/14/18 19:47	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 19:47	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/14/18 19:47	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/14/18 19:47	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/14/18 19:47	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/14/18 19:47	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/14/18 19:47	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/14/18 19:47	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 19:47	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/14/18 19:47	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 19:47	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/14/18 19:47	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/14/18 19:47	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/14/18 19:47	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/14/18 19:47	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/14/18 19:47	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/14/18 19:47	1
2-Hexanone	10	U	10	1.2	ug/L			02/14/18 19:47	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/14/18 19:47	1
Methyl acetate	10	U	10	1.4	ug/L			02/14/18 19:47	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/14/18 19:47	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/14/18 19:47	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/14/18 19:47	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/14/18 19:47	1
Styrene	1.0	U	1.0	0.23	ug/L			02/14/18 19:47	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/14/18 19:47	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 19:47	1
Toluene	1.0	U	1.0	0.23	ug/L			02/14/18 19:47	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/14/18 19:47	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/14/18 19:47	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/14/18 19:47	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/14/18 19:47	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/14/18 19:47	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/14/18 19:47	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 19:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/14/18 19:47	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/14/18 19:47	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 19:47	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-91358-9

Date Collected: 02/06/18 00:00

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 19:47	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/18 19:47	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/14/18 19:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		69 - 120		02/14/18 19:47	1
Dibromofluoromethane (Surr)	104		69 - 124		02/14/18 19:47	1
1,2-Dichloroethane-d4 (Surr)	96		61 - 138		02/14/18 19:47	1
Toluene-d8 (Surr)	94		73 - 120		02/14/18 19:47	1



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-28-020718

Lab Sample ID: 240-91358-10

Date Collected: 02/07/18 12:57

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/14/18 19:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		63 - 125					02/14/18 19:08	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/14/18 20:09	1
Benzene	1.0	U	1.0	0.28	ug/L			02/14/18 20:09	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/14/18 20:09	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/14/18 20:09	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/14/18 20:09	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/14/18 20:09	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/14/18 20:09	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/14/18 20:09	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 20:09	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/14/18 20:09	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/14/18 20:09	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/14/18 20:09	1
cis-1,2-Dichloroethene	0.50	J	1.0	0.30	ug/L			02/14/18 20:09	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/14/18 20:09	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/14/18 20:09	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/14/18 20:09	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/14/18 20:09	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/14/18 20:09	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/14/18 20:09	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 20:09	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/14/18 20:09	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 20:09	1
1,1-Dichloroethane	10		1.0	0.25	ug/L			02/14/18 20:09	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/14/18 20:09	1
1,1-Dichloroethene	0.90	J	1.0	0.27	ug/L			02/14/18 20:09	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/14/18 20:09	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/14/18 20:09	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/14/18 20:09	1
2-Hexanone	10	U	10	1.2	ug/L			02/14/18 20:09	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/14/18 20:09	1
Methyl acetate	10	U	10	1.4	ug/L			02/14/18 20:09	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/14/18 20:09	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/14/18 20:09	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/14/18 20:09	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/14/18 20:09	1
Styrene	1.0	U	1.0	0.23	ug/L			02/14/18 20:09	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/14/18 20:09	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 20:09	1
Toluene	1.0	U	1.0	0.23	ug/L			02/14/18 20:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/14/18 20:09	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/14/18 20:09	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/14/18 20:09	1
1,1,1-Trichloroethane	25		1.0	0.23	ug/L			02/14/18 20:09	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-28-020718

Lab Sample ID: 240-91358-10

Date Collected: 02/07/18 12:57

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/14/18 20:09	1
Trichloroethene	0.45	J	1.0	0.33	ug/L			02/14/18 20:09	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 20:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/14/18 20:09	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/14/18 20:09	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 20:09	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 20:09	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/18 20:09	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/14/18 20:09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		69 - 120					02/14/18 20:09	1
Dibromofluoromethane (Surr)	94		69 - 124					02/14/18 20:09	1
1,2-Dichloroethane-d4 (Surr)	95		61 - 138					02/14/18 20:09	1
Toluene-d8 (Surr)	98		73 - 120					02/14/18 20:09	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-58-020718

Lab Sample ID: 240-91358-11

Date Collected: 02/07/18 16:57

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	9.6		2.0	0.24	ug/L			02/14/18 19:35	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	123		63 - 125					02/14/18 19:35	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/14/18 20:32	1
Benzene	1.0	U	1.0	0.28	ug/L			02/14/18 20:32	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/14/18 20:32	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/14/18 20:32	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/14/18 20:32	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/14/18 20:32	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/14/18 20:32	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/14/18 20:32	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 20:32	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/14/18 20:32	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/14/18 20:32	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/14/18 20:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 20:32	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/14/18 20:32	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/14/18 20:32	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/14/18 20:32	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/14/18 20:32	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/14/18 20:32	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/14/18 20:32	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 20:32	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/14/18 20:32	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 20:32	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/14/18 20:32	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/14/18 20:32	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/14/18 20:32	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/14/18 20:32	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/14/18 20:32	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/14/18 20:32	1
2-Hexanone	10	U	10	1.2	ug/L			02/14/18 20:32	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/14/18 20:32	1
Methyl acetate	10	U	10	1.4	ug/L			02/14/18 20:32	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/14/18 20:32	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/14/18 20:32	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/14/18 20:32	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/14/18 20:32	1
Styrene	1.0	U	1.0	0.23	ug/L			02/14/18 20:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/14/18 20:32	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 20:32	1
Toluene	1.0	U	1.0	0.23	ug/L			02/14/18 20:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/14/18 20:32	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/14/18 20:32	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/14/18 20:32	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/14/18 20:32	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-58-020718

Lab Sample ID: 240-91358-11

Date Collected: 02/07/18 16:57

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/14/18 20:32	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/14/18 20:32	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 20:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/14/18 20:32	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/14/18 20:32	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 20:32	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 20:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/18 20:32	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/14/18 20:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		69 - 120					02/14/18 20:32	1
Dibromofluoromethane (Surr)	91		69 - 124					02/14/18 20:32	1
1,2-Dichloroethane-d4 (Surr)	95		61 - 138					02/14/18 20:32	1
Toluene-d8 (Surr)	93		73 - 120					02/14/18 20:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-55-020718

Lab Sample ID: 240-91358-12

Date Collected: 02/07/18 13:52

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.96	J	2.0	0.24	ug/L			02/14/18 20:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		63 - 125					02/14/18 20:00	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/14/18 20:54	1
Benzene	1.0	U	1.0	0.28	ug/L			02/14/18 20:54	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/14/18 20:54	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/14/18 20:54	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/14/18 20:54	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/14/18 20:54	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/14/18 20:54	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/14/18 20:54	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 20:54	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/14/18 20:54	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/14/18 20:54	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/14/18 20:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 20:54	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/14/18 20:54	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/14/18 20:54	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/14/18 20:54	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/14/18 20:54	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/14/18 20:54	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/14/18 20:54	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 20:54	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/14/18 20:54	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 20:54	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/14/18 20:54	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/14/18 20:54	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/14/18 20:54	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/14/18 20:54	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/14/18 20:54	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/14/18 20:54	1
2-Hexanone	10	U	10	1.2	ug/L			02/14/18 20:54	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/14/18 20:54	1
Methyl acetate	10	U	10	1.4	ug/L			02/14/18 20:54	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/14/18 20:54	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/14/18 20:54	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/14/18 20:54	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/14/18 20:54	1
Styrene	1.0	U	1.0	0.23	ug/L			02/14/18 20:54	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/14/18 20:54	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 20:54	1
Toluene	1.0	U	1.0	0.23	ug/L			02/14/18 20:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/14/18 20:54	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/14/18 20:54	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/14/18 20:54	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/14/18 20:54	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-55-020718

Lab Sample ID: 240-91358-12

Date Collected: 02/07/18 13:52

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/14/18 20:54	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/14/18 20:54	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 20:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/14/18 20:54	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/14/18 20:54	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 20:54	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 20:54	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/18 20:54	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/14/18 20:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		69 - 120					02/14/18 20:54	1
Dibromofluoromethane (Surr)	100		69 - 124					02/14/18 20:54	1
1,2-Dichloroethane-d4 (Surr)	93		61 - 138					02/14/18 20:54	1
Toluene-d8 (Surr)	96		73 - 120					02/14/18 20:54	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-54-020718

Lab Sample ID: 240-91358-13

Date Collected: 02/07/18 15:07

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.7		2.0	0.24	ug/L			02/14/18 20:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	119		63 - 125					02/14/18 20:26	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/14/18 21:16	1
Benzene	1.0	U	1.0	0.28	ug/L			02/14/18 21:16	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/14/18 21:16	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/14/18 21:16	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/14/18 21:16	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/14/18 21:16	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/14/18 21:16	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/14/18 21:16	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 21:16	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/14/18 21:16	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/14/18 21:16	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/14/18 21:16	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 21:16	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/14/18 21:16	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/14/18 21:16	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/14/18 21:16	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/14/18 21:16	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/14/18 21:16	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/14/18 21:16	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 21:16	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/14/18 21:16	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 21:16	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/14/18 21:16	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/14/18 21:16	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/14/18 21:16	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/14/18 21:16	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/14/18 21:16	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/14/18 21:16	1
2-Hexanone	10	U	10	1.2	ug/L			02/14/18 21:16	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/14/18 21:16	1
Methyl acetate	10	U	10	1.4	ug/L			02/14/18 21:16	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/14/18 21:16	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/14/18 21:16	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/14/18 21:16	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/14/18 21:16	1
Styrene	1.0	U	1.0	0.23	ug/L			02/14/18 21:16	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/14/18 21:16	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 21:16	1
Toluene	1.0	U	1.0	0.23	ug/L			02/14/18 21:16	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/14/18 21:16	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/14/18 21:16	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/14/18 21:16	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/14/18 21:16	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-54-020718

Lab Sample ID: 240-91358-13

Date Collected: 02/07/18 15:07

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/14/18 21:16	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/14/18 21:16	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 21:16	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/14/18 21:16	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/14/18 21:16	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 21:16	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 21:16	1
Vinyl chloride	1.2		1.0	0.45	ug/L			02/14/18 21:16	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/14/18 21:16	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		69 - 120		02/14/18 21:16	1
Dibromofluoromethane (Surr)	97		69 - 124		02/14/18 21:16	1
1,2-Dichloroethane-d4 (Surr)	93		61 - 138		02/14/18 21:16	1
Toluene-d8 (Surr)	93		73 - 120		02/14/18 21:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-53-020718

Lab Sample ID: 240-91358-14

Date Collected: 02/07/18 16:02

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1	J	2.0	0.24	ug/L			02/14/18 20:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		63 - 125					02/14/18 20:52	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/14/18 21:37	1
Benzene	1.0	U	1.0	0.28	ug/L			02/14/18 21:37	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/14/18 21:37	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/14/18 21:37	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/14/18 21:37	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/14/18 21:37	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/14/18 21:37	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/14/18 21:37	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 21:37	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/14/18 21:37	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/14/18 21:37	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/14/18 21:37	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 21:37	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/14/18 21:37	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/14/18 21:37	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/14/18 21:37	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/14/18 21:37	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/14/18 21:37	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/14/18 21:37	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 21:37	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/14/18 21:37	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 21:37	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/14/18 21:37	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/14/18 21:37	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/14/18 21:37	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/14/18 21:37	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/14/18 21:37	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/14/18 21:37	1
2-Hexanone	10	U	10	1.2	ug/L			02/14/18 21:37	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/14/18 21:37	1
Methyl acetate	10	U	10	1.4	ug/L			02/14/18 21:37	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/14/18 21:37	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/14/18 21:37	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/14/18 21:37	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/14/18 21:37	1
Styrene	1.0	U	1.0	0.23	ug/L			02/14/18 21:37	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/14/18 21:37	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 21:37	1
Toluene	1.0	U	1.0	0.23	ug/L			02/14/18 21:37	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/14/18 21:37	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/14/18 21:37	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/14/18 21:37	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/14/18 21:37	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-53-020718

Lab Sample ID: 240-91358-14

Date Collected: 02/07/18 16:02

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/14/18 21:37	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/14/18 21:37	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 21:37	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/14/18 21:37	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/14/18 21:37	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 21:37	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 21:37	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/18 21:37	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/14/18 21:37	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		69 - 120					02/14/18 21:37	1
Dibromofluoromethane (Surr)	103		69 - 124					02/14/18 21:37	1
1,2-Dichloroethane-d4 (Surr)	98		61 - 138					02/14/18 21:37	1
Toluene-d8 (Surr)	96		73 - 120					02/14/18 21:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-63-020718

Lab Sample ID: 240-91358-15

Date Collected: 02/07/18 17:05

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/14/18 21:18	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	117		63 - 125					02/14/18 21:18	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/14/18 21:59	1
Benzene	1.0	U	1.0	0.28	ug/L			02/14/18 21:59	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/14/18 21:59	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/14/18 21:59	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/14/18 21:59	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/14/18 21:59	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/14/18 21:59	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/14/18 21:59	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 21:59	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/14/18 21:59	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/14/18 21:59	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/14/18 21:59	1
cis-1,2-Dichloroethene	1.7		1.0	0.30	ug/L			02/14/18 21:59	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/14/18 21:59	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/14/18 21:59	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/14/18 21:59	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/14/18 21:59	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/14/18 21:59	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/14/18 21:59	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 21:59	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/14/18 21:59	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 21:59	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/14/18 21:59	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/14/18 21:59	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/14/18 21:59	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/14/18 21:59	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/14/18 21:59	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/14/18 21:59	1
2-Hexanone	10	U	10	1.2	ug/L			02/14/18 21:59	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/14/18 21:59	1
Methyl acetate	10	U	10	1.4	ug/L			02/14/18 21:59	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/14/18 21:59	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			02/14/18 21:59	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/14/18 21:59	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/14/18 21:59	1
Styrene	0.23	J	1.0	0.23	ug/L			02/14/18 21:59	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/14/18 21:59	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 21:59	1
Toluene	1.0	U	1.0	0.23	ug/L			02/14/18 21:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/14/18 21:59	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/14/18 21:59	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/14/18 21:59	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/14/18 21:59	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-63-020718

Lab Sample ID: 240-91358-15

Date Collected: 02/07/18 17:05

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/14/18 21:59	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/14/18 21:59	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 21:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/14/18 21:59	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/14/18 21:59	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 21:59	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 21:59	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/18 21:59	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/14/18 21:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		69 - 120					02/14/18 21:59	1
Dibromofluoromethane (Surr)	99		69 - 124					02/14/18 21:59	1
1,2-Dichloroethane-d4 (Surr)	94		61 - 138					02/14/18 21:59	1
Toluene-d8 (Surr)	99		73 - 120					02/14/18 21:59	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: PW-16-01-020718

Lab Sample ID: 240-91358-16

Date Collected: 02/07/18 15:55

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.76	J	2.0	0.24	ug/L			02/14/18 21:44	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	115		63 - 125					02/14/18 21:44	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	140	U	140	25	ug/L			02/14/18 22:22	14.28
Benzene	14	U	14	4.0	ug/L			02/14/18 22:22	14.28
Bromodichloromethane	14	U	14	4.3	ug/L			02/14/18 22:22	14.28
Bromoform	14	U	14	6.1	ug/L			02/14/18 22:22	14.28
Bromomethane	14	U	14	6.0	ug/L			02/14/18 22:22	14.28
2-Butanone (MEK)	140	U	140	15	ug/L			02/14/18 22:22	14.28
Carbon disulfide	71	U	71	4.9	ug/L			02/14/18 22:22	14.28
Carbon tetrachloride	14	U	14	5.0	ug/L			02/14/18 22:22	14.28
Chlorobenzene	14	U	14	4.6	ug/L			02/14/18 22:22	14.28
Chloroethane	14	U	14	5.9	ug/L			02/14/18 22:22	14.28
Chloroform	14	U	14	4.4	ug/L			02/14/18 22:22	14.28
Chloromethane	14	U	14	6.1	ug/L			02/14/18 22:22	14.28
cis-1,2-Dichloroethene	82		14	4.3	ug/L			02/14/18 22:22	14.28
cis-1,3-Dichloropropene	14	U	14	3.7	ug/L			02/14/18 22:22	14.28
Cyclohexane	14	U	14	6.3	ug/L			02/14/18 22:22	14.28
Dibromochloromethane	14	U	14	3.6	ug/L			02/14/18 22:22	14.28
1,2-Dibromo-3-Chloropropane	14	U	14	6.7	ug/L			02/14/18 22:22	14.28
1,2-Dibromoethane	14	U	14	3.3	ug/L			02/14/18 22:22	14.28
1,2-Dichlorobenzene	14	U	14	3.7	ug/L			02/14/18 22:22	14.28
1,3-Dichlorobenzene	14	U	14	4.6	ug/L			02/14/18 22:22	14.28
1,4-Dichlorobenzene	14	U	14	3.3	ug/L			02/14/18 22:22	14.28
Dichlorodifluoromethane	14	U	14	7.1	ug/L			02/14/18 22:22	14.28
1,1-Dichloroethane	14	U	14	3.6	ug/L			02/14/18 22:22	14.28
1,2-Dichloroethane	14	U	14	4.3	ug/L			02/14/18 22:22	14.28
1,1-Dichloroethene	14	U	14	3.9	ug/L			02/14/18 22:22	14.28
1,2-Dichloropropane	14	U	14	4.3	ug/L			02/14/18 22:22	14.28
Diethyl ether	29	U	29	5.0	ug/L			02/14/18 22:22	14.28
Ethylbenzene	14	U	14	3.7	ug/L			02/14/18 22:22	14.28
2-Hexanone	140	U	140	18	ug/L			02/14/18 22:22	14.28
Isopropylbenzene	14	U	14	3.0	ug/L			02/14/18 22:22	14.28
Methyl acetate	140	U	140	20	ug/L			02/14/18 22:22	14.28
Methylcyclohexane	14	U	14	6.4	ug/L			02/14/18 22:22	14.28
Methylene Chloride	11	J B	71	7.6	ug/L			02/14/18 22:22	14.28
4-Methyl-2-pentanone (MIBK)	140	U	140	10	ug/L			02/14/18 22:22	14.28
Methyl tert-butyl ether	14	U	14	3.9	ug/L			02/14/18 22:22	14.28
Styrene	14	U	14	3.3	ug/L			02/14/18 22:22	14.28
1,1,2,2-Tetrachloroethane	14	U	14	4.6	ug/L			02/14/18 22:22	14.28
Tetrachloroethene	14	U	14	4.3	ug/L			02/14/18 22:22	14.28
Toluene	14	U	14	3.3	ug/L			02/14/18 22:22	14.28
trans-1,2-Dichloroethene	5.4	J	14	4.1	ug/L			02/14/18 22:22	14.28
trans-1,3-Dichloropropene	14	U	14	4.4	ug/L			02/14/18 22:22	14.28
1,2,4-Trichlorobenzene	14	U	14	3.9	ug/L			02/14/18 22:22	14.28
1,1,1-Trichloroethane	14	U	14	3.3	ug/L			02/14/18 22:22	14.28

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: PW-16-01-020718

Lab Sample ID: 240-91358-16

Date Collected: 02/07/18 15:55

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	14	U	14	4.9	ug/L			02/14/18 22:22	14.28
Trichloroethene	14	U	14	4.7	ug/L			02/14/18 22:22	14.28
Trichlorofluoromethane	14	U	14	7.1	ug/L			02/14/18 22:22	14.28
1,1,2-Trichloro-1,2,2-trifluoroethane	14	U	14	5.9	ug/L			02/14/18 22:22	14.28
1,2,3-Trimethylbenzene	71	U	71	3.1	ug/L			02/14/18 22:22	14.28
1,2,4-Trimethylbenzene	14	U	14	3.4	ug/L			02/14/18 22:22	14.28
1,3,5-Trimethylbenzene	14	U	14	3.4	ug/L			02/14/18 22:22	14.28
Vinyl chloride	160		14	6.4	ug/L			02/14/18 22:22	14.28
Xylenes, Total	29	U	29	3.4	ug/L			02/14/18 22:22	14.28

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		69 - 120		02/14/18 22:22	14.28
Dibromofluoromethane (Surr)	94		69 - 124		02/14/18 22:22	14.28
1,2-Dichloroethane-d4 (Surr)	97		61 - 138		02/14/18 22:22	14.28
Toluene-d8 (Surr)	97		73 - 120		02/14/18 22:22	14.28

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: TW-16-01-020718

Lab Sample ID: 240-91358-17

Date Collected: 02/07/18 14:55

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/15/18 11:58	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	129	X	63 - 125					02/15/18 11:58	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	330	U	330	59	ug/L			02/15/18 15:55	33.33
Benzene	33	U	33	9.3	ug/L			02/15/18 15:55	33.33
Bromodichloromethane	33	U	33	10	ug/L			02/15/18 15:55	33.33
Bromoform	33	U	33	14	ug/L			02/15/18 15:55	33.33
Bromomethane	33	U	33	14	ug/L			02/15/18 15:55	33.33
2-Butanone (MEK)	330	U	330	34	ug/L			02/15/18 15:55	33.33
Carbon disulfide	170	U	170	11	ug/L			02/15/18 15:55	33.33
Carbon tetrachloride	33	U	33	12	ug/L			02/15/18 15:55	33.33
Chlorobenzene	33	U	33	11	ug/L			02/15/18 15:55	33.33
Chloroethane	33	U	33	14	ug/L			02/15/18 15:55	33.33
Chloroform	33	U	33	10	ug/L			02/15/18 15:55	33.33
Chloromethane	33	U	33	14	ug/L			02/15/18 15:55	33.33
cis-1,2-Dichloroethene	34		33	10	ug/L			02/15/18 15:55	33.33
cis-1,3-Dichloropropene	33	U	33	8.7	ug/L			02/15/18 15:55	33.33
Cyclohexane	33	U	33	15	ug/L			02/15/18 15:55	33.33
Dibromochloromethane	33	U	33	8.3	ug/L			02/15/18 15:55	33.33
1,2-Dibromo-3-Chloropropane	33	U	33	16	ug/L			02/15/18 15:55	33.33
1,2-Dibromoethane	33	U	33	7.7	ug/L			02/15/18 15:55	33.33
1,2-Dichlorobenzene	33	U	33	8.7	ug/L			02/15/18 15:55	33.33
1,3-Dichlorobenzene	33	U	33	11	ug/L			02/15/18 15:55	33.33
1,4-Dichlorobenzene	33	U	33	7.7	ug/L			02/15/18 15:55	33.33
Dichlorodifluoromethane	33	U	33	17	ug/L			02/15/18 15:55	33.33
1,1-Dichloroethane	33	U	33	8.3	ug/L			02/15/18 15:55	33.33
1,2-Dichloroethane	33	U	33	10	ug/L			02/15/18 15:55	33.33
1,1-Dichloroethene	33	U	33	9.0	ug/L			02/15/18 15:55	33.33
1,2-Dichloropropane	33	U	33	10	ug/L			02/15/18 15:55	33.33
Diethyl ether	67	U	67	12	ug/L			02/15/18 15:55	33.33
Ethylbenzene	33	U	33	8.7	ug/L			02/15/18 15:55	33.33
2-Hexanone	330	U	330	41	ug/L			02/15/18 15:55	33.33
Isopropylbenzene	33	U	33	7.0	ug/L			02/15/18 15:55	33.33
Methyl acetate	330	U	330	48	ug/L			02/15/18 15:55	33.33
Methylcyclohexane	33	U	33	15	ug/L			02/15/18 15:55	33.33
Methylene Chloride	23	J B	170	18	ug/L			02/15/18 15:55	33.33
4-Methyl-2-pentanone (MIBK)	330	U	330	24	ug/L			02/15/18 15:55	33.33
Methyl tert-butyl ether	33	U	33	9.0	ug/L			02/15/18 15:55	33.33
Styrene	33	U	33	7.7	ug/L			02/15/18 15:55	33.33
1,1,2,2-Tetrachloroethane	33	U	33	11	ug/L			02/15/18 15:55	33.33
Tetrachloroethene	33	U	33	10	ug/L			02/15/18 15:55	33.33
Toluene	33	U	33	7.7	ug/L			02/15/18 15:55	33.33
trans-1,2-Dichloroethene	33	U	33	9.7	ug/L			02/15/18 15:55	33.33
trans-1,3-Dichloropropene	33	U	33	10	ug/L			02/15/18 15:55	33.33
1,2,4-Trichlorobenzene	33	U	33	9.0	ug/L			02/15/18 15:55	33.33
1,1,1-Trichloroethane	33	U	33	7.7	ug/L			02/15/18 15:55	33.33

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: TW-16-01-020718

Lab Sample ID: 240-91358-17

Date Collected: 02/07/18 14:55

Matrix: Water

Date Received: 02/09/18 09:20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	33	U	33	11	ug/L			02/15/18 15:55	33.33
Trichloroethene	33	U	33	11	ug/L			02/15/18 15:55	33.33
Trichlorofluoromethane	33	U	33	17	ug/L			02/15/18 15:55	33.33
1,1,2-Trichloro-1,2,2-trifluoroethane	33	U	33	14	ug/L			02/15/18 15:55	33.33
1,2,3-Trimethylbenzene	170	U	170	7.3	ug/L			02/15/18 15:55	33.33
1,2,4-Trimethylbenzene	33	U	33	8.0	ug/L			02/15/18 15:55	33.33
1,3,5-Trimethylbenzene	33	U	33	8.0	ug/L			02/15/18 15:55	33.33
Vinyl chloride	380		33	15	ug/L			02/15/18 15:55	33.33
Xylenes, Total	67	U	67	8.0	ug/L			02/15/18 15:55	33.33
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		69 - 120					02/15/18 15:55	33.33
Dibromofluoromethane (Surr)	102		69 - 124					02/15/18 15:55	33.33
1,2-Dichloroethane-d4 (Surr)	99		61 - 138					02/15/18 15:55	33.33
Toluene-d8 (Surr)	97		73 - 120					02/15/18 15:55	33.33

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (69-120)	DBFM (69-124)	DCA (61-138)	TOL (73-120)
240-91308-B-3 MS	Matrix Spike	98	99	114	109
240-91308-B-3 MSD	Matrix Spike Duplicate	92	100	112	105
240-91314-B-3 MS	Matrix Spike	93	109	105	98
240-91314-B-3 MSD	Matrix Spike Duplicate	91	102	103	98
240-91339-E-9 MS	Matrix Spike	92	97	95	99
240-91339-F-9 MSD	Matrix Spike Duplicate	92	102	97	99
240-91358-1	MW-65-020618	86	95	93	95
240-91358-2	MW-44-020618	92	101	94	98
240-91358-3	MW-22-020618	93	99	97	95
240-91358-4	MW-62-020618	85	99	111	108
240-91358-5	MW-15-59D-020618	81	100	110	106
240-91358-6	MW-15-60D-020618	81	103	101	106
240-91358-7	MW-15-61D-020618	86	99	106	109
240-91358-8	MW-23-020618	91	99	93	97
240-91358-9	TRIP BLANK	89	104	96	94
240-91358-10	MW-28-020718	90	94	95	98
240-91358-11	MW-58-020718	83	91	95	93
240-91358-12	MW-55-020718	90	100	93	96
240-91358-13	MW-54-020718	90	97	93	93
240-91358-14	MW-53-020718	92	103	98	96
240-91358-15	MW-63-020718	91	99	94	99
240-91358-16	PW-16-01-020718	91	94	97	97
240-91358-17	TW-16-01-020718	94	102	99	97
LCS 240-314579/4	Lab Control Sample	92	97	108	107
LCS 240-314760/4	Lab Control Sample	91	101	93	99
LCS 240-314918/4	Lab Control Sample	91	101	103	98
MB 240-314579/6	Method Blank	83	96	101	103
MB 240-314760/6	Method Blank	91	95	97	96
MB 240-314918/6	Method Blank	84	93	93	95

Surrogate Legend

- BFB = 4-Bromofluorobenzene (Surr)
- DBFM = Dibromofluoromethane (Surr)
- DCA = 1,2-Dichloroethane-d4 (Surr)
- TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)
		DCA (63-125)
240-91358-1	MW-65-020618	125
240-91358-2	MW-44-020618	121
240-91358-3	MW-22-020618	122
240-91358-4	MW-62-020618	120
240-91358-5	MW-15-59D-020618	117
240-91358-6	MW-15-60D-020618	111
240-91358-7	MW-15-61D-020618	113

TestAmerica Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-91358-8	MW-23-020618	104
240-91358-10	MW-28-020718	117
240-91358-11	MW-58-020718	123
240-91358-12	MW-55-020718	120
240-91358-13	MW-54-020718	119
240-91358-14	MW-53-020718	117
240-91358-15	MW-63-020718	117
240-91358-16	PW-16-01-020718	115
240-91358-17	TW-16-01-020718	129 X
240-91361-D-11 MS	Matrix Spike	121
240-91361-D-11 MSD	Matrix Spike Duplicate	119
500-140728-B-11 MS	Matrix Spike	124
500-140728-B-11 MSD	Matrix Spike Duplicate	126 X
500-140728-C-2 MS	Matrix Spike	110
500-140728-C-2 MSD	Matrix Spike Duplicate	113
LCS 240-314572/4	Lab Control Sample	114
LCS 240-314747/4	Lab Control Sample	106
LCS 240-314896/4	Lab Control Sample	113
MB 240-314572/5	Method Blank	121
MB 240-314747/5	Method Blank	116
MB 240-314896/5	Method Blank	120

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-314579/6

Matrix: Water

Analysis Batch: 314579

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/13/18 13:09	1
Benzene	1.0	U	1.0	0.28	ug/L			02/13/18 13:09	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/13/18 13:09	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/13/18 13:09	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/13/18 13:09	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/13/18 13:09	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/13/18 13:09	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/13/18 13:09	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 13:09	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/13/18 13:09	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/13/18 13:09	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/13/18 13:09	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/13/18 13:09	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/13/18 13:09	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/13/18 13:09	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/13/18 13:09	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/13/18 13:09	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/13/18 13:09	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/13/18 13:09	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/13/18 13:09	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/13/18 13:09	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 13:09	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/13/18 13:09	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/13/18 13:09	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/13/18 13:09	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/13/18 13:09	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/13/18 13:09	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/13/18 13:09	1
2-Hexanone	10	U	10	1.2	ug/L			02/13/18 13:09	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/13/18 13:09	1
Methyl acetate	10	U	10	1.4	ug/L			02/13/18 13:09	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/13/18 13:09	1
Methylene Chloride	0.604	J	5.0	0.53	ug/L			02/13/18 13:09	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/13/18 13:09	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/13/18 13:09	1
Styrene	1.0	U	1.0	0.23	ug/L			02/13/18 13:09	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/13/18 13:09	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/13/18 13:09	1
Toluene	1.0	U	1.0	0.23	ug/L			02/13/18 13:09	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/13/18 13:09	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/13/18 13:09	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/13/18 13:09	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/13/18 13:09	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/13/18 13:09	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/13/18 13:09	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/13/18 13:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/13/18 13:09	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/13/18 13:09	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-314579/6
Matrix: Water
Analysis Batch: 314579

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 13:09	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/13/18 13:09	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/13/18 13:09	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/13/18 13:09	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		69 - 120		02/13/18 13:09	1
Dibromofluoromethane (Surr)	96		69 - 124		02/13/18 13:09	1
1,2-Dichloroethane-d4 (Surr)	101		61 - 138		02/13/18 13:09	1
Toluene-d8 (Surr)	103		73 - 120		02/13/18 13:09	1

Lab Sample ID: LCS 240-314579/4
Matrix: Water
Analysis Batch: 314579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	11.3		ug/L		57	35 - 131
Benzene	10.0	11.2		ug/L		112	79 - 120
Bromodichloromethane	10.0	11.4		ug/L		114	79 - 125
Bromoform	10.0	8.28		ug/L		83	55 - 145
Bromomethane	10.0	9.24		ug/L		92	17 - 158
2-Butanone (MEK)	20.0	16.4		ug/L		82	43 - 149
Carbon disulfide	10.0	9.41		ug/L		94	49 - 141
Carbon tetrachloride	10.0	10.3		ug/L		103	55 - 171
Chlorobenzene	10.0	11.1		ug/L		111	80 - 120
Chloroethane	10.0	11.7		ug/L		117	10 - 149
Chloroform	10.0	11.6		ug/L		116	80 - 120
Chloromethane	10.0	12.9	*	ug/L		129	59 - 124
cis-1,2-Dichloroethene	10.0	11.1		ug/L		111	77 - 120
cis-1,3-Dichloropropene	10.0	10.5		ug/L		105	75 - 120
Cyclohexane	10.0	12.5		ug/L		125	66 - 135
Dibromochloromethane	10.0	10.2		ug/L		102	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	7.84		ug/L		78	50 - 130
1,2-Dibromoethane	10.0	9.97		ug/L		100	80 - 120
1,2-Dichlorobenzene	10.0	10.6		ug/L		106	80 - 120
1,3-Dichlorobenzene	10.0	10.2		ug/L		102	80 - 120
1,4-Dichlorobenzene	10.0	10.4		ug/L		104	80 - 120
Dichlorodifluoromethane	10.0	12.0		ug/L		120	42 - 141
1,1-Dichloroethane	10.0	11.7		ug/L		117	74 - 120
1,2-Dichloroethane	10.0	12.0		ug/L		120	68 - 133
1,1-Dichloroethene	10.0	9.05		ug/L		91	65 - 127
1,2-Dichloropropane	10.0	11.5		ug/L		115	78 - 127
Diethyl ether	10.0	9.78		ug/L		98	72 - 125
Ethylbenzene	10.0	11.0		ug/L		110	80 - 120
2-Hexanone	20.0	16.5		ug/L		83	28 - 169
Isopropylbenzene	10.0	10.1		ug/L		101	80 - 128
Methyl acetate	20.0	20.0		ug/L		100	63 - 137
Methylcyclohexane	10.0	10.4		ug/L		104	63 - 141

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-314579/4

Matrix: Water

Analysis Batch: 314579

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	10.0	11.1		ug/L		111	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	17.5		ug/L		88	53 - 144
Methyl tert-butyl ether	10.0	9.86		ug/L		99	73 - 120
Styrene	10.0	10.2		ug/L		102	80 - 121
1,1,2,2-Tetrachloroethane	10.0	11.7		ug/L		117	58 - 122
Tetrachloroethene	10.0	9.95		ug/L		100	80 - 122
Toluene	10.0	12.1	*	ug/L		121	78 - 120
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	74 - 124
trans-1,3-Dichloropropene	10.0	11.0		ug/L		110	67 - 120
1,2,4-Trichlorobenzene	10.0	7.73		ug/L		77	34 - 141
1,1,1-Trichloroethane	10.0	11.5		ug/L		115	64 - 147
1,1,2-Trichloroethane	10.0	11.7		ug/L		117	76 - 121
Trichloroethene	10.0	10.0		ug/L		100	76 - 124
Trichlorofluoromethane	10.0	10.2		ug/L		102	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	9.39		ug/L		94	65 - 144
1,2,4-Trimethylbenzene	10.0	11.0		ug/L		110	80 - 120
1,3,5-Trimethylbenzene	10.0	11.1		ug/L		111	79 - 120
Vinyl chloride	10.0	12.2		ug/L		122	65 - 124
Xylenes, Total	20.0	21.4		ug/L		107	80 - 120
1,4-Dioxane	200	115		ug/L		58	35 - 134

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene (Surr)	92		69 - 120
Dibromofluoromethane (Surr)	97		69 - 124
1,2-Dichloroethane-d4 (Surr)	108		61 - 138
Toluene-d8 (Surr)	107		73 - 120

Lab Sample ID: 240-91308-B-3 MS

Matrix: Water

Analysis Batch: 314579

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	200	U F2	400	212		ug/L		53	19 - 133
Benzene	20	U	200	218		ug/L		109	69 - 127
Bromodichloromethane	20	U	200	220		ug/L		110	75 - 128
Bromoform	20	U	200	184		ug/L		92	61 - 135
Bromomethane	20	U	200	145		ug/L		72	10 - 148
2-Butanone (MEK)	200	U	400	381		ug/L		95	34 - 153
Carbon disulfide	100	U	200	177		ug/L		89	46 - 143
Carbon tetrachloride	20	U	200	181		ug/L		91	53 - 175
Chlorobenzene	20	U	200	209		ug/L		104	76 - 120
Chloroethane	20	U	200	199		ug/L		99	10 - 141
Chloroform	20	U	200	220		ug/L		110	74 - 125
Chloromethane	20	U *	200	199		ug/L		99	34 - 127
cis-1,2-Dichloroethene	330		200	571		ug/L		119	69 - 127
cis-1,3-Dichloropropene	20	U	200	200		ug/L		100	68 - 120
Dibromochloromethane	20	U	200	200		ug/L		100	62 - 131

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-91308-B-3 MS
Matrix: Water
Analysis Batch: 314579

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
1,2-Dichlorobenzene	20	U	200	197		ug/L		99	70 - 120	
1,3-Dichlorobenzene	20	U	200	194		ug/L		97	71 - 120	
1,4-Dichlorobenzene	20	U	200	194		ug/L		97	72 - 120	
1,1-Dichloroethane	20	U	200	228		ug/L		114	69 - 122	
1,2-Dichloroethane	20	U	200	238		ug/L		119	64 - 138	
1,1-Dichloroethene	20	U	200	173		ug/L		86	62 - 127	
1,2-Dichloropropane	20	U	200	231		ug/L		116	72 - 131	
Ethylbenzene	20	U	200	197		ug/L		99	72 - 121	
2-Hexanone	200	U	400	449		ug/L		112	21 - 184	
Methylene Chloride	100	U	200	216		ug/L		108	52 - 137	
4-Methyl-2-pentanone (MIBK)	200	U	400	453		ug/L		113	53 - 147	
Styrene	20	U	200	189		ug/L		95	74 - 125	
1,1,2,2-Tetrachloroethane	20	U F1	200	281	F1	ug/L		141	51 - 123	
Tetrachloroethene	20	U	200	162		ug/L		81	69 - 126	
Toluene	20	U *	200	223		ug/L		111	69 - 125	
trans-1,2-Dichloroethene	20	U	200	199		ug/L		99	66 - 131	
trans-1,3-Dichloropropene	20	U	200	216		ug/L		108	59 - 120	
1,1,1-Trichloroethane	20	U	200	205		ug/L		102	57 - 156	
1,1,2-Trichloroethane	20	U F1	200	256	F1	ug/L		128	68 - 127	
Trichloroethene	10	J	200	195		ug/L		92	68 - 129	
Trichlorofluoromethane	20	U F2	200	129		ug/L		65	28 - 172	
1,1,2-Trichloro-1,2,2-trifluoroethane	20	U F1	200	113	F1	ug/L		57	58 - 137	
Vinyl chloride	20	U	200	226		ug/L		113	55 - 123	
Xylenes, Total	40	U	400	386		ug/L		97	71 - 122	

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	98		69 - 120
Dibromofluoromethane (Surr)	99		69 - 124
1,2-Dichloroethane-d4 (Surr)	114		61 - 138
Toluene-d8 (Surr)	109		73 - 120

Lab Sample ID: 240-91308-B-3 MSD
Matrix: Water
Analysis Batch: 314579

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier							
Acetone	200	U F2	400	307	F2	ug/L		77	19 - 133	37	35	
Benzene	20	U	200	213		ug/L		107	69 - 127	2	10	
Bromodichloromethane	20	U	200	219		ug/L		110	75 - 128	1	13	
Bromoform	20	U	200	169		ug/L		84	61 - 135	8	13	
Bromomethane	20	U	200	182		ug/L		91	10 - 148	23	35	
2-Butanone (MEK)	200	U	400	409		ug/L		102	34 - 153	7	23	
Carbon disulfide	100	U	200	203		ug/L		101	46 - 143	13	18	
Carbon tetrachloride	20	U	200	188		ug/L		94	53 - 175	4	17	
Chlorobenzene	20	U	200	198		ug/L		99	76 - 120	5	12	
Chloroethane	20	U	200	223		ug/L		112	10 - 141	12	35	
Chloroform	20	U	200	217		ug/L		108	74 - 125	2	11	

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-91308-B-3 MSD

Matrix: Water

Analysis Batch: 314579

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		Limit
Chloromethane	20	U *	200	221		ug/L		111	34 - 127	11	25
cis-1,2-Dichloroethene	330		200	555		ug/L		110	69 - 127	3	11
cis-1,3-Dichloropropene	20	U	200	204		ug/L		102	68 - 120	2	13
Dibromochloromethane	20	U	200	194		ug/L		97	62 - 131	3	15
1,2-Dichlorobenzene	20	U	200	208		ug/L		104	70 - 120	5	19
1,3-Dichlorobenzene	20	U	200	194		ug/L		97	71 - 120	0	18
1,4-Dichlorobenzene	20	U	200	200		ug/L		100	72 - 120	3	17
1,1-Dichloroethane	20	U	200	230		ug/L		115	69 - 122	1	11
1,2-Dichloroethane	20	U	200	245		ug/L		123	64 - 138	3	11
1,1-Dichloroethene	20	U	200	185		ug/L		93	62 - 127	7	14
1,2-Dichloropropane	20	U	200	231		ug/L		116	72 - 131	0	12
Ethylbenzene	20	U	200	185		ug/L		92	72 - 121	7	15
2-Hexanone	200	U	400	429		ug/L		107	21 - 184	5	12
Methylene Chloride	100	U	200	232		ug/L		116	52 - 137	7	12
4-Methyl-2-pentanone (MIBK)	200	U	400	450		ug/L		112	53 - 147	1	16
Styrene	20	U	200	181		ug/L		90	74 - 125	5	14
1,1,1,2-Tetrachloroethane	20	U F1	200	302	F1	ug/L		151	51 - 123	7	17
Tetrachloroethene	20	U	200	167		ug/L		83	69 - 126	3	18
Toluene	20	U *	200	217		ug/L		108	69 - 125	3	14
trans-1,2-Dichloroethene	20	U	200	199		ug/L		99	66 - 131	0	11
trans-1,3-Dichloropropene	20	U	200	208		ug/L		104	59 - 120	4	14
1,1,1-Trichloroethane	20	U	200	209		ug/L		105	57 - 156	2	13
1,1,2-Trichloroethane	20	U F1	200	245		ug/L		122	68 - 127	4	11
Trichloroethene	10	J	200	185		ug/L		87	68 - 129	5	12
Trichlorofluoromethane	20	U F2	200	170	F2	ug/L		85	28 - 172	27	26
1,1,2-Trichloro-1,2,2-trifluoroethane	20	U F1	200	148		ug/L		74	58 - 137	27	35
Vinyl chloride	20	U	200	230		ug/L		115	55 - 123	1	12
Xylenes, Total	40	U	400	372		ug/L		93	71 - 122	4	14

Surrogate	MSD	MSD	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	92		69 - 120
Dibromofluoromethane (Surr)	100		69 - 124
1,2-Dichloroethane-d4 (Surr)	112		61 - 138
Toluene-d8 (Surr)	105		73 - 120

Lab Sample ID: MB 240-314760/6

Matrix: Water

Analysis Batch: 314760

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Acetone	10	U	10	1.8	ug/L			02/14/18 16:07	1
Benzene	1.0	U	1.0	0.28	ug/L			02/14/18 16:07	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/14/18 16:07	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/14/18 16:07	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/14/18 16:07	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/14/18 16:07	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/14/18 16:07	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-314760/6
Matrix: Water
Analysis Batch: 314760

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/14/18 16:07	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 16:07	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/14/18 16:07	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/14/18 16:07	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/14/18 16:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 16:07	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/14/18 16:07	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/14/18 16:07	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/14/18 16:07	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/14/18 16:07	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/14/18 16:07	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/14/18 16:07	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/14/18 16:07	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/14/18 16:07	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 16:07	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/14/18 16:07	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/14/18 16:07	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/14/18 16:07	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/14/18 16:07	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/14/18 16:07	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/14/18 16:07	1
2-Hexanone	10	U	10	1.2	ug/L			02/14/18 16:07	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/14/18 16:07	1
Methyl acetate	10	U	10	1.4	ug/L			02/14/18 16:07	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/14/18 16:07	1
Methylene Chloride	0.577	J	5.0	0.53	ug/L			02/14/18 16:07	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/14/18 16:07	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/14/18 16:07	1
Styrene	1.0	U	1.0	0.23	ug/L			02/14/18 16:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/14/18 16:07	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/14/18 16:07	1
Toluene	1.0	U	1.0	0.23	ug/L			02/14/18 16:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/14/18 16:07	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/14/18 16:07	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/14/18 16:07	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/14/18 16:07	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/14/18 16:07	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/14/18 16:07	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/14/18 16:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/14/18 16:07	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/14/18 16:07	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 16:07	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/14/18 16:07	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/14/18 16:07	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/14/18 16:07	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	91		69 - 120		02/14/18 16:07	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-314760/6
Matrix: Water
Analysis Batch: 314760

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Dibromofluoromethane (Surr)	95		69 - 124		02/14/18 16:07	1
1,2-Dichloroethane-d4 (Surr)	97		61 - 138		02/14/18 16:07	1
Toluene-d8 (Surr)	96		73 - 120		02/14/18 16:07	1

Lab Sample ID: LCS 240-314760/4
Matrix: Water
Analysis Batch: 314760

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Acetone	20.0	13.5		ug/L		67	35 - 131
Benzene	10.0	8.96		ug/L		90	79 - 120
Bromodichloromethane	10.0	9.66		ug/L		97	79 - 125
Bromoform	10.0	8.13		ug/L		81	55 - 145
Bromomethane	10.0	10.5		ug/L		105	17 - 158
2-Butanone (MEK)	20.0	14.8		ug/L		74	43 - 149
Carbon disulfide	10.0	10.5		ug/L		105	49 - 141
Carbon tetrachloride	10.0	11.1		ug/L		111	55 - 171
Chlorobenzene	10.0	9.77		ug/L		98	80 - 120
Chloroethane	10.0	5.63		ug/L		56	10 - 149
Chloroform	10.0	10.6		ug/L		106	80 - 120
Chloromethane	10.0	7.48		ug/L		75	59 - 124
cis-1,2-Dichloroethene	10.0	10.1		ug/L		101	77 - 120
cis-1,3-Dichloropropene	10.0	8.50		ug/L		85	75 - 120
Cyclohexane	10.0	8.61		ug/L		86	66 - 135
Dibromochloromethane	10.0	9.51		ug/L		95	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	6.98		ug/L		70	50 - 130
1,2-Dibromoethane	10.0	8.80		ug/L		88	80 - 120
1,2-Dichlorobenzene	10.0	8.85		ug/L		89	80 - 120
1,3-Dichlorobenzene	10.0	8.52		ug/L		85	80 - 120
1,4-Dichlorobenzene	10.0	8.60		ug/L		86	80 - 120
Dichlorodifluoromethane	10.0	8.87		ug/L		89	42 - 141
1,1-Dichloroethane	10.0	9.94		ug/L		99	74 - 120
1,2-Dichloroethane	10.0	10.5		ug/L		105	68 - 133
1,1-Dichloroethene	10.0	10.4		ug/L		104	65 - 127
1,2-Dichloropropane	10.0	9.10		ug/L		91	78 - 127
Diethyl ether	10.0	10.9		ug/L		109	72 - 125
Ethylbenzene	10.0	9.72		ug/L		97	80 - 120
2-Hexanone	20.0	13.9		ug/L		69	28 - 169
Isopropylbenzene	10.0	9.55		ug/L		96	80 - 128
Methyl acetate	20.0	14.1		ug/L		70	63 - 137
Methylcyclohexane	10.0	8.78		ug/L		88	63 - 141
Methylene Chloride	10.0	10.2		ug/L		102	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	15.2		ug/L		76	53 - 144
Methyl tert-butyl ether	10.0	9.47		ug/L		95	73 - 120
Styrene	10.0	9.02		ug/L		90	80 - 121
1,1,1,2-Tetrachloroethane	10.0	8.28		ug/L		83	58 - 122
Tetrachloroethene	10.0	9.81		ug/L		98	80 - 122
Toluene	10.0	9.25		ug/L		92	78 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-314760/4

Matrix: Water

Analysis Batch: 314760

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 124
trans-1,3-Dichloropropene	10.0	7.76		ug/L		78	67 - 120
1,2,4-Trichlorobenzene	10.0	7.68		ug/L		77	34 - 141
1,1,1-Trichloroethane	10.0	11.2		ug/L		112	64 - 147
1,1,2-Trichloroethane	10.0	9.04		ug/L		90	76 - 121
Trichloroethene	10.0	9.82		ug/L		98	76 - 124
Trichlorofluoromethane	10.0	15.6		ug/L		156	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	12.0		ug/L		120	65 - 144
1,2,4-Trimethylbenzene	10.0	8.89		ug/L		89	80 - 120
1,3,5-Trimethylbenzene	10.0	8.87		ug/L		89	79 - 120
Vinyl chloride	10.0	9.28		ug/L		93	65 - 124
Xylenes, Total	20.0	18.9		ug/L		95	80 - 120
1,4-Dioxane	200	88.3		ug/L		44	35 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		69 - 120
Dibromofluoromethane (Surr)	101		69 - 124
1,2-Dichloroethane-d4 (Surr)	93		61 - 138
Toluene-d8 (Surr)	99		73 - 120

Lab Sample ID: 240-91314-B-3 MS

Matrix: Water

Analysis Batch: 314760

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	400	U	800	428		ug/L		53	19 - 133
Benzene	40	U	400	380		ug/L		95	69 - 127
Bromodichloromethane	40	U	400	376		ug/L		94	75 - 128
Bromoform	40	U	400	306		ug/L		76	61 - 135
Bromomethane	40	U	400	419		ug/L		105	10 - 148
2-Butanone (MEK)	400	U F2	800	482		ug/L		60	34 - 153
Carbon disulfide	200	U	400	443		ug/L		111	46 - 143
Carbon tetrachloride	40	U	400	475		ug/L		119	53 - 175
Chlorobenzene	40	U	400	376		ug/L		94	76 - 120
Chloroethane	40	U	400	233		ug/L		58	10 - 141
Chloroform	40	U F2	400	450		ug/L		112	74 - 125
Chloromethane	40	U	400	306		ug/L		76	34 - 127
cis-1,2-Dichloroethene	520	F2	400	1010		ug/L		122	69 - 127
cis-1,3-Dichloropropene	40	U	400	318		ug/L		79	68 - 120
Cyclohexane	40	U	400	380		ug/L		95	56 - 135
Dibromochloromethane	40	U	400	346		ug/L		86	62 - 131
1,2-Dichlorobenzene	40	U	400	325		ug/L		81	70 - 120
1,3-Dichlorobenzene	40	U	400	314		ug/L		78	71 - 120
1,4-Dichlorobenzene	40	U	400	321		ug/L		80	72 - 120
Dichlorodifluoromethane	40	U	400	363		ug/L		91	45 - 130
1,1-Dichloroethane	23	J F2	400	449		ug/L		106	69 - 122
1,2-Dichloroethane	40	U	400	441		ug/L		110	64 - 138

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-91314-B-3 MS

Matrix: Water

Analysis Batch: 314760

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier	Added	Result	Qualifier					
1,1-Dichloroethene	40	U F2	400	461		ug/L		115	62 - 127	
1,2-Dichloropropane	40	U	400	374		ug/L		93	72 - 131	
Ethylbenzene	40	U	400	363		ug/L		91	72 - 121	
2-Hexanone	400	U	800	586		ug/L		73	21 - 184	
Isopropylbenzene	40	U	400	372		ug/L		93	70 - 132	
Methyl acetate	400	U	800	531		ug/L		66	52 - 139	
Methylcyclohexane	40	U	400	391		ug/L		98	46 - 139	
Methylene Chloride	36	J B	400	432		ug/L		99	52 - 137	
4-Methyl-2-pentanone (MIBK)	400	U	800	592		ug/L		74	53 - 147	
Methyl tert-butyl ether	40	U	400	378		ug/L		94	67 - 125	
Styrene	40	U	400	343		ug/L		86	74 - 125	
1,1,2,2-Tetrachloroethane	40	U	400	316		ug/L		79	51 - 123	
Tetrachloroethene	40	U	400	385		ug/L		96	69 - 126	
Toluene	40	U	400	366		ug/L		92	69 - 125	
trans-1,2-Dichloroethene	40	U F2	400	445		ug/L		111	66 - 131	
trans-1,3-Dichloropropene	40	U	400	286		ug/L		72	59 - 120	
1,2,4-Trichlorobenzene	40	U	400	271		ug/L		68	26 - 138	
1,1,1-Trichloroethane	15	J F2	400	489		ug/L		118	57 - 156	
1,1,2-Trichloroethane	40	U	400	350		ug/L		87	68 - 127	
Trichloroethene	40	U F2	400	414		ug/L		103	68 - 129	
Trichlorofluoromethane	40	U	400	652		ug/L		163	28 - 172	
1,1,2-Trichloro-1,2,2-trifluoroethane	40	U	400	543		ug/L		136	58 - 137	
Vinyl chloride	270	F2	400	717		ug/L		111	55 - 123	
Xylenes, Total	80	U	800	730		ug/L		91	71 - 122	
		MS MS								
Surrogate		%Recovery	Qualifier		Limits					
4-Bromofluorobenzene (Surr)		93			69 - 120					
Dibromofluoromethane (Surr)		109			69 - 124					
1,2-Dichloroethane-d4 (Surr)		105			61 - 138					
Toluene-d8 (Surr)		98			73 - 120					

Lab Sample ID: 240-91314-B-3 MSD

Matrix: Water

Analysis Batch: 314760

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	RPD Limit
	Result	Qualifier	Added	Result	Qualifier							
Acetone	400	U	800	572		ug/L		72	19 - 133	29	35	
Benzene	40	U	400	344		ug/L		86	69 - 127	10	10	
Bromodichloromethane	40	U	400	351		ug/L		88	75 - 128	7	13	
Bromoform	40	U	400	301		ug/L		75	61 - 135	2	13	
Bromomethane	40	U	400	356		ug/L		89	10 - 148	16	35	
2-Butanone (MEK)	400	U F2	800	685	F2	ug/L		86	34 - 153	35	23	
Carbon disulfide	200	U	400	379		ug/L		95	46 - 143	16	18	
Carbon tetrachloride	40	U	400	413		ug/L		103	53 - 175	14	17	
Chlorobenzene	40	U	400	361		ug/L		90	76 - 120	4	12	
Chloroethane	40	U	400	168		ug/L		42	10 - 141	32	35	
Chloroform	40	U F2	400	384	F2	ug/L		96	74 - 125	16	11	

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-91314-B-3 MSD

Matrix: Water

Analysis Batch: 314760

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloromethane	40	U	400	285		ug/L		71	34 - 127	7	25
cis-1,2-Dichloroethene	520	F2	400	886	F2	ug/L		91	69 - 127	13	11
cis-1,3-Dichloropropene	40	U	400	319		ug/L		80	68 - 120	0	13
Cyclohexane	40	U	400	333		ug/L		83	56 - 135	13	35
Dibromochloromethane	40	U	400	348		ug/L		87	62 - 131	1	15
1,2-Dichlorobenzene	40	U	400	326		ug/L		81	70 - 120	0	19
1,3-Dichlorobenzene	40	U	400	308		ug/L		77	71 - 120	2	18
1,4-Dichlorobenzene	40	U	400	313		ug/L		78	72 - 120	3	17
Dichlorodifluoromethane	40	U	400	342		ug/L		85	45 - 130	6	34
1,1-Dichloroethane	23	J F2	400	396	F2	ug/L		93	69 - 122	12	11
1,2-Dichloroethane	40	U	400	411		ug/L		103	64 - 138	7	11
1,1-Dichloroethene	40	U F2	400	398	F2	ug/L		99	62 - 127	15	14
1,2-Dichloropropane	40	U	400	354		ug/L		88	72 - 131	5	12
Ethylbenzene	40	U	400	341		ug/L		85	72 - 121	6	15
2-Hexanone	400	U	800	601		ug/L		75	21 - 184	3	12
Isopropylbenzene	40	U	400	329		ug/L		82	70 - 132	12	16
Methyl acetate	400	U	800	604		ug/L		75	52 - 139	13	14
Methylcyclohexane	40	U	400	344		ug/L		86	46 - 139	13	35
Methylene Chloride	36	J B	400	388		ug/L		88	52 - 137	11	12
4-Methyl-2-pentanone (MIBK)	400	U	800	621		ug/L		78	53 - 147	5	16
Methyl tert-butyl ether	40	U	400	347		ug/L		87	67 - 125	9	12
Styrene	40	U	400	330		ug/L		83	74 - 125	4	14
1,1,2,2-Tetrachloroethane	40	U	400	315		ug/L		79	51 - 123	0	17
Tetrachloroethene	40	U	400	324		ug/L		81	69 - 126	17	18
Toluene	40	U	400	343		ug/L		86	69 - 125	7	14
trans-1,2-Dichloroethene	40	U F2	400	389	F2	ug/L		97	66 - 131	13	11
trans-1,3-Dichloropropene	40	U	400	287		ug/L		72	59 - 120	0	14
1,2,4-Trichlorobenzene	40	U	400	287		ug/L		72	26 - 138	6	35
1,1,1-Trichloroethane	15	J F2	400	407	F2	ug/L		98	57 - 156	18	13
1,1,2-Trichloroethane	40	U	400	347		ug/L		87	68 - 127	1	11
Trichloroethene	40	U F2	400	361	F2	ug/L		90	68 - 129	14	12
Trichlorofluoromethane	40	U	400	546		ug/L		136	28 - 172	18	26
1,1,2-Trichloro-1,2,2-trifluoroethane	40	U	400	470		ug/L		118	58 - 137	14	35
Vinyl chloride	270	F2	400	632	F2	ug/L		89	55 - 123	13	12
Xylenes, Total	80	U	800	680		ug/L		85	71 - 122	7	14

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		69 - 120
Dibromofluoromethane (Surr)	102		69 - 124
1,2-Dichloroethane-d4 (Surr)	103		61 - 138
Toluene-d8 (Surr)	98		73 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-314918/6

Matrix: Water

Analysis Batch: 314918

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			02/15/18 14:28	1
Benzene	1.0	U	1.0	0.28	ug/L			02/15/18 14:28	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			02/15/18 14:28	1
Bromoform	1.0	U	1.0	0.43	ug/L			02/15/18 14:28	1
Bromomethane	1.0	U	1.0	0.42	ug/L			02/15/18 14:28	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			02/15/18 14:28	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			02/15/18 14:28	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			02/15/18 14:28	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			02/15/18 14:28	1
Chloroethane	1.0	U	1.0	0.41	ug/L			02/15/18 14:28	1
Chloroform	1.0	U	1.0	0.31	ug/L			02/15/18 14:28	1
Chloromethane	1.0	U	1.0	0.43	ug/L			02/15/18 14:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			02/15/18 14:28	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			02/15/18 14:28	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			02/15/18 14:28	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			02/15/18 14:28	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			02/15/18 14:28	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			02/15/18 14:28	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			02/15/18 14:28	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			02/15/18 14:28	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			02/15/18 14:28	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			02/15/18 14:28	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			02/15/18 14:28	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			02/15/18 14:28	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			02/15/18 14:28	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			02/15/18 14:28	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			02/15/18 14:28	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			02/15/18 14:28	1
2-Hexanone	10	U	10	1.2	ug/L			02/15/18 14:28	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			02/15/18 14:28	1
Methyl acetate	10	U	10	1.4	ug/L			02/15/18 14:28	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			02/15/18 14:28	1
Methylene Chloride	0.672	J	5.0	0.53	ug/L			02/15/18 14:28	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			02/15/18 14:28	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			02/15/18 14:28	1
Styrene	1.0	U	1.0	0.23	ug/L			02/15/18 14:28	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			02/15/18 14:28	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			02/15/18 14:28	1
Toluene	1.0	U	1.0	0.23	ug/L			02/15/18 14:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			02/15/18 14:28	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			02/15/18 14:28	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			02/15/18 14:28	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			02/15/18 14:28	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			02/15/18 14:28	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			02/15/18 14:28	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			02/15/18 14:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			02/15/18 14:28	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			02/15/18 14:28	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-314918/6
Matrix: Water
Analysis Batch: 314918

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/15/18 14:28	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			02/15/18 14:28	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			02/15/18 14:28	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			02/15/18 14:28	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		69 - 120		02/15/18 14:28	1
Dibromofluoromethane (Surr)	93		69 - 124		02/15/18 14:28	1
1,2-Dichloroethane-d4 (Surr)	93		61 - 138		02/15/18 14:28	1
Toluene-d8 (Surr)	95		73 - 120		02/15/18 14:28	1

Lab Sample ID: LCS 240-314918/4
Matrix: Water
Analysis Batch: 314918

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	13.7		ug/L		69	35 - 131
Benzene	10.0	9.45		ug/L		94	79 - 120
Bromodichloromethane	10.0	9.89		ug/L		99	79 - 125
Bromoform	10.0	8.73		ug/L		87	55 - 145
Bromomethane	10.0	10.8		ug/L		108	17 - 158
2-Butanone (MEK)	20.0	17.3		ug/L		86	43 - 149
Carbon disulfide	10.0	10.7		ug/L		107	49 - 141
Carbon tetrachloride	10.0	11.6		ug/L		116	55 - 171
Chlorobenzene	10.0	10.4		ug/L		104	80 - 120
Chloroethane	10.0	5.32		ug/L		53	10 - 149
Chloroform	10.0	10.8		ug/L		108	80 - 120
Chloromethane	10.0	8.07		ug/L		81	59 - 124
cis-1,2-Dichloroethene	10.0	10.6		ug/L		106	77 - 120
cis-1,3-Dichloropropene	10.0	8.83		ug/L		88	75 - 120
Cyclohexane	10.0	9.09		ug/L		91	66 - 135
Dibromochloromethane	10.0	9.82		ug/L		98	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	6.64		ug/L		66	50 - 130
1,2-Dibromoethane	10.0	9.05		ug/L		90	80 - 120
1,2-Dichlorobenzene	10.0	9.47		ug/L		95	80 - 120
1,3-Dichlorobenzene	10.0	9.20		ug/L		92	80 - 120
1,4-Dichlorobenzene	10.0	9.26		ug/L		93	80 - 120
Dichlorodifluoromethane	10.0	9.63		ug/L		96	42 - 141
1,1-Dichloroethane	10.0	10.5		ug/L		105	74 - 120
1,2-Dichloroethane	10.0	11.1		ug/L		111	68 - 133
1,1-Dichloroethene	10.0	10.9		ug/L		109	65 - 127
1,2-Dichloropropane	10.0	9.13		ug/L		91	78 - 127
Diethyl ether	10.0	10.9		ug/L		109	72 - 125
Ethylbenzene	10.0	10.1		ug/L		101	80 - 120
2-Hexanone	20.0	16.0		ug/L		80	28 - 169
Isopropylbenzene	10.0	10.4		ug/L		104	80 - 128
Methyl acetate	20.0	14.7		ug/L		73	63 - 137
Methylcyclohexane	10.0	9.23		ug/L		92	63 - 141

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-314918/4
Matrix: Water
Analysis Batch: 314918

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	10.0	10.4		ug/L		104	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	16.2		ug/L		81	53 - 144
Methyl tert-butyl ether	10.0	9.55		ug/L		96	73 - 120
Styrene	10.0	9.66		ug/L		97	80 - 121
1,1,2,2-Tetrachloroethane	10.0	8.65		ug/L		86	58 - 122
Tetrachloroethene	10.0	10.1		ug/L		101	80 - 122
Toluene	10.0	9.73		ug/L		97	78 - 120
trans-1,2-Dichloroethene	10.0	10.9		ug/L		109	74 - 124
trans-1,3-Dichloropropene	10.0	8.15		ug/L		82	67 - 120
1,2,4-Trichlorobenzene	10.0	8.19		ug/L		82	34 - 141
1,1,1-Trichloroethane	10.0	11.6		ug/L		116	64 - 147
1,1,2-Trichloroethane	10.0	9.29		ug/L		93	76 - 121
Trichloroethene	10.0	10.5		ug/L		105	76 - 124
Trichlorofluoromethane	10.0	15.7		ug/L		157	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	13.1		ug/L		131	65 - 144
1,2,4-Trimethylbenzene	10.0	9.45		ug/L		94	80 - 120
1,3,5-Trimethylbenzene	10.0	9.54		ug/L		95	79 - 120
Vinyl chloride	10.0	9.57		ug/L		96	65 - 124
Xylenes, Total	20.0	20.3		ug/L		101	80 - 120
1,4-Dioxane	200	115		ug/L		57	35 - 134

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
4-Bromofluorobenzene (Surr)	91		69 - 120
Dibromofluoromethane (Surr)	101		69 - 124
1,2-Dichloroethane-d4 (Surr)	103		61 - 138
Toluene-d8 (Surr)	98		73 - 120

Lab Sample ID: 240-91339-E-9 MS
Matrix: Water
Analysis Batch: 314918

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10	U	20.0	12.0		ug/L		60	19 - 133
Benzene	1.9		10.0	10.3		ug/L		84	69 - 127
Bromodichloromethane	1.0	U	10.0	8.92		ug/L		89	75 - 128
Bromoform	1.0	U	10.0	7.69		ug/L		77	61 - 135
Bromomethane	1.0	U	10.0	4.25		ug/L		43	10 - 148
2-Butanone (MEK)	10	U	20.0	14.0		ug/L		70	34 - 153
Carbon disulfide	5.0	U	10.0	10.4		ug/L		104	46 - 143
Carbon tetrachloride	1.0	U	10.0	9.80		ug/L		98	53 - 175
Chlorobenzene	1.0	U	10.0	9.57		ug/L		96	76 - 120
Chloroethane	1.0	U	10.0	3.71		ug/L		37	10 - 141
Chloroform	1.0	U	10.0	9.86		ug/L		99	74 - 125
Chloromethane	1.0	U F1	10.0	3.28	F1	ug/L		33	34 - 127
cis-1,2-Dichloroethene	0.44	J	10.0	9.66		ug/L		92	69 - 127
cis-1,3-Dichloropropene	1.0	U	10.0	7.65		ug/L		77	68 - 120
Cyclohexane	1.0	U	10.0	7.85		ug/L		78	56 - 135

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-91339-E-9 MS

Matrix: Water

Analysis Batch: 314918

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec. Limits
	Result	Qualifier	Added	Result	Qualifier				
Dibromochloromethane	1.0	U	10.0	8.72		ug/L		87	62 - 131
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	6.72		ug/L		67	48 - 130
1,2-Dibromoethane	1.0	U	10.0	8.99		ug/L		90	73 - 121
1,2-Dichlorobenzene	1.0	U	10.0	8.43		ug/L		84	70 - 120
1,3-Dichlorobenzene	1.0	U	10.0	8.06		ug/L		81	71 - 120
1,4-Dichlorobenzene	1.0	U	10.0	8.33		ug/L		83	72 - 120
Dichlorodifluoromethane	1.0	U	10.0	7.51		ug/L		75	45 - 130
1,1-Dichloroethane	1.0	U	10.0	9.44		ug/L		94	69 - 122
1,2-Dichloroethane	1.0	U	10.0	10.2		ug/L		102	64 - 138
1,1-Dichloroethene	1.0	U	10.0	9.73		ug/L		97	62 - 127
1,2-Dichloropropane	1.0	U	10.0	8.64		ug/L		86	72 - 131
Ethylbenzene	1.0	U	10.0	9.17		ug/L		92	72 - 121
2-Hexanone	10	U	20.0	17.8		ug/L		89	21 - 184
Isopropylbenzene	1.0	U	10.0	8.86		ug/L		89	70 - 132
Methyl acetate	10	U	20.0	12.5		ug/L		63	52 - 139
Methylcyclohexane	1.0	U	10.0	7.52		ug/L		75	46 - 139
Methylene Chloride	5.0	U	10.0	8.84		ug/L		88	52 - 137
4-Methyl-2-pentanone (MIBK)	10	U	20.0	16.3		ug/L		81	53 - 147
Methyl tert-butyl ether	1.0	U	10.0	8.82		ug/L		88	67 - 125
Styrene	1.0	U	10.0	8.69		ug/L		87	74 - 125
1,1,2,2-Tetrachloroethane	1.0	U	10.0	8.35		ug/L		84	51 - 123
Tetrachloroethene	1.0	U	10.0	8.88		ug/L		89	69 - 126
Toluene	1.0	U	10.0	9.23		ug/L		92	69 - 125
trans-1,2-Dichloroethene	1.0	U	10.0	9.68		ug/L		97	66 - 131
trans-1,3-Dichloropropene	1.0	U	10.0	7.38		ug/L		74	59 - 120
1,2,4-Trichlorobenzene	1.0	U	10.0	7.31		ug/L		73	26 - 138
1,1,1-Trichloroethane	1.0	U	10.0	9.92		ug/L		99	57 - 156
1,1,2-Trichloroethane	1.0	U	10.0	9.18		ug/L		92	68 - 127
Trichloroethene	1.0	U	10.0	9.15		ug/L		92	68 - 129
Trichlorofluoromethane	1.0	U	10.0	10.5		ug/L		105	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	10.7		ug/L		107	58 - 137
Vinyl chloride	1.0	U F2	10.0	8.59		ug/L		86	55 - 123
Xylenes, Total	2.0	U	20.0	18.4		ug/L		92	71 - 122

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	92		69 - 120
Dibromofluoromethane (Surr)	97		69 - 124
1,2-Dichloroethane-d4 (Surr)	95		61 - 138
Toluene-d8 (Surr)	99		73 - 120

Lab Sample ID: 240-91339-F-9 MSD

Matrix: Water

Analysis Batch: 314918

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec. Limits	RPD	Limit
	Result	Qualifier	Added	Result	Qualifier						
Acetone	10	U	20.0	9.67	J	ug/L		48	19 - 133	21	35
Benzene	1.9		10.0	10.6		ug/L		87	69 - 127	3	10

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-91339-F-9 MSD

Matrix: Water

Analysis Batch: 314918

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromodichloromethane	1.0	U	10.0	8.81		ug/L		88	75 - 128	1	13
Bromoform	1.0	U	10.0	7.62		ug/L		76	61 - 135	1	13
Bromomethane	1.0	U	10.0	4.91		ug/L		49	10 - 148	14	35
2-Butanone (MEK)	10	U	20.0	13.5		ug/L		68	34 - 153	4	23
Carbon disulfide	5.0	U	10.0	10.5		ug/L		105	46 - 143	1	18
Carbon tetrachloride	1.0	U	10.0	10.1		ug/L		101	53 - 175	3	17
Chlorobenzene	1.0	U	10.0	9.47		ug/L		95	76 - 120	1	12
Chloroethane	1.0	U	10.0	4.84		ug/L		48	10 - 141	27	35
Chloroform	1.0	U	10.0	9.66		ug/L		97	74 - 125	2	11
Chloromethane	1.0	U F1	10.0	3.96		ug/L		40	34 - 127	19	25
cis-1,2-Dichloroethene	0.44	J	10.0	9.96		ug/L		95	69 - 127	3	11
cis-1,3-Dichloropropene	1.0	U	10.0	7.56		ug/L		76	68 - 120	1	13
Cyclohexane	1.0	U	10.0	7.82		ug/L		78	56 - 135	0	35
Dibromochloromethane	1.0	U	10.0	8.61		ug/L		86	62 - 131	1	15
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	6.60		ug/L		66	48 - 130	2	31
1,2-Dibromoethane	1.0	U	10.0	8.76		ug/L		88	73 - 121	3	12
1,2-Dichlorobenzene	1.0	U	10.0	8.33		ug/L		83	70 - 120	1	19
1,3-Dichlorobenzene	1.0	U	10.0	8.04		ug/L		80	71 - 120	0	18
1,4-Dichlorobenzene	1.0	U	10.0	8.04		ug/L		80	72 - 120	4	17
Dichlorodifluoromethane	1.0	U	10.0	8.91		ug/L		89	45 - 130	17	34
1,1-Dichloroethane	1.0	U	10.0	9.68		ug/L		97	69 - 122	2	11
1,2-Dichloroethane	1.0	U	10.0	9.89		ug/L		99	64 - 138	3	11
1,1-Dichloroethene	1.0	U	10.0	9.90		ug/L		99	62 - 127	2	14
1,2-Dichloropropane	1.0	U	10.0	9.10		ug/L		91	72 - 131	5	12
Ethylbenzene	1.0	U	10.0	9.16		ug/L		92	72 - 121	0	15
2-Hexanone	10	U	20.0	16.1		ug/L		80	21 - 184	11	12
Isopropylbenzene	1.0	U	10.0	8.80		ug/L		88	70 - 132	1	16
Methyl acetate	10	U	20.0	12.2		ug/L		61	52 - 139	3	14
Methylcyclohexane	1.0	U	10.0	7.42		ug/L		74	46 - 139	1	35
Methylene Chloride	5.0	U	10.0	8.97		ug/L		90	52 - 137	1	12
4-Methyl-2-pentanone (MIBK)	10	U	20.0	15.3		ug/L		76	53 - 147	6	16
Methyl tert-butyl ether	1.0	U	10.0	8.62		ug/L		86	67 - 125	2	12
Styrene	1.0	U	10.0	8.46		ug/L		85	74 - 125	3	14
1,1,2,2-Tetrachloroethane	1.0	U	10.0	8.02		ug/L		80	51 - 123	4	17
Tetrachloroethene	1.0	U	10.0	8.92		ug/L		89	69 - 126	0	18
Toluene	1.0	U	10.0	8.81		ug/L		88	69 - 125	5	14
trans-1,2-Dichloroethene	1.0	U	10.0	9.76		ug/L		98	66 - 131	1	11
trans-1,3-Dichloropropene	1.0	U	10.0	7.06		ug/L		71	59 - 120	4	14
1,2,4-Trichlorobenzene	1.0	U	10.0	7.27		ug/L		73	26 - 138	1	35
1,1,1-Trichloroethane	1.0	U	10.0	10.4		ug/L		104	57 - 156	5	13
1,1,2-Trichloroethane	1.0	U	10.0	8.86		ug/L		89	68 - 127	4	11
Trichloroethene	1.0	U	10.0	8.99		ug/L		90	68 - 129	2	12
Trichlorofluoromethane	1.0	U	10.0	12.9		ug/L		129	28 - 172	21	26
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	10.4		ug/L		104	58 - 137	3	35
Vinyl chloride	1.0	U F2	10.0	9.87	F2	ug/L		99	55 - 123	14	12
Xylenes, Total	2.0	U	20.0	17.6		ug/L		88	71 - 122	4	14

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-91339-F-9 MSD
Matrix: Water
Analysis Batch: 314918

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	92		69 - 120
Dibromofluoromethane (Surr)	102		69 - 124
1,2-Dichloroethane-d4 (Surr)	97		61 - 138
Toluene-d8 (Surr)	99		73 - 120

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-314572/5
Matrix: Water
Analysis Batch: 314572

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/13/18 11:58	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	121		63 - 125		02/13/18 11:58	1

Lab Sample ID: LCS 240-314572/4
Matrix: Water
Analysis Batch: 314572

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	7.91		ug/L		79	59 - 131

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	114		63 - 125

Lab Sample ID: 500-140728-B-11 MS
Matrix: Water
Analysis Batch: 314572

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	8.15		ug/L		82	52 - 129

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	124		63 - 125

Lab Sample ID: 500-140728-B-11 MSD
Matrix: Water
Analysis Batch: 314572

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	8.56		ug/L		86	52 - 129	5	13

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	126	X	63 - 125

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-314747/5
Matrix: Water
Analysis Batch: 314747

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/14/18 11:45	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	116		63 - 125					02/14/18 11:45	1

Lab Sample ID: LCS 240-314747/4
Matrix: Water
Analysis Batch: 314747

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	8.92		ug/L		89	59 - 131
Surrogate	LCS %Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	106		63 - 125				

Lab Sample ID: 500-140728-C-2 MS
Matrix: Water
Analysis Batch: 314747

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	430		50.0	459	4	ug/L		61	52 - 129
Surrogate	MS %Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	110		63 - 125						

Lab Sample ID: 500-140728-C-2 MSD
Matrix: Water
Analysis Batch: 314747

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	430		50.0	461	4	ug/L		64	52 - 129	0	13
Surrogate	MSD %Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	113		63 - 125								

Lab Sample ID: MB 240-314896/5
Matrix: Water
Analysis Batch: 314896

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			02/15/18 11:07	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	120		63 - 125					02/15/18 11:07	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-314896/4
Matrix: Water
Analysis Batch: 314896

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	9.28		ug/L		93	59 - 131
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	113		63 - 125				

Lab Sample ID: 240-91361-D-11 MS
Matrix: Water
Analysis Batch: 314896

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	8.15		ug/L		82	52 - 129
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	121		63 - 125						

Lab Sample ID: 240-91361-D-11 MSD
Matrix: Water
Analysis Batch: 314896

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	8.96		ug/L		90	52 - 129	10	13
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	119		63 - 125								

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

GC/MS VOA

Analysis Batch: 314572

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91358-1	MW-65-020618	Total/NA	Water	8260B SIM	
240-91358-2	MW-44-020618	Total/NA	Water	8260B SIM	
240-91358-3	MW-22-020618	Total/NA	Water	8260B SIM	
240-91358-4	MW-62-020618	Total/NA	Water	8260B SIM	
240-91358-5	MW-15-59D-020618	Total/NA	Water	8260B SIM	
MB 240-314572/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-314572/4	Lab Control Sample	Total/NA	Water	8260B SIM	
500-140728-B-11 MS	Matrix Spike	Total/NA	Water	8260B SIM	
500-140728-B-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 314579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91358-4	MW-62-020618	Total/NA	Water	8260B	
240-91358-5	MW-15-59D-020618	Total/NA	Water	8260B	
240-91358-6	MW-15-60D-020618	Total/NA	Water	8260B	
240-91358-7	MW-15-61D-020618	Total/NA	Water	8260B	
MB 240-314579/6	Method Blank	Total/NA	Water	8260B	
LCS 240-314579/4	Lab Control Sample	Total/NA	Water	8260B	
240-91308-B-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-91308-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 314747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91358-6	MW-15-60D-020618	Total/NA	Water	8260B SIM	
240-91358-7	MW-15-61D-020618	Total/NA	Water	8260B SIM	
240-91358-8	MW-23-020618	Total/NA	Water	8260B SIM	
240-91358-10	MW-28-020718	Total/NA	Water	8260B SIM	
240-91358-11	MW-58-020718	Total/NA	Water	8260B SIM	
240-91358-12	MW-55-020718	Total/NA	Water	8260B SIM	
240-91358-13	MW-54-020718	Total/NA	Water	8260B SIM	
240-91358-14	MW-53-020718	Total/NA	Water	8260B SIM	
240-91358-15	MW-63-020718	Total/NA	Water	8260B SIM	
240-91358-16	PW-16-01-020718	Total/NA	Water	8260B SIM	
MB 240-314747/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-314747/4	Lab Control Sample	Total/NA	Water	8260B SIM	
500-140728-C-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
500-140728-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 314760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91358-1	MW-65-020618	Total/NA	Water	8260B	
240-91358-3	MW-22-020618	Total/NA	Water	8260B	
240-91358-9	TRIP BLANK	Total/NA	Water	8260B	
240-91358-10	MW-28-020718	Total/NA	Water	8260B	
240-91358-11	MW-58-020718	Total/NA	Water	8260B	
240-91358-12	MW-55-020718	Total/NA	Water	8260B	
240-91358-13	MW-54-020718	Total/NA	Water	8260B	
240-91358-14	MW-53-020718	Total/NA	Water	8260B	
240-91358-15	MW-63-020718	Total/NA	Water	8260B	
240-91358-16	PW-16-01-020718	Total/NA	Water	8260B	
MB 240-314760/6	Method Blank	Total/NA	Water	8260B	

TestAmerica Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

GC/MS VOA (Continued)

Analysis Batch: 314760 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-314760/4	Lab Control Sample	Total/NA	Water	8260B	
240-91314-B-3 MS	Matrix Spike	Total/NA	Water	8260B	
240-91314-B-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 314896

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91358-17	TW-16-01-020718	Total/NA	Water	8260B SIM	
MB 240-314896/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-314896/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-91361-D-11 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-91361-D-11 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 314918

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91358-2	MW-44-020618	Total/NA	Water	8260B	
240-91358-8	MW-23-020618	Total/NA	Water	8260B	
240-91358-17	TW-16-01-020718	Total/NA	Water	8260B	
MB 240-314918/6	Method Blank	Total/NA	Water	8260B	
LCS 240-314918/4	Lab Control Sample	Total/NA	Water	8260B	
240-91339-E-9 MS	Matrix Spike	Total/NA	Water	8260B	
240-91339-F-9 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-65-020618

Date Collected: 02/06/18 17:02

Date Received: 02/09/18 09:20

Lab Sample ID: 240-91358-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		2	314760	02/14/18 18:20	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314572	02/13/18 20:29	SAM	TAL CAN

Client Sample ID: MW-44-020618

Date Collected: 02/06/18 16:07

Date Received: 02/09/18 09:20

Lab Sample ID: 240-91358-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		6.67	314918	02/15/18 15:12	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314572	02/13/18 20:54	SAM	TAL CAN

Client Sample ID: MW-22-020618

Date Collected: 02/06/18 15:02

Date Received: 02/09/18 09:20

Lab Sample ID: 240-91358-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		142.86	314760	02/14/18 19:03	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314572	02/13/18 21:20	SAM	TAL CAN

Client Sample ID: MW-62-020618

Date Collected: 02/06/18 12:56

Date Received: 02/09/18 09:20

Lab Sample ID: 240-91358-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314579	02/13/18 19:31	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	314572	02/13/18 21:45	SAM	TAL CAN

Client Sample ID: MW-15-59D-020618

Date Collected: 02/06/18 12:12

Date Received: 02/09/18 09:20

Lab Sample ID: 240-91358-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314579	02/13/18 19:54	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	314572	02/13/18 22:11	SAM	TAL CAN

Client Sample ID: MW-15-60D-020618

Date Collected: 02/06/18 10:27

Date Received: 02/09/18 09:20

Lab Sample ID: 240-91358-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314579	02/13/18 20:16	LEE	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-15-60D-020618

Lab Sample ID: 240-91358-6

Date Collected: 02/06/18 10:27

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	314747	02/14/18 17:50	SAM	TAL CAN

Client Sample ID: MW-15-61D-020618

Lab Sample ID: 240-91358-7

Date Collected: 02/06/18 14:32

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314579	02/13/18 20:39	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	314747	02/14/18 18:16	SAM	TAL CAN

Client Sample ID: MW-23-020618

Lab Sample ID: 240-91358-8

Date Collected: 02/06/18 16:02

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1000	314918	02/15/18 15:33	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		10	314747	02/14/18 18:42	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-91358-9

Date Collected: 02/06/18 00:00

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314760	02/14/18 19:47	LRW	TAL CAN

Client Sample ID: MW-28-020718

Lab Sample ID: 240-91358-10

Date Collected: 02/07/18 12:57

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314760	02/14/18 20:09	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314747	02/14/18 19:08	SAM	TAL CAN

Client Sample ID: MW-58-020718

Lab Sample ID: 240-91358-11

Date Collected: 02/07/18 16:57

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314760	02/14/18 20:32	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314747	02/14/18 19:35	SAM	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: MW-55-020718

Lab Sample ID: 240-91358-12

Date Collected: 02/07/18 13:52

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314760	02/14/18 20:54	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314747	02/14/18 20:00	SAM	TAL CAN

Client Sample ID: MW-54-020718

Lab Sample ID: 240-91358-13

Date Collected: 02/07/18 15:07

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314760	02/14/18 21:16	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314747	02/14/18 20:26	SAM	TAL CAN

Client Sample ID: MW-53-020718

Lab Sample ID: 240-91358-14

Date Collected: 02/07/18 16:02

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314760	02/14/18 21:37	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314747	02/14/18 20:52	SAM	TAL CAN

Client Sample ID: MW-63-020718

Lab Sample ID: 240-91358-15

Date Collected: 02/07/18 17:05

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	314760	02/14/18 21:59	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314747	02/14/18 21:18	SAM	TAL CAN

Client Sample ID: PW-16-01-020718

Lab Sample ID: 240-91358-16

Date Collected: 02/07/18 15:55

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		14.28	314760	02/14/18 22:22	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	314747	02/14/18 21:44	SAM	TAL CAN

Client Sample ID: TW-16-01-020718

Lab Sample ID: 240-91358-17

Date Collected: 02/07/18 14:55

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		33.33	314918	02/15/18 15:55	LRW	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-91358-1

Client Sample ID: TW-16-01-020718

Lab Sample ID: 240-91358-17

Date Collected: 02/07/18 14:55

Matrix: Water

Date Received: 02/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	314896	02/15/18 11:58	SAM	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 240-91358-1

Project/Site: Ford LTP Livonia MI - E203728

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18 *
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18 *
Kentucky (WW)	State Program	4	98016	12-31-18
Minnesota	NELAP	5	039-999-348	12-31-18
Minnesota (Petrofund)	State Program	1	3506	07-31-18
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18 *
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18 *
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-19
West Virginia DEP	State Program	3	210	12-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton

1.6/1.3 20/1.7 - 3.4/3.1

Chain of Custody Record

TestAmerica Laboratory Inc. Brighton — 10448 Citalion Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

Client Contact Company Name: Arcadis Address: 28550 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 Project Name: Ford LTP Project Number: M1001386.0001.20000 PO # A11001386.0001.20000		Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other		Client Project Manager: Kris Himsley Telephone: 248-994-2240 Email: kris@offer-himsley@arcadis.com		Site Contact: Angela DeGrandis Telephone: 734-320-0605		Lab Contact: Denise Folt Telephone: 330-366-9789		TestAmerica Laboratories, Inc. COC No:	
Analysis Turnaround Time TAT (not to exceed) from below: - 3 weeks - 2 weeks - 1 week - 2 days - 1 day 10 day		Containers & Preservatives H2SO4 HNO3 HCl NaOH ZnAc NaBr LiAc Other:		Matrix Aqueous Sediment Solid Other:		Filtered Sample (Y/N) Composite C / Grab-G		Analyses VOCs 8260B 1,4-Dioxane 8260B SIM		For lab use only Walk-in client Lab sampling Job/SDG No: Sample Specific Notes / Special Instructions	
Sample Identification MW-58-020718 MW-55-020718 MW-54-020718 MW-53-020718 TRIPBLANK-02 MW-63-020718 PN-16-01-020718 TW-16-01-020718	Sample Date 2/7/18 1/35/2 1/5/07 1/6/02 1/7/05 1/5/55 1/4/55	Sample Time 1657 1352 1507 1602 1705 1555 1455	Matrix Aqueous Sediment Solid Other:	Containers & Preservatives H2SO4 HNO3 HCl NaOH ZnAc NaBr LiAc Other:	Filtered Sample (Y/N) Composite C / Grab-G VOCs 8260B 1,4-Dioxane 8260B SIM	Analyses VOCs 8260B 1,4-Dioxane 8260B SIM	For lab use only Walk-in client Lab sampling Job/SDG No: Sample Specific Notes / Special Instructions	Date/Time 2/5/18 10:10 2/9/18 9:20	Company ARCADIS TAC TAC	Received by [Signature] [Signature]	Received in Laboratory by [Signature]
Possible Hazard Identification: <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Hazardous Special Instructions/OC Requirements & Comments: Submit all results through Cadent at jim.aboval@bcadent.com, Cadent #E203728 Level 4AR V Reporting (Lab)											

8260B, 1,4-Dioxane, 2,3-Dioxolane, 2,3,7,8-Tetrachlorodioxane & 2,3,7,8-Tetrachlorodibenzodioxane are listed as priority pollutants under the Clean Water Act.



TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login #: 91358

Client Arceles Site Name _____
Cooler Received on 2/19/18 Opened on 2/19/18
FedEx: Grp Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Cooler unpacked by:
DSD

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ Foam Box Client Cooler Box _____ Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None _____ Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-8 (CF -0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN #36 (CF +0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN # 627 (CF -1.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity Leak Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC730269

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this.

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B/Z9401VB Yes No

16. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

17. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) MW-15-00D-020618 were received with bubble >6 mm in diameter. (Notify PM)

18. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-95780-1

Client Project/Site: Ford LTP Livonia MI - E203728

Revision: 1

For:


ARCADIS U.S., Inc.

28550 Cabot Drive

Suite 500

Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:

6/15/2018 9:18:40 AM

Michael DelMonico, Project Manager I

(330)497-9396

michael.delmonico@testamericainc.com

LINKS

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results through

Total Access

Have a Question?



Visit us at:

www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F2	MS/MSD RPD exceeds control limits
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
*	LCS or LCSD is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Job ID: 240-95780-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-95780-1

Revision

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

This report was revised on 6/15/2018 to report a longer list of VOCs.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 5/18/2018 8:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.9° C and 3.9° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-67_051418 (240-95780-1), MW-29_051418 (240-95780-2), MW-19_051418 (240-95780-3), MW-26_051518 (240-95780-4), MW-15-61D_051518 (240-95780-5) and MW-15-59D_051518 (240-95780-6) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 05/26/2018 and 05/27/2018.

The laboratory control sample (LCS) for analytical batch 240-328754 recovered outside acceptance limits for Methyl tert-butyl ether.

Method(s) 8260B: The method blank for analytical batch 240-328778 contained Methylene Chloride above the reporting limit (RL). This compound is considered a common laboratory contaminant. The associated samples, MW-15-61D_051518 (240-95780-5), MW-15-59D_051518 (240-95780-6), (MB 240-328778/5), (240-95755-C-2), (240-95755-C-2 MS) and (240-95755-C-2 MSD), were not

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Job ID: 240-95780-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

re-extracted and/or re-analyzed because the concentration of the common lab contaminant in the method blank was less than 5 times the RL.

Method(s) 8260B: There was an MS/MSD analyzed in batch 328754 but could not be reported because the associated sample needed reanalyzed in a different batch: MW-26_051518 (240-95780-4).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-67_051418 (240-95780-1), MW-29_051418 (240-95780-2), MW-19_051418 (240-95780-3), MW-26_051518 (240-95780-4), MW-15-61D_051518 (240-95780-5) and MW-15-59D_051518 (240-95780-6) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 05/24/2018 and 05/25/2018.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-95780-1	MW-67_051418	Water	05/14/18 14:00	05/18/18 08:30
240-95780-2	MW-29_051418	Water	05/14/18 16:05	05/18/18 08:30
240-95780-3	MW-19_051418	Water	05/14/18 16:45	05/18/18 08:30
240-95780-4	MW-26_051518	Water	05/15/18 09:15	05/18/18 08:30
240-95780-5	MW-15-61D_051518	Water	05/15/18 14:00	05/18/18 08:30
240-95780-6	MW-15-59D_051518	Water	05/15/18 16:45	05/18/18 08:30

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Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-67_051418

Lab Sample ID: 240-95780-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.5	J B	10	1.8	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	5.7		1.0	0.30	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	0.25	J	1.0	0.25	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.75	J	1.0	0.29	ug/L	1		8260B	Total/NA
1,1,1-Trichloroethane	0.94	J	1.0	0.23	ug/L	1		8260B	Total/NA
Trichloroethene	57		1.0	0.33	ug/L	1		8260B	Total/NA
Vinyl chloride	1.3		1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-29_051418

Lab Sample ID: 240-95780-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.47	J	2.0	0.24	ug/L	1		8260B SIM	Total/NA
Acetone	4.4	J B	10	1.8	ug/L	1		8260B	Total/NA

Client Sample ID: MW-19_051418

Lab Sample ID: 240-95780-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	140		2.0	0.24	ug/L	1		8260B SIM	Total/NA
Acetone	3.2	J B	10	1.8	ug/L	1		8260B	Total/NA
Chloroethane	1.7		1.0	0.41	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	0.71	J	1.0	0.30	ug/L	1		8260B	Total/NA
1,1-Dichloroethane	3.6		1.0	0.25	ug/L	1		8260B	Total/NA
1,2-Dichloroethane	0.36	J	1.0	0.30	ug/L	1		8260B	Total/NA
Trichloroethene	0.91	J	1.0	0.33	ug/L	1		8260B	Total/NA
Vinyl chloride	1.3		1.0	0.45	ug/L	1		8260B	Total/NA
1,4-Dioxane	130		50	12	ug/L	1		8260B	Total/NA

Client Sample ID: MW-26_051518

Lab Sample ID: 240-95780-4

No Detections.

Client Sample ID: MW-15-61D_051518

Lab Sample ID: 240-95780-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	12	B	10	1.8	ug/L	1		8260B	Total/NA
Methylcyclohexane	0.47	J B	1.0	0.45	ug/L	1		8260B	Total/NA

Client Sample ID: MW-15-59D_051518

Lab Sample ID: 240-95780-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	3.3	J B	10	1.8	ug/L	1		8260B	Total/NA
Cyclohexane	0.69	J	1.0	0.44	ug/L	1		8260B	Total/NA
Methylcyclohexane	0.62	J B	1.0	0.45	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-67_051418

Lab Sample ID: 240-95780-1

Date Collected: 05/14/18 14:00

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			05/24/18 15:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	73		63 - 125					05/24/18 15:21	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.5	J B	10	1.8	ug/L			05/26/18 17:50	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 17:50	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 17:50	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 17:50	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 17:50	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 17:50	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 17:50	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 17:50	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 17:50	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/26/18 17:50	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 17:50	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 17:50	1
cis-1,2-Dichloroethene	5.7		1.0	0.30	ug/L			05/26/18 17:50	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 17:50	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 17:50	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 17:50	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 17:50	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 17:50	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 17:50	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 17:50	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/26/18 17:50	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 17:50	1
1,1-Dichloroethane	0.25	J	1.0	0.25	ug/L			05/26/18 17:50	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/26/18 17:50	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 17:50	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 17:50	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 17:50	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 17:50	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 17:50	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 17:50	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 17:50	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 17:50	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 17:50	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 17:50	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 17:50	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 17:50	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 17:50	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 17:50	1
trans-1,2-Dichloroethene	0.75	J	1.0	0.29	ug/L			05/26/18 17:50	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 17:50	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/26/18 17:50	1
1,1,1-Trichloroethane	0.94	J	1.0	0.23	ug/L			05/26/18 17:50	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 17:50	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-67_051418

Lab Sample ID: 240-95780-1

Date Collected: 05/14/18 14:00

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	57		1.0	0.33	ug/L			05/26/18 17:50	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 17:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 17:50	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 17:50	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 17:50	1
Vinyl chloride	1.3		1.0	0.45	ug/L			05/26/18 17:50	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 17:50	1
1,4-Dioxane	50	U	50	12	ug/L			05/26/18 17:50	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 17:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		69 - 120					05/26/18 17:50	1
Dibromofluoromethane (Surr)	102		69 - 124					05/26/18 17:50	1
1,2-Dichloroethane-d4 (Surr)	102		61 - 138					05/26/18 17:50	1
Toluene-d8 (Surr)	107		73 - 120					05/26/18 17:50	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-29_051418

Lab Sample ID: 240-95780-2

Date Collected: 05/14/18 16:05

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.47	J	2.0	0.24	ug/L			05/24/18 15:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		63 - 125					05/24/18 15:46	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	4.4	J B	10	1.8	ug/L			05/26/18 18:15	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 18:15	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 18:15	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 18:15	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 18:15	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 18:15	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 18:15	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:15	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:15	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 18:15	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 18:15	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 18:15	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 18:15	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:15	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 18:15	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:15	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:15	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:15	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:15	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 18:15	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:15	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 18:15	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 18:15	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 18:15	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 18:15	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 18:15	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 18:15	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 18:15	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 18:15	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:15	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/26/18 18:15	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 18:15	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/26/18 18:15	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:15	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 18:15	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-29_051418

Lab Sample ID: 240-95780-2

Date Collected: 05/14/18 16:05

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/26/18 18:15	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:15	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:15	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:15	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:15	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/18 18:15	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 18:15	1
1,4-Dioxane	50	U	50	12	ug/L			05/26/18 18:15	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 18:15	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		69 - 120					05/26/18 18:15	1
Dibromofluoromethane (Surr)	99		69 - 124					05/26/18 18:15	1
1,2-Dichloroethane-d4 (Surr)	100		61 - 138					05/26/18 18:15	1
Toluene-d8 (Surr)	104		73 - 120					05/26/18 18:15	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-19_051418

Lab Sample ID: 240-95780-3

Date Collected: 05/14/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	140		2.0	0.24	ug/L			05/24/18 16:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	79		63 - 125					05/24/18 16:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.2	J B	10	1.8	ug/L			05/26/18 18:40	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 18:40	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:40	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 18:40	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 18:40	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 18:40	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 18:40	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 18:40	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:40	1
Chloroethane	1.7		1.0	0.41	ug/L			05/26/18 18:40	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 18:40	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 18:40	1
cis-1,2-Dichloroethene	0.71	J	1.0	0.30	ug/L			05/26/18 18:40	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 18:40	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 18:40	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:40	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 18:40	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:40	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:40	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:40	1
1,1-Dichloroethane	3.6		1.0	0.25	ug/L			05/26/18 18:40	1
1,2-Dichloroethane	0.36	J	1.0	0.30	ug/L			05/26/18 18:40	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 18:40	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 18:40	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:40	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 18:40	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 18:40	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 18:40	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 18:40	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 18:40	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 18:40	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 18:40	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 18:40	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:40	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/26/18 18:40	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 18:40	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/26/18 18:40	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:40	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 18:40	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-19_051418

Lab Sample ID: 240-95780-3

Date Collected: 05/14/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.91	J	1.0	0.33	ug/L			05/26/18 18:40	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:40	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:40	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:40	1
Vinyl chloride	1.3		1.0	0.45	ug/L			05/26/18 18:40	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 18:40	1
1,4-Dioxane	130		50	12	ug/L			05/26/18 18:40	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 18:40	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		69 - 120					05/26/18 18:40	1
Dibromofluoromethane (Surr)	99		69 - 124					05/26/18 18:40	1
1,2-Dichloroethane-d4 (Surr)	98		61 - 138					05/26/18 18:40	1
Toluene-d8 (Surr)	105		73 - 120					05/26/18 18:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-26_051518

Lab Sample ID: 240-95780-4

Date Collected: 05/15/18 09:15

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			05/25/18 15:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		63 - 125					05/25/18 15:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			05/27/18 02:06	1
Benzene	1.0	U	1.0	0.28	ug/L			05/27/18 02:06	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/27/18 02:06	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/27/18 02:06	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/27/18 02:06	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/27/18 02:06	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/27/18 02:06	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 02:06	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/27/18 02:06	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/27/18 02:06	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/27/18 02:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/27/18 02:06	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/27/18 02:06	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/27/18 02:06	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/27/18 02:06	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/27/18 02:06	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 02:06	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 02:06	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/27/18 02:06	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/27/18 02:06	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/27/18 02:06	1
2-Hexanone	10	U	10	1.2	ug/L			05/27/18 02:06	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/27/18 02:06	1
Methyl acetate	10	U	10	1.4	ug/L			05/27/18 02:06	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/27/18 02:06	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/27/18 02:06	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/27/18 02:06	1
Methyl tert-butyl ether	1.0	U *	1.0	0.27	ug/L			05/27/18 02:06	1
Styrene	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/27/18 02:06	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 02:06	1
Toluene	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/27/18 02:06	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/27/18 02:06	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/27/18 02:06	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/27/18 02:06	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/27/18 02:06	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-26_051518

Lab Sample ID: 240-95780-4

Date Collected: 05/15/18 09:15

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/27/18 02:06	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 02:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/27/18 02:06	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/27/18 02:06	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 02:06	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 02:06	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/27/18 02:06	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/27/18 02:06	1
1,4-Dioxane	50	U	50	12	ug/L			05/27/18 02:06	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/27/18 02:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	83		69 - 120		05/27/18 02:06	1
Dibromofluoromethane (Surr)	103		69 - 124		05/27/18 02:06	1
1,2-Dichloroethane-d4 (Surr)	102		61 - 138		05/27/18 02:06	1
Toluene-d8 (Surr)	96		73 - 120		05/27/18 02:06	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-61D_051518

Lab Sample ID: 240-95780-5

Date Collected: 05/15/18 14:00

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			05/24/18 17:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	78		63 - 125					05/24/18 17:01	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	12	B	10	1.8	ug/L			05/27/18 15:32	1
Benzene	1.0	U	1.0	0.28	ug/L			05/27/18 15:32	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/27/18 15:32	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/27/18 15:32	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/27/18 15:32	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/27/18 15:32	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/27/18 15:32	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 15:32	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/27/18 15:32	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/27/18 15:32	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/27/18 15:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/27/18 15:32	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/27/18 15:32	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/27/18 15:32	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/27/18 15:32	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/27/18 15:32	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 15:32	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 15:32	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/27/18 15:32	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/27/18 15:32	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/27/18 15:32	1
2-Hexanone	10	U	10	1.2	ug/L			05/27/18 15:32	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/27/18 15:32	1
Methyl acetate	10	U	10	1.4	ug/L			05/27/18 15:32	1
Methylcyclohexane	0.47	J B	1.0	0.45	ug/L			05/27/18 15:32	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/27/18 15:32	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/27/18 15:32	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/27/18 15:32	1
Styrene	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/27/18 15:32	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 15:32	1
Toluene	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/27/18 15:32	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/27/18 15:32	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/27/18 15:32	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/27/18 15:32	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/27/18 15:32	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-61D_051518

Lab Sample ID: 240-95780-5

Date Collected: 05/15/18 14:00

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/27/18 15:32	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 15:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/27/18 15:32	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/27/18 15:32	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 15:32	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 15:32	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/27/18 15:32	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/27/18 15:32	1
1,4-Dioxane	50	U	50	12	ug/L			05/27/18 15:32	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/27/18 15:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		69 - 120		05/27/18 15:32	1
Dibromofluoromethane (Surr)	99		69 - 124		05/27/18 15:32	1
1,2-Dichloroethane-d4 (Surr)	97		61 - 138		05/27/18 15:32	1
Toluene-d8 (Surr)	103		73 - 120		05/27/18 15:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-59D_051518

Lab Sample ID: 240-95780-6

Date Collected: 05/15/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			05/24/18 17:27	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	80		63 - 125					05/24/18 17:27	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	3.3	J B	10	1.8	ug/L			05/27/18 15:57	1
Benzene	1.0	U	1.0	0.28	ug/L			05/27/18 15:57	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/27/18 15:57	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/27/18 15:57	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/27/18 15:57	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/27/18 15:57	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/27/18 15:57	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 15:57	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/27/18 15:57	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/27/18 15:57	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/27/18 15:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/27/18 15:57	1
Cyclohexane	0.69	J	1.0	0.44	ug/L			05/27/18 15:57	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/27/18 15:57	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/27/18 15:57	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/27/18 15:57	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 15:57	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 15:57	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/27/18 15:57	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/27/18 15:57	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/27/18 15:57	1
2-Hexanone	10	U	10	1.2	ug/L			05/27/18 15:57	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/27/18 15:57	1
Methyl acetate	10	U	10	1.4	ug/L			05/27/18 15:57	1
Methylcyclohexane	0.62	J B	1.0	0.45	ug/L			05/27/18 15:57	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/27/18 15:57	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/27/18 15:57	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/27/18 15:57	1
Styrene	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/27/18 15:57	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 15:57	1
Toluene	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/27/18 15:57	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/27/18 15:57	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/27/18 15:57	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/27/18 15:57	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/27/18 15:57	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-59D_051518

Lab Sample ID: 240-95780-6

Date Collected: 05/15/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/27/18 15:57	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 15:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/27/18 15:57	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/27/18 15:57	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 15:57	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 15:57	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/27/18 15:57	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/27/18 15:57	1
1,4-Dioxane	50	U	50	12	ug/L			05/27/18 15:57	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/27/18 15:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		69 - 120		05/27/18 15:57	1
Dibromofluoromethane (Surr)	99		69 - 124		05/27/18 15:57	1
1,2-Dichloroethane-d4 (Surr)	96		61 - 138		05/27/18 15:57	1
Toluene-d8 (Surr)	102		73 - 120		05/27/18 15:57	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		BFB (69-120)	DBFM (69-124)	DCA (61-138)	TOL (73-120)
240-95755-C-2 MS	Matrix Spike	99	99	93	105
240-95755-C-2 MSD	Matrix Spike Duplicate	100	101	92	106
240-95779-G-1 MS	Matrix Spike	100	101	95	107
240-95779-G-1 MSD	Matrix Spike Duplicate	101	101	98	105
240-95780-1	MW-67_051418	102	102	102	107
240-95780-2	MW-29_051418	102	99	100	104
240-95780-3	MW-19_051418	101	99	98	105
240-95780-4	MW-26_051518	83	103	102	96
240-95780-5	MW-15-61D_051518	99	99	97	103
240-95780-6	MW-15-59D_051518	99	99	96	102
LCS 240-328712/4	Lab Control Sample	102	103	98	108
LCS 240-328754/5	Lab Control Sample	91	98	99	101
LCS 240-328778/4	Lab Control Sample	102	100	95	105
MB 240-328712/5	Method Blank	101	101	100	105
MB 240-328754/7	Method Blank	86	96	97	93
MB 240-328778/5	Method Blank	101	99	95	104

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(63-125)
240-95779-A-1 MS	Matrix Spike	79
240-95779-A-1 MSD	Matrix Spike Duplicate	76
240-95780-1	MW-67_051418	73
240-95780-2	MW-29_051418	78
240-95780-3	MW-19_051418	79
240-95780-4	MW-26_051518	102
240-95780-5	MW-15-61D_051518	78
240-95780-6	MW-15-59D_051518	80
240-95846-D-1 MS	Matrix Spike	103
240-95846-D-1 MSD	Matrix Spike Duplicate	91
LCS 240-328355/4	Lab Control Sample	81
LCS 240-328591/4	Lab Control Sample	105
MB 240-328355/5	Method Blank	77
MB 240-328591/5	Method Blank	109

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-328712/5

Matrix: Water

Analysis Batch: 328712

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	4.75	J	10	1.8	ug/L			05/26/18 11:06	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 11:06	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 11:06	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 11:06	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 11:06	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 11:06	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 11:06	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 11:06	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/26/18 11:06	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 11:06	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 11:06	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 11:06	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 11:06	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 11:06	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 11:06	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 11:06	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 11:06	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 11:06	1
1,4-Dichlorobenzene	0.230	J	1.0	0.23	ug/L			05/26/18 11:06	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 11:06	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/26/18 11:06	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 11:06	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 11:06	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 11:06	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 11:06	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 11:06	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 11:06	1
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 11:06	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 11:06	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 11:06	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 11:06	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 11:06	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 11:06	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 11:06	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/26/18 11:06	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 11:06	1
1,2,4-Trichlorobenzene	0.744	J	1.0	0.27	ug/L			05/26/18 11:06	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/26/18 11:06	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 11:06	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/26/18 11:06	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 11:06	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 11:06	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 11:06	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 11:06	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-328712/5
Matrix: Water
Analysis Batch: 328712

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/18 11:06	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 11:06	1
1,4-Dioxane	50	U	50	12	ug/L			05/26/18 11:06	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 11:06	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	101		69 - 120		05/26/18 11:06	1
Dibromofluoromethane (Surr)	101		69 - 124		05/26/18 11:06	1
1,2-Dichloroethane-d4 (Surr)	100		61 - 138		05/26/18 11:06	1
Toluene-d8 (Surr)	105		73 - 120		05/26/18 11:06	1

Lab Sample ID: LCS 240-328712/4
Matrix: Water
Analysis Batch: 328712

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec.
							Limits
Acetone	100	112		ug/L		112	35 - 131
Benzene	50.0	48.0		ug/L		96	79 - 120
Bromodichloromethane	50.0	48.7		ug/L		97	79 - 125
Bromoform	50.0	47.9		ug/L		96	55 - 145
Bromomethane	20.0	17.4		ug/L		87	17 - 158
2-Butanone (MEK)	100	108		ug/L		108	43 - 149
Carbon disulfide	50.0	49.5		ug/L		99	49 - 141
Carbon tetrachloride	50.0	45.4		ug/L		91	55 - 171
Chlorobenzene	50.0	47.8		ug/L		96	80 - 120
Chloroethane	20.0	18.1		ug/L		91	10 - 149
Chloroform	50.0	47.6		ug/L		95	80 - 120
Chloromethane	20.0	17.5		ug/L		88	59 - 124
cis-1,2-Dichloroethene	50.0	48.0		ug/L		96	77 - 120
cis-1,3-Dichloropropene	50.0	51.6		ug/L		103	75 - 120
Cyclohexane	50.0	47.8		ug/L		96	66 - 135
Dibromochloromethane	50.0	53.1		ug/L		106	64 - 129
1,2-Dibromo-3-Chloropropane	50.0	43.0		ug/L		86	50 - 130
1,2-Dibromoethane	50.0	51.0		ug/L		102	80 - 120
1,2-Dichlorobenzene	50.0	47.1		ug/L		94	80 - 120
1,3-Dichlorobenzene	50.0	47.6		ug/L		95	80 - 120
1,4-Dichlorobenzene	50.0	46.8		ug/L		94	80 - 120
Dichlorodifluoromethane	20.0	16.0		ug/L		80	42 - 141
1,1-Dichloroethane	50.0	47.8		ug/L		96	74 - 120
1,2-Dichloroethane	50.0	48.9		ug/L		98	68 - 133
1,1-Dichloroethene	50.0	49.1		ug/L		98	65 - 127
1,2-Dichloropropane	50.0	48.9		ug/L		98	78 - 127
Ethylbenzene	50.0	48.5		ug/L		97	80 - 120
2-Hexanone	100	114		ug/L		114	28 - 169
Isopropylbenzene	50.0	50.3		ug/L		101	80 - 128
Methyl acetate	100	108		ug/L		108	63 - 137
Methylcyclohexane	50.0	46.0		ug/L		92	63 - 141
Methylene Chloride	50.0	46.9		ug/L		94	64 - 140

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-328712/4

Matrix: Water

Analysis Batch: 328712

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	100	109		ug/L		109	53 - 144
Methyl tert-butyl ether	50.0	45.9		ug/L		92	73 - 120
Styrene	50.0	49.3		ug/L		99	80 - 121
1,1,2,2-Tetrachloroethane	50.0	52.4		ug/L		105	58 - 122
Tetrachloroethene	50.0	48.0		ug/L		96	80 - 122
Toluene	50.0	48.0		ug/L		96	78 - 120
trans-1,2-Dichloroethene	50.0	49.6		ug/L		99	74 - 124
trans-1,3-Dichloropropene	50.0	41.3		ug/L		83	67 - 120
1,2,4-Trichlorobenzene	50.0	45.1		ug/L		90	34 - 141
1,1,1-Trichloroethane	50.0	50.4		ug/L		101	64 - 147
1,1,2-Trichloroethane	50.0	51.4		ug/L		103	76 - 121
Trichloroethene	50.0	48.0		ug/L		96	76 - 124
Trichlorofluoromethane	20.0	18.4		ug/L		92	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	46.9		ug/L		94	65 - 144
1,2,4-Trimethylbenzene	50.0	47.8		ug/L		96	80 - 120
1,3,5-Trimethylbenzene	50.0	48.9		ug/L		98	79 - 120
Vinyl chloride	20.0	17.0		ug/L		85	65 - 124
Xylenes, Total	100	96.6		ug/L		97	80 - 120
1,4-Dioxane	1000	1160		ug/L		116	35 - 134
Diethyl ether	50.0	50.8		ug/L		102	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		69 - 120
Dibromofluoromethane (Surr)	103		69 - 124
1,2-Dichloroethane-d4 (Surr)	98		61 - 138
Toluene-d8 (Surr)	108		73 - 120

Lab Sample ID: 240-95779-G-1 MS

Matrix: Water

Analysis Batch: 328712

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	4.4	J B	100	97.2		ug/L		93	19 - 133
Benzene	1.0	U	50.0	44.1		ug/L		88	69 - 127
Bromodichloromethane	1.0	U	50.0	46.2		ug/L		92	75 - 128
Bromoform	1.0	U F2	50.0	39.3		ug/L		79	61 - 135
Bromomethane	1.0	U	20.0	16.0		ug/L		80	10 - 148
2-Butanone (MEK)	10	U	100	97.4		ug/L		97	34 - 153
Carbon disulfide	1.0	U	50.0	43.8		ug/L		88	46 - 143
Carbon tetrachloride	1.0	U	50.0	33.0		ug/L		66	53 - 175
Chlorobenzene	1.0	U	50.0	44.2		ug/L		88	76 - 120
Chloroethane	1.0	U	20.0	16.9		ug/L		84	10 - 141
Chloroform	1.0	U	50.0	45.0		ug/L		90	74 - 125
Chloromethane	1.0	U	20.0	16.7		ug/L		83	34 - 127
cis-1,2-Dichloroethene	1.0	U	50.0	44.9		ug/L		90	69 - 127
cis-1,3-Dichloropropene	1.0	U	50.0	46.1		ug/L		92	68 - 120
Cyclohexane	1.0	U	50.0	41.1		ug/L		82	56 - 135

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-95779-G-1 MS

Matrix: Water

Analysis Batch: 328712

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	1.0	U	50.0	47.4		ug/L		95	62 - 131
1,2-Dibromo-3-Chloropropane	2.0	U	50.0	34.7		ug/L		69	48 - 130
1,2-Dibromoethane	1.0	U	50.0	48.8		ug/L		98	73 - 121
1,2-Dichlorobenzene	1.0	U	50.0	42.7		ug/L		85	70 - 120
1,3-Dichlorobenzene	1.0	U	50.0	41.5		ug/L		83	71 - 120
1,4-Dichlorobenzene	1.0	U	50.0	40.6		ug/L		81	72 - 120
Dichlorodifluoromethane	1.0	U	20.0	13.5		ug/L		67	45 - 130
1,1-Dichloroethane	1.0	U	50.0	43.9		ug/L		88	69 - 122
1,2-Dichloroethane	1.0	U	50.0	48.6		ug/L		97	64 - 138
1,1-Dichloroethene	1.0	U	50.0	42.2		ug/L		84	62 - 127
1,2-Dichloropropane	1.0	U	50.0	47.6		ug/L		95	72 - 131
Ethylbenzene	1.0	U	50.0	42.8		ug/L		86	72 - 121
2-Hexanone	10	U F2	100	102		ug/L		102	21 - 184
Isopropylbenzene	1.0	U	50.0	43.2		ug/L		86	70 - 132
Methyl acetate	10	U	100	94.5		ug/L		95	52 - 139
Methylcyclohexane	1.0	U	50.0	39.2		ug/L		78	46 - 139
Methylene Chloride	1.0	U	50.0	45.9		ug/L		92	52 - 137
4-Methyl-2-pentanone (MIBK)	10	U	100	99.2		ug/L		99	53 - 147
Methyl tert-butyl ether	1.0	U	50.0	45.1		ug/L		90	67 - 125
Styrene	1.0	U	50.0	45.3		ug/L		91	74 - 125
1,1,2,2-Tetrachloroethane	1.0	U	50.0	47.6		ug/L		95	51 - 123
Tetrachloroethene	1.0	U	50.0	39.7		ug/L		79	69 - 126
Toluene	1.0	U	50.0	43.1		ug/L		86	69 - 125
trans-1,2-Dichloroethene	1.0	U	50.0	43.9		ug/L		88	66 - 131
trans-1,3-Dichloropropene	1.0	U	50.0	35.3		ug/L		71	59 - 120
1,2,4-Trichlorobenzene	1.0	U	50.0	38.0		ug/L		76	26 - 138
1,1,1-Trichloroethane	1.0	U	50.0	40.5		ug/L		81	57 - 156
1,1,2-Trichloroethane	1.0	U	50.0	49.9		ug/L		100	68 - 127
Trichloroethene	1.0	U	50.0	41.6		ug/L		83	68 - 129
Trichlorofluoromethane	1.0	U	20.0	15.2		ug/L		76	28 - 172
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	50.0	40.4		ug/L		81	58 - 137
1,2,4-Trimethylbenzene	1.0	U	50.0	41.3		ug/L		83	64 - 120
1,3,5-Trimethylbenzene	1.0	U	50.0	41.5		ug/L		83	67 - 120
Vinyl chloride	1.0	U	20.0	15.6		ug/L		78	55 - 123
Xylenes, Total	2.0	U	100	86.5		ug/L		87	71 - 122
1,4-Dioxane	50	U	1000	1060		ug/L		106	13 - 155
Diethyl ether	2.0	U	50.0	49.1		ug/L		98	65 - 124

Surrogate	MS %Recovery	MS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		69 - 120
Dibromofluoromethane (Surr)	101		69 - 124
1,2-Dichloroethane-d4 (Surr)	95		61 - 138
Toluene-d8 (Surr)	107		73 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-95779-G-1 MSD

Matrix: Water

Analysis Batch: 328712

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Acetone	4.4	J B	100	113		ug/L		109	19 - 133	15	35
Benzene	1.0	U	50.0	43.8		ug/L		88	69 - 127	1	10
Bromodichloromethane	1.0	U	50.0	47.9		ug/L		96	75 - 128	4	13
Bromoform	1.0	U F2	50.0	45.4	F2	ug/L		91	61 - 135	15	13
Bromomethane	1.0	U	20.0	15.4		ug/L		77	10 - 148	4	35
2-Butanone (MEK)	10	U	100	111		ug/L		111	34 - 153	13	23
Carbon disulfide	1.0	U	50.0	43.0		ug/L		86	46 - 143	2	18
Carbon tetrachloride	1.0	U	50.0	34.8		ug/L		70	53 - 175	5	17
Chlorobenzene	1.0	U	50.0	45.7		ug/L		91	76 - 120	3	12
Chloroethane	1.0	U	20.0	16.6		ug/L		83	10 - 141	2	35
Chloroform	1.0	U	50.0	45.7		ug/L		91	74 - 125	2	11
Chloromethane	1.0	U	20.0	15.9		ug/L		79	34 - 127	5	25
cis-1,2-Dichloroethene	1.0	U	50.0	44.9		ug/L		90	69 - 127	0	11
cis-1,3-Dichloropropene	1.0	U	50.0	48.7		ug/L		97	68 - 120	6	13
Cyclohexane	1.0	U	50.0	40.6		ug/L		81	56 - 135	1	35
Dibromochloromethane	1.0	U	50.0	52.4		ug/L		105	62 - 131	10	15
1,2-Dibromo-3-Chloropropane	2.0	U	50.0	42.1		ug/L		84	48 - 130	19	31
1,2-Dibromoethane	1.0	U	50.0	52.7		ug/L		105	73 - 121	8	12
1,2-Dichlorobenzene	1.0	U	50.0	46.1		ug/L		92	70 - 120	8	19
1,3-Dichlorobenzene	1.0	U	50.0	44.7		ug/L		89	71 - 120	7	18
1,4-Dichlorobenzene	1.0	U	50.0	44.4		ug/L		89	72 - 120	9	17
Dichlorodifluoromethane	1.0	U	20.0	13.5		ug/L		67	45 - 130	0	34
1,1-Dichloroethane	1.0	U	50.0	44.3		ug/L		89	69 - 122	1	11
1,2-Dichloroethane	1.0	U	50.0	50.4		ug/L		101	64 - 138	4	11
1,1-Dichloroethene	1.0	U	50.0	41.5		ug/L		83	62 - 127	2	14
1,2-Dichloropropane	1.0	U	50.0	48.1		ug/L		96	72 - 131	1	12
Ethylbenzene	1.0	U	50.0	44.1		ug/L		88	72 - 121	3	15
2-Hexanone	10	U F2	100	122	F2	ug/L		122	21 - 184	18	12
Isopropylbenzene	1.0	U	50.0	45.6		ug/L		91	70 - 132	5	16
Methyl acetate	10	U	100	108		ug/L		108	52 - 139	14	14
Methylcyclohexane	1.0	U	50.0	39.5		ug/L		79	46 - 139	1	35
Methylene Chloride	1.0	U	50.0	46.1		ug/L		92	52 - 137	1	12
4-Methyl-2-pentanone (MIBK)	10	U	100	117		ug/L		117	53 - 147	16	16
Methyl tert-butyl ether	1.0	U	50.0	48.7		ug/L		97	67 - 125	8	12
Styrene	1.0	U	50.0	47.0		ug/L		94	74 - 125	4	14
1,1,2,2-Tetrachloroethane	1.0	U	50.0	54.1		ug/L		108	51 - 123	13	17
Tetrachloroethene	1.0	U	50.0	41.5		ug/L		83	69 - 126	5	18
Toluene	1.0	U	50.0	43.9		ug/L		88	69 - 125	2	14
trans-1,2-Dichloroethene	1.0	U	50.0	44.2		ug/L		88	66 - 131	1	11
trans-1,3-Dichloropropene	1.0	U	50.0	38.5		ug/L		77	59 - 120	9	14
1,2,4-Trichlorobenzene	1.0	U	50.0	42.7		ug/L		85	26 - 138	12	35
1,1,1-Trichloroethane	1.0	U	50.0	41.2		ug/L		82	57 - 156	2	13
1,1,2-Trichloroethane	1.0	U	50.0	53.3		ug/L		107	68 - 127	7	11
Trichloroethene	1.0	U	50.0	41.6		ug/L		83	68 - 129	0	12
Trichlorofluoromethane	1.0	U	20.0	14.6		ug/L		73	28 - 172	4	26
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	50.0	39.0		ug/L		78	58 - 137	4	35
1,2,4-Trimethylbenzene	1.0	U	50.0	45.0		ug/L		90	64 - 120	9	22

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-95779-G-1 MSD

Matrix: Water

Analysis Batch: 328712

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,3,5-Trimethylbenzene	1.0	U	50.0	44.9		ug/L		90	67 - 120	8	25
Vinyl chloride	1.0	U	20.0	14.9		ug/L		75	55 - 123	4	12
Xylenes, Total	2.0	U	100	90.0		ug/L		90	71 - 122	4	14
1,4-Dioxane	50	U	1000	1220		ug/L		122	13 - 155	14	35
Diethyl ether	2.0	U	50.0	52.4		ug/L		105	65 - 124	7	11

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		69 - 120
Dibromofluoromethane (Surr)	101		69 - 124
1,2-Dichloroethane-d4 (Surr)	98		61 - 138
Toluene-d8 (Surr)	105		73 - 120

Lab Sample ID: MB 240-328754/7

Matrix: Water

Analysis Batch: 328754

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	1.8	ug/L			05/26/18 18:36	1
Benzene	1.0	U	1.0	0.28	ug/L			05/26/18 18:36	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/26/18 18:36	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/26/18 18:36	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/26/18 18:36	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/26/18 18:36	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/26/18 18:36	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:36	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:36	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/26/18 18:36	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/26/18 18:36	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/26/18 18:36	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/26/18 18:36	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:36	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/26/18 18:36	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:36	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/26/18 18:36	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:36	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/26/18 18:36	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/26/18 18:36	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/26/18 18:36	1
2-Hexanone	10	U	10	1.2	ug/L			05/26/18 18:36	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/26/18 18:36	1
Methyl acetate	10	U	10	1.4	ug/L			05/26/18 18:36	1
Methylcyclohexane	1.0	U	1.0	0.45	ug/L			05/26/18 18:36	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-328754/7
Matrix: Water
Analysis Batch: 328754

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Methylene Chloride	5.0	U	5.0	0.53	ug/L			05/26/18 18:36	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/26/18 18:36	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/26/18 18:36	1
Styrene	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/26/18 18:36	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/26/18 18:36	1
Toluene	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/26/18 18:36	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/26/18 18:36	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.27	ug/L			05/26/18 18:36	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/26/18 18:36	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/26/18 18:36	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/26/18 18:36	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/26/18 18:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/26/18 18:36	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/26/18 18:36	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:36	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/26/18 18:36	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/26/18 18:36	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/26/18 18:36	1
1,4-Dioxane	50	U	50	12	ug/L			05/26/18 18:36	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/26/18 18:36	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	86		69 - 120		05/26/18 18:36	1
Dibromofluoromethane (Surr)	96		69 - 124		05/26/18 18:36	1
1,2-Dichloroethane-d4 (Surr)	97		61 - 138		05/26/18 18:36	1
Toluene-d8 (Surr)	93		73 - 120		05/26/18 18:36	1

Lab Sample ID: LCS 240-328754/5
Matrix: Water
Analysis Batch: 328754

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.4		ug/L		104	79 - 120
Bromodichloromethane	10.0	9.91		ug/L		99	79 - 125
Bromoform	10.0	10.6		ug/L		106	55 - 145
Bromomethane	10.0	11.5		ug/L		115	17 - 158
2-Butanone (MEK)	20.0	22.8		ug/L		114	43 - 149
Carbon disulfide	10.0	10.7		ug/L		107	49 - 141
Carbon tetrachloride	10.0	10.1		ug/L		101	55 - 171
Chlorobenzene	10.0	11.1		ug/L		111	80 - 120
Chloroethane	10.0	12.2		ug/L		122	10 - 149
Chloroform	10.0	10.5		ug/L		105	80 - 120
Chloromethane	10.0	10.8		ug/L		108	59 - 124
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	77 - 120
cis-1,3-Dichloropropene	10.0	9.08		ug/L		91	75 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-328754/5

Matrix: Water

Analysis Batch: 328754

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyclohexane	10.0	11.6		ug/L		116	66 - 135
Dibromochloromethane	10.0	10.7		ug/L		107	64 - 129
1,2-Dibromo-3-Chloropropane	10.0	8.27		ug/L		83	50 - 130
1,2-Dibromoethane	10.0	10.8		ug/L		108	80 - 120
1,2-Dichlorobenzene	10.0	10.6		ug/L		106	80 - 120
1,3-Dichlorobenzene	10.0	11.2		ug/L		112	80 - 120
1,4-Dichlorobenzene	10.0	11.3		ug/L		113	80 - 120
Dichlorodifluoromethane	10.0	10.4		ug/L		104	42 - 141
1,1-Dichloroethane	10.0	10.4		ug/L		104	74 - 120
1,2-Dichloroethane	10.0	11.2		ug/L		112	68 - 133
1,1-Dichloroethene	10.0	10.7		ug/L		107	65 - 127
1,2-Dichloropropane	10.0	10.7		ug/L		107	78 - 127
Ethylbenzene	10.0	10.7		ug/L		107	80 - 120
2-Hexanone	20.0	19.5		ug/L		98	28 - 169
Isopropylbenzene	10.0	10.6		ug/L		106	80 - 128
Methyl acetate	20.0	19.5		ug/L		97	63 - 137
Methylcyclohexane	10.0	10.1		ug/L		101	63 - 141
Methylene Chloride	10.0	10.1		ug/L		101	64 - 140
4-Methyl-2-pentanone (MIBK)	20.0	18.7		ug/L		93	53 - 144
Methyl tert-butyl ether	10.0	7.21	*	ug/L		72	73 - 120
Styrene	10.0	10.6		ug/L		106	80 - 121
1,1,2,2-Tetrachloroethane	10.0	11.3		ug/L		113	58 - 122
Tetrachloroethene	10.0	11.4		ug/L		114	80 - 122
Toluene	10.0	11.3		ug/L		113	78 - 120
trans-1,2-Dichloroethene	10.0	10.9		ug/L		109	74 - 124
trans-1,3-Dichloropropene	10.0	8.43		ug/L		84	67 - 120
1,2,4-Trichlorobenzene	10.0	9.35		ug/L		94	34 - 141
1,1,1-Trichloroethane	10.0	9.68		ug/L		97	64 - 147
1,1,2-Trichloroethane	10.0	11.4		ug/L		114	76 - 121
Trichloroethene	10.0	10.1		ug/L		101	76 - 124
Trichlorofluoromethane	10.0	13.3		ug/L		133	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	11.9		ug/L		119	65 - 144
1,2,4-Trimethylbenzene	10.0	10.6		ug/L		106	80 - 120
1,3,5-Trimethylbenzene	10.0	10.8		ug/L		108	79 - 120
Vinyl chloride	10.0	12.2		ug/L		122	65 - 124
Xylenes, Total	20.0	21.3		ug/L		107	80 - 120
1,4-Dioxane	200	97.9		ug/L		49	35 - 134
Diethyl ether	10.0	11.3		ug/L		113	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	91		69 - 120
Dibromofluoromethane (Surr)	98		69 - 124
1,2-Dichloroethane-d4 (Surr)	99		61 - 138
Toluene-d8 (Surr)	101		73 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-328778/5

Matrix: Water

Analysis Batch: 328778

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	2.38	J	10	1.8	ug/L			05/27/18 11:19	1
Benzene	1.0	U	1.0	0.28	ug/L			05/27/18 11:19	1
Bromodichloromethane	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
Bromoform	1.0	U	1.0	0.43	ug/L			05/27/18 11:19	1
Bromomethane	1.0	U	1.0	0.42	ug/L			05/27/18 11:19	1
2-Butanone (MEK)	10	U	10	1.0	ug/L			05/27/18 11:19	1
Carbon disulfide	5.0	U	5.0	0.34	ug/L			05/27/18 11:19	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			05/27/18 11:19	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 11:19	1
Chloroethane	1.0	U	1.0	0.41	ug/L			05/27/18 11:19	1
Chloroform	1.0	U	1.0	0.31	ug/L			05/27/18 11:19	1
Chloromethane	1.0	U	1.0	0.43	ug/L			05/27/18 11:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			05/27/18 11:19	1
Cyclohexane	1.0	U	1.0	0.44	ug/L			05/27/18 11:19	1
Dibromochloromethane	1.0	U	1.0	0.25	ug/L			05/27/18 11:19	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.47	ug/L			05/27/18 11:19	1
1,2-Dibromoethane	1.0	U	1.0	0.23	ug/L			05/27/18 11:19	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			05/27/18 11:19	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			05/27/18 11:19	1
1,4-Dichlorobenzene	0.242	J	1.0	0.23	ug/L			05/27/18 11:19	1
Dichlorodifluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 11:19	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			05/27/18 11:19	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			05/27/18 11:19	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			05/27/18 11:19	1
2-Hexanone	10	U	10	1.2	ug/L			05/27/18 11:19	1
Isopropylbenzene	1.0	U	1.0	0.21	ug/L			05/27/18 11:19	1
Methyl acetate	10	U	10	1.4	ug/L			05/27/18 11:19	1
Methylcyclohexane	0.542	J	1.0	0.45	ug/L			05/27/18 11:19	1
Methylene Chloride	1.44	J	5.0	0.53	ug/L			05/27/18 11:19	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.71	ug/L			05/27/18 11:19	1
Methyl tert-butyl ether	1.0	U	1.0	0.27	ug/L			05/27/18 11:19	1
Styrene	1.0	U	1.0	0.23	ug/L			05/27/18 11:19	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			05/27/18 11:19	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			05/27/18 11:19	1
Toluene	1.0	U	1.0	0.23	ug/L			05/27/18 11:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			05/27/18 11:19	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			05/27/18 11:19	1
1,2,4-Trichlorobenzene	0.732	J	1.0	0.27	ug/L			05/27/18 11:19	1
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			05/27/18 11:19	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			05/27/18 11:19	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			05/27/18 11:19	1
Trichlorofluoromethane	1.0	U	1.0	0.50	ug/L			05/27/18 11:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			05/27/18 11:19	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.22	ug/L			05/27/18 11:19	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 11:19	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-328778/5
Matrix: Water
Analysis Batch: 328778

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U	1.0	0.24	ug/L			05/27/18 11:19	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			05/27/18 11:19	1
Xylenes, Total	2.0	U	2.0	0.24	ug/L			05/27/18 11:19	1
1,4-Dioxane	50	U	50	12	ug/L			05/27/18 11:19	1
Diethyl ether	2.0	U	2.0	0.35	ug/L			05/27/18 11:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		69 - 120		05/27/18 11:19	1
Dibromofluoromethane (Surr)	99		69 - 124		05/27/18 11:19	1
1,2-Dichloroethane-d4 (Surr)	95		61 - 138		05/27/18 11:19	1
Toluene-d8 (Surr)	104		73 - 120		05/27/18 11:19	1

Lab Sample ID: LCS 240-328778/4
Matrix: Water
Analysis Batch: 328778

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	100	108		ug/L		108	35 - 131
Benzene	50.0	48.1		ug/L		96	79 - 120
Bromodichloromethane	50.0	49.2		ug/L		98	79 - 125
Bromoform	50.0	49.3		ug/L		99	55 - 145
Bromomethane	20.0	16.3		ug/L		81	17 - 158
2-Butanone (MEK)	100	106		ug/L		106	43 - 149
Carbon disulfide	50.0	50.3		ug/L		101	49 - 141
Carbon tetrachloride	50.0	45.8		ug/L		92	55 - 171
Chlorobenzene	50.0	48.1		ug/L		96	80 - 120
Chloroethane	20.0	18.0		ug/L		90	10 - 149
Chloroform	50.0	48.3		ug/L		97	80 - 120
Chloromethane	20.0	17.2		ug/L		86	59 - 124
cis-1,2-Dichloroethene	50.0	47.7		ug/L		95	77 - 120
cis-1,3-Dichloropropene	50.0	51.6		ug/L		103	75 - 120
Cyclohexane	50.0	48.1		ug/L		96	66 - 135
Dibromochloromethane	50.0	53.8		ug/L		108	64 - 129
1,2-Dibromo-3-Chloropropane	50.0	44.8		ug/L		90	50 - 130
1,2-Dibromoethane	50.0	50.9		ug/L		102	80 - 120
1,2-Dichlorobenzene	50.0	48.0		ug/L		96	80 - 120
1,3-Dichlorobenzene	50.0	48.3		ug/L		97	80 - 120
1,4-Dichlorobenzene	50.0	47.8		ug/L		96	80 - 120
Dichlorodifluoromethane	20.0	15.1		ug/L		76	42 - 141
1,1-Dichloroethane	50.0	48.2		ug/L		96	74 - 120
1,2-Dichloroethane	50.0	48.7		ug/L		97	68 - 133
1,1-Dichloroethene	50.0	50.4		ug/L		101	65 - 127
1,2-Dichloropropane	50.0	49.6		ug/L		99	78 - 127
Ethylbenzene	50.0	49.3		ug/L		99	80 - 120
2-Hexanone	100	109		ug/L		109	28 - 169
Isopropylbenzene	50.0	50.9		ug/L		102	80 - 128
Methyl acetate	100	105		ug/L		105	63 - 137
Methylcyclohexane	50.0	46.2		ug/L		92	63 - 141

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-328778/4
Matrix: Water
Analysis Batch: 328778

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methylene Chloride	50.0	49.3		ug/L		99	64 - 140
4-Methyl-2-pentanone (MIBK)	100	108		ug/L		108	53 - 144
Methyl tert-butyl ether	50.0	45.6		ug/L		91	73 - 120
Styrene	50.0	48.7		ug/L		97	80 - 121
1,1,2,2-Tetrachloroethane	50.0	52.9		ug/L		106	58 - 122
Tetrachloroethene	50.0	48.2		ug/L		96	80 - 122
Toluene	50.0	48.2		ug/L		96	78 - 120
trans-1,2-Dichloroethene	50.0	50.0		ug/L		100	74 - 124
trans-1,3-Dichloropropene	50.0	41.3		ug/L		83	67 - 120
1,2,4-Trichlorobenzene	50.0	44.2		ug/L		88	34 - 141
1,1,1-Trichloroethane	50.0	51.2		ug/L		102	64 - 147
1,1,2-Trichloroethane	50.0	51.3		ug/L		103	76 - 121
Trichloroethene	50.0	48.7		ug/L		97	76 - 124
Trichlorofluoromethane	20.0	17.6		ug/L		88	27 - 176
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	47.5		ug/L		95	65 - 144
1,2,4-Trimethylbenzene	50.0	49.0		ug/L		98	80 - 120
1,3,5-Trimethylbenzene	50.0	50.3		ug/L		101	79 - 120
Vinyl chloride	20.0	16.7		ug/L		83	65 - 124
Xylenes, Total	100	98.0		ug/L		98	80 - 120
1,4-Dioxane	1000	1150		ug/L		115	35 - 134
Diethyl ether	50.0	50.5		ug/L		101	72 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	102		69 - 120
Dibromofluoromethane (Surr)	100		69 - 124
1,2-Dichloroethane-d4 (Surr)	95		61 - 138
Toluene-d8 (Surr)	105		73 - 120

Lab Sample ID: 240-95755-C-2 MS
Matrix: Water
Analysis Batch: 328778

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	34	J B	1000	972		ug/L		94	19 - 133
Benzene	10	U	500	439		ug/L		88	69 - 127
Carbon disulfide	10	U	500	429		ug/L		86	46 - 143
Chloroethane	10	U	200	165		ug/L		82	10 - 141
cis-1,2-Dichloroethene	1000		500	1440		ug/L		80	69 - 127
1,1-Dichloroethane	10	U	500	433		ug/L		87	69 - 122
1,2-Dichloroethane	10	U	500	474		ug/L		95	64 - 138
1,1-Dichloroethene	6.1	J	500	417		ug/L		82	62 - 127
1,2-Dichloropropane	10	U	500	465		ug/L		93	72 - 131
Ethylbenzene	10	U	500	425		ug/L		85	72 - 121
Methylene Chloride	10	U	500	474		ug/L		95	52 - 137
Tetrachloroethene	10	U	500	390		ug/L		78	69 - 126
Toluene	10	U	500	426		ug/L		85	69 - 125
trans-1,2-Dichloroethene	8.9	J	500	435		ug/L		85	66 - 131

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-95755-C-2 MS

Matrix: Water

Analysis Batch: 328778

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1-Trichloroethane	10	U	500	395		ug/L		79	57 - 156
1,1,2-Trichloroethane	10	U	500	493		ug/L		99	68 - 127
Trichloroethene	930		500	1290		ug/L		71	68 - 129
Vinyl chloride	16		200	162		ug/L		73	55 - 123
Xylenes, Total	20	U	1000	859		ug/L		86	71 - 122

Surrogate	MS %Recovery	MS Qualifier	MS Limits
4-Bromofluorobenzene (Surr)	99		69 - 120
Dibromofluoromethane (Surr)	99		69 - 124
1,2-Dichloroethane-d4 (Surr)	93		61 - 138
Toluene-d8 (Surr)	105		73 - 120

Lab Sample ID: 240-95755-C-2 MSD

Matrix: Water

Analysis Batch: 328778

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	34	J B	1000	954		ug/L		92	19 - 133	2	35
Benzene	10	U	500	435		ug/L		87	69 - 127	1	10
Carbon disulfide	10	U	500	426		ug/L		85	46 - 143	1	18
Chloroethane	10	U	200	171		ug/L		85	10 - 141	4	35
cis-1,2-Dichloroethene	1000		500	1430		ug/L		79	69 - 127	0	11
1,1-Dichloroethane	10	U	500	440		ug/L		88	69 - 122	2	11
1,2-Dichloroethane	10	U	500	470		ug/L		94	64 - 138	1	11
1,1-Dichloroethene	6.1	J	500	417		ug/L		82	62 - 127	0	14
1,2-Dichloropropane	10	U	500	473		ug/L		95	72 - 131	2	12
Ethylbenzene	10	U	500	420		ug/L		84	72 - 121	1	15
Methylene Chloride	10	U	500	475		ug/L		95	52 - 137	0	12
Tetrachloroethene	10	U	500	391		ug/L		78	69 - 126	0	18
Toluene	10	U	500	427		ug/L		85	69 - 125	0	14
trans-1,2-Dichloroethene	8.9	J	500	445		ug/L		87	66 - 131	2	11
1,1,1-Trichloroethane	10	U	500	409		ug/L		82	57 - 156	3	13
1,1,2-Trichloroethane	10	U	500	503		ug/L		101	68 - 127	2	11
Trichloroethene	930		500	1270		ug/L		68	68 - 129	1	12
Vinyl chloride	16		200	165		ug/L		74	55 - 123	2	12
Xylenes, Total	20	U	1000	861		ug/L		86	71 - 122	0	14

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	100		69 - 120
Dibromofluoromethane (Surr)	101		69 - 124
1,2-Dichloroethane-d4 (Surr)	92		61 - 138
Toluene-d8 (Surr)	106		73 - 120

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-328355/5
Matrix: Water
Analysis Batch: 328355

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			05/24/18 12:25	1
Surrogate	%Recovery	MB Qualifier	Limits			D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	77		63 - 125					05/24/18 12:25	1

Lab Sample ID: LCS 240-328355/4
Matrix: Water
Analysis Batch: 328355

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	8.55		ug/L		86	59 - 131
Surrogate	%Recovery	LCS Qualifier	Limits			D	%Rec. Limits
1,2-Dichloroethane-d4 (Surr)	81		63 - 125				

Lab Sample ID: 240-95779-A-1 MS
Matrix: Water
Analysis Batch: 328355

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	3.6		10.0	13.0		ug/L		94	52 - 129
Surrogate	%Recovery	MS Qualifier	Limits			D	%Rec	%Rec. Limits	
1,2-Dichloroethane-d4 (Surr)	79		63 - 125						

Lab Sample ID: 240-95779-A-1 MSD
Matrix: Water
Analysis Batch: 328355

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	3.6		10.0	11.6		ug/L		80	52 - 129	11	13
Surrogate	%Recovery	MSD Qualifier	Limits			D	%Rec	%Rec. Limits	RPD	RPD Limit	
1,2-Dichloroethane-d4 (Surr)	76		63 - 125								

Lab Sample ID: MB 240-328591/5
Matrix: Water
Analysis Batch: 328591

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.24	ug/L			05/25/18 14:21	1
Surrogate	%Recovery	MB Qualifier	Limits			D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 125					05/25/18 14:21	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-328591/4
Matrix: Water
Analysis Batch: 328591

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	8.10		ug/L		81	59 - 131
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	105		63 - 125				

Lab Sample ID: 240-95846-D-1 MS
Matrix: Water
Analysis Batch: 328591

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	8.16		ug/L		82	52 - 129
Surrogate	%Recovery	MS Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	103		63 - 125						

Lab Sample ID: 240-95846-D-1 MSD
Matrix: Water
Analysis Batch: 328591

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	7.93		ug/L		79	52 - 129	3	13
Surrogate	%Recovery	MSD Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	91		63 - 125								

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

GC/MS VOA

Analysis Batch: 328355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-1	MW-67_051418	Total/NA	Water	8260B SIM	
240-95780-2	MW-29_051418	Total/NA	Water	8260B SIM	
240-95780-3	MW-19_051418	Total/NA	Water	8260B SIM	
240-95780-5	MW-15-61D_051518	Total/NA	Water	8260B SIM	
240-95780-6	MW-15-59D_051518	Total/NA	Water	8260B SIM	
MB 240-328355/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-328355/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-95779-A-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-95779-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 328591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-4	MW-26_051518	Total/NA	Water	8260B SIM	
MB 240-328591/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-328591/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-95846-D-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-95846-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 328712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-1	MW-67_051418	Total/NA	Water	8260B	
240-95780-2	MW-29_051418	Total/NA	Water	8260B	
240-95780-3	MW-19_051418	Total/NA	Water	8260B	
MB 240-328712/5	Method Blank	Total/NA	Water	8260B	
LCS 240-328712/4	Lab Control Sample	Total/NA	Water	8260B	
240-95779-G-1 MS	Matrix Spike	Total/NA	Water	8260B	
240-95779-G-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 328754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-4	MW-26_051518	Total/NA	Water	8260B	
MB 240-328754/7	Method Blank	Total/NA	Water	8260B	
LCS 240-328754/5	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 328778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95780-5	MW-15-61D_051518	Total/NA	Water	8260B	
240-95780-6	MW-15-59D_051518	Total/NA	Water	8260B	
MB 240-328778/5	Method Blank	Total/NA	Water	8260B	
LCS 240-328778/4	Lab Control Sample	Total/NA	Water	8260B	
240-95755-C-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-95755-C-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-67_051418

Date Collected: 05/14/18 14:00

Date Received: 05/18/18 08:30

Lab Sample ID: 240-95780-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328712	05/26/18 17:50	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 15:21	SAM	TAL CAN

Client Sample ID: MW-29_051418

Date Collected: 05/14/18 16:05

Date Received: 05/18/18 08:30

Lab Sample ID: 240-95780-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328712	05/26/18 18:15	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 15:46	SAM	TAL CAN

Client Sample ID: MW-19_051418

Date Collected: 05/14/18 16:45

Date Received: 05/18/18 08:30

Lab Sample ID: 240-95780-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328712	05/26/18 18:40	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 16:11	SAM	TAL CAN

Client Sample ID: MW-26_051518

Date Collected: 05/15/18 09:15

Date Received: 05/18/18 08:30

Lab Sample ID: 240-95780-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328754	05/27/18 02:06	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	328591	05/25/18 15:11	SAM	TAL CAN

Client Sample ID: MW-15-61D_051518

Date Collected: 05/15/18 14:00

Date Received: 05/18/18 08:30

Lab Sample ID: 240-95780-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328778	05/27/18 15:32	SAM	TAL CAN
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 17:01	SAM	TAL CAN

Client Sample ID: MW-15-59D_051518

Date Collected: 05/15/18 16:45

Date Received: 05/18/18 08:30

Lab Sample ID: 240-95780-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	328778	05/27/18 15:57	SAM	TAL CAN

TestAmerica Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-95780-1

Client Sample ID: MW-15-59D_051518

Lab Sample ID: 240-95780-6

Date Collected: 05/15/18 16:45

Matrix: Water

Date Received: 05/18/18 08:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B SIM		1	328355	05/24/18 17:27	SAM	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

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Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.

TestAmerica Job ID: 240-95780-1

Project/Site: Ford LTP Livonia MI - E203728

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-18 *
Illinois	NELAP	5	200004	07-31-18 *
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
Kentucky (WW)	State Program	4	98016	12-31-18
Minnesota	NELAP	5	039-999-348	12-31-18
Minnesota (Petrofund)	State Program	1	3506	07-31-18 *
Nevada	State Program	9	OH-000482008A	07-31-18 *
New Jersey	NELAP	2	OH001	06-30-18 *
New York	NELAP	2	10975	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
Pennsylvania	NELAP	3	68-00340	08-31-18 *
Texas	NELAP	6	T104704517-17-9	08-31-18 *
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18 *
Washington	State Program	10	C971	01-12-19
West Virginia DEP	State Program	3	210	12-31-18

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton

TestAmerica Canton Sample Receipt Form/Narrative Login # : 95780

Canton Facility

Client Ascedis Site Name _____ Cooler unpacked by: [Signature]

Cooler Received on 5/18/18 Opened on 5/18/18

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form

IR GUN# IR-8 (CF +0.1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

IR GUN #36 (CF +0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

IR GUN # 627 (CF -1.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No

-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No

-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC732776

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials? Yes No NA ● ← Larger than this.

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No

16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:

VOAs

Oil and Grease

TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: J.R.

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

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ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

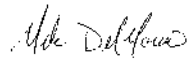
TestAmerica Job ID: 240-109103-1

Client Project/Site: Ford LTP Livonia MI - E203728

For:

ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
3/22/2019 9:50:18 AM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
X	Surrogate is outside control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Job ID: 240-109103-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI - E203728

Report Number: 240-109103-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 3/8/2019 8:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-15-59D_030519 (240-109103-1), MW-15-60D_030519 (240-109103-2) and TRIP BLANK (240-109103-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 03/15/2019.

Trichloroethene was detected in method blank MB 240-371753/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Toluene-d8 (Surr) failed the surrogate recovery criteria high for LCS 240-371753/35. Refer to the QC report for details.

Several analytes failed the recovery criteria high for LCS 240-371753/35. Refer to the QC report for details.

Surrogate recovery for the LCS was outside the upper control limit: (LCS 240-371753/35). The associated sample did not contain any target analytes; therefore, re-extraction and/or re-analysis was not performed.

The continuing calibration verification (CCV) associated with batch 371753 recovered above the upper control limit for one or more

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Job ID: 240-109103-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

analytes. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: MW-15-59D_030519 (240-109103-1), MW-15-60D_030519 (240-109103-2) and TRIP BLANK (240-109103-3).

The laboratory control sample (LCS) for 371753 recovered outside control limits for multiple analytes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported: MW-15-59D_030519 (240-109103-1), MW-15-60D_030519 (240-109103-2), TRIP BLANK (240-109103-3) and (LCS 240-371753/35).

No MS/MSD in batch 371753 due to a re-analysis needed: MW-15-59D_030519 (240-109103-1), MW-15-60D_030519 (240-109103-2) and TRIP BLANK (240-109103-3).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-15-59D_030519 (240-109103-1) and MW-15-60D_030519 (240-109103-2) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 03/13/2019.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-109103-1	MW-15-59D_030519	Water	03/05/19 10:45	03/08/19 08:00
240-109103-2	MW-15-60D_030519	Water	03/05/19 12:30	03/08/19 08:00
240-109103-3	TRIP BLANK	Water	03/05/19 00:00	03/08/19 08:00

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- 2
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- 10
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- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Client Sample ID: MW-15-59D_030519

Lab Sample ID: 240-109103-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cyclohexane	0.62	J*	1.0	0.24	ug/L	1		8260B	Total/NA
Trichloroethene	0.13	J B	1.0	0.10	ug/L	1		8260B	Total/NA
Xylenes, Total	0.28	J	2.0	0.15	ug/L	1		8260B	Total/NA

Client Sample ID: MW-15-60D_030519

Lab Sample ID: 240-109103-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.31	J*	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-109103-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	0.39	J*	1.0	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Client Sample ID: MW-15-59D_030519

Lab Sample ID: 240-109103-1

Date Collected: 03/05/19 10:45

Matrix: Water

Date Received: 03/08/19 08:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/13/19 14:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		63 - 125					03/13/19 14:11	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/15/19 13:59	1
Benzene	1.0	U	1.0	0.13	ug/L			03/15/19 13:59	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/15/19 13:59	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/15/19 13:59	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/15/19 13:59	1
2-Butanone (MEK)	10	U *	10	1.2	ug/L			03/15/19 13:59	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/15/19 13:59	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/15/19 13:59	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/15/19 13:59	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/15/19 13:59	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/15/19 13:59	1
Chloromethane	1.0	U *	1.0	0.20	ug/L			03/15/19 13:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/15/19 13:59	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/15/19 13:59	1
Cyclohexane	0.62	J *	1.0	0.24	ug/L			03/15/19 13:59	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/15/19 13:59	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/15/19 13:59	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/15/19 13:59	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/15/19 13:59	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/15/19 13:59	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/15/19 13:59	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/15/19 13:59	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/15/19 13:59	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/15/19 13:59	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/15/19 13:59	1
1,2-Dichloropropane	1.0	U *	1.0	0.15	ug/L			03/15/19 13:59	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/15/19 13:59	1
2-Hexanone	10	U *	10	0.54	ug/L			03/15/19 13:59	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/15/19 13:59	1
Methyl acetate	10	U *	10	1.7	ug/L			03/15/19 13:59	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/15/19 13:59	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/15/19 13:59	1
4-Methyl-2-pentanone (MIBK)	10	U *	10	0.42	ug/L			03/15/19 13:59	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/15/19 13:59	1
Styrene	1.0	U	1.0	0.10	ug/L			03/15/19 13:59	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.13	ug/L			03/15/19 13:59	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/15/19 13:59	1
Toluene	1.0	U	1.0	0.14	ug/L			03/15/19 13:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/15/19 13:59	1
trans-1,3-Dichloropropene	1.0	U *	1.0	0.67	ug/L			03/15/19 13:59	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/15/19 13:59	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/15/19 13:59	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/15/19 13:59	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Client Sample ID: MW-15-59D_030519

Lab Sample ID: 240-109103-1

Date Collected: 03/05/19 10:45

Matrix: Water

Date Received: 03/08/19 08:00

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.13	J B	1.0	0.10	ug/L			03/15/19 13:59	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/15/19 13:59	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/15/19 13:59	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/15/19 13:59	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			03/15/19 13:59	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.12	ug/L			03/15/19 13:59	1
Vinyl chloride	1.0	U *	1.0	0.20	ug/L			03/15/19 13:59	1
Xylenes, Total	0.28	J	2.0	0.15	ug/L			03/15/19 13:59	1
Diethyl ether	2.0	U *	2.0	0.19	ug/L			03/15/19 13:59	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		59 - 120					03/15/19 13:59	1
Dibromofluoromethane (Surr)	98		75 - 128					03/15/19 13:59	1
1,2-Dichloroethane-d4 (Surr)	111		70 - 121					03/15/19 13:59	1
Toluene-d8 (Surr)	115		70 - 123					03/15/19 13:59	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Client Sample ID: MW-15-60D_030519

Lab Sample ID: 240-109103-2

Date Collected: 03/05/19 12:30

Matrix: Water

Date Received: 03/08/19 08:00

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/13/19 14:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	82		63 - 125					03/13/19 14:36	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/15/19 14:22	1
Benzene	1.0	U	1.0	0.13	ug/L			03/15/19 14:22	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/15/19 14:22	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/15/19 14:22	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/15/19 14:22	1
2-Butanone (MEK)	10	U *	10	1.2	ug/L			03/15/19 14:22	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/15/19 14:22	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/15/19 14:22	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/15/19 14:22	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/15/19 14:22	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/15/19 14:22	1
Chloromethane	1.0	U *	1.0	0.20	ug/L			03/15/19 14:22	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/15/19 14:22	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/15/19 14:22	1
Cyclohexane	1.0	U *	1.0	0.24	ug/L			03/15/19 14:22	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/15/19 14:22	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/15/19 14:22	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/15/19 14:22	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/15/19 14:22	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/15/19 14:22	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/15/19 14:22	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/15/19 14:22	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/15/19 14:22	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/15/19 14:22	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/15/19 14:22	1
1,2-Dichloropropane	1.0	U *	1.0	0.15	ug/L			03/15/19 14:22	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/15/19 14:22	1
2-Hexanone	10	U *	10	0.54	ug/L			03/15/19 14:22	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/15/19 14:22	1
Methyl acetate	10	U *	10	1.7	ug/L			03/15/19 14:22	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/15/19 14:22	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/15/19 14:22	1
4-Methyl-2-pentanone (MIBK)	10	U *	10	0.42	ug/L			03/15/19 14:22	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/15/19 14:22	1
Styrene	1.0	U	1.0	0.10	ug/L			03/15/19 14:22	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.13	ug/L			03/15/19 14:22	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/15/19 14:22	1
Toluene	1.0	U	1.0	0.14	ug/L			03/15/19 14:22	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/15/19 14:22	1
trans-1,3-Dichloropropene	1.0	U *	1.0	0.67	ug/L			03/15/19 14:22	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/15/19 14:22	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/15/19 14:22	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/15/19 14:22	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Client Sample ID: MW-15-60D_030519

Lab Sample ID: 240-109103-2

Date Collected: 03/05/19 12:30

Matrix: Water

Date Received: 03/08/19 08:00

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/15/19 14:22	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/15/19 14:22	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/15/19 14:22	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/15/19 14:22	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			03/15/19 14:22	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.12	ug/L			03/15/19 14:22	1
Vinyl chloride	0.31	J *	1.0	0.20	ug/L			03/15/19 14:22	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/15/19 14:22	1
Diethyl ether	2.0	U *	2.0	0.19	ug/L			03/15/19 14:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		59 - 120		03/15/19 14:22	1
Dibromofluoromethane (Surr)	93		75 - 128		03/15/19 14:22	1
1,2-Dichloroethane-d4 (Surr)	106		70 - 121		03/15/19 14:22	1
Toluene-d8 (Surr)	110		70 - 123		03/15/19 14:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-109103-3

Date Collected: 03/05/19 00:00

Matrix: Water

Date Received: 03/08/19 08:00

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/15/19 14:44	1
Benzene	1.0	U	1.0	0.13	ug/L			03/15/19 14:44	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/15/19 14:44	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/15/19 14:44	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/15/19 14:44	1
2-Butanone (MEK)	10	U *	10	1.2	ug/L			03/15/19 14:44	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/15/19 14:44	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/15/19 14:44	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/15/19 14:44	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/15/19 14:44	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/15/19 14:44	1
Chloromethane	1.0	U *	1.0	0.20	ug/L			03/15/19 14:44	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/15/19 14:44	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/15/19 14:44	1
Cyclohexane	1.0	U *	1.0	0.24	ug/L			03/15/19 14:44	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/15/19 14:44	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/15/19 14:44	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/15/19 14:44	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/15/19 14:44	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/15/19 14:44	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/15/19 14:44	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/15/19 14:44	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/15/19 14:44	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/15/19 14:44	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/15/19 14:44	1
1,2-Dichloropropane	1.0	U *	1.0	0.15	ug/L			03/15/19 14:44	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/15/19 14:44	1
2-Hexanone	10	U *	10	0.54	ug/L			03/15/19 14:44	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/15/19 14:44	1
Methyl acetate	10	U *	10	1.7	ug/L			03/15/19 14:44	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/15/19 14:44	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/15/19 14:44	1
4-Methyl-2-pentanone (MIBK)	10	U *	10	0.42	ug/L			03/15/19 14:44	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/15/19 14:44	1
Styrene	1.0	U	1.0	0.10	ug/L			03/15/19 14:44	1
1,1,2,2-Tetrachloroethane	1.0	U *	1.0	0.13	ug/L			03/15/19 14:44	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/15/19 14:44	1
Toluene	1.0	U	1.0	0.14	ug/L			03/15/19 14:44	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/15/19 14:44	1
trans-1,3-Dichloropropene	1.0	U *	1.0	0.67	ug/L			03/15/19 14:44	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/15/19 14:44	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/15/19 14:44	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/15/19 14:44	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			03/15/19 14:44	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/15/19 14:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/15/19 14:44	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/15/19 14:44	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			03/15/19 14:44	1
1,3,5-Trimethylbenzene	1.0	U *	1.0	0.12	ug/L			03/15/19 14:44	1

TestAmerica Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-109103-3

Date Collected: 03/05/19 00:00

Matrix: Water

Date Received: 03/08/19 08:00

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	0.39	J *	1.0	0.20	ug/L			03/15/19 14:44	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/15/19 14:44	1
Diethyl ether	2.0	U *	2.0	0.19	ug/L			03/15/19 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		59 - 120		03/15/19 14:44	1
Dibromofluoromethane (Surr)	99		75 - 128		03/15/19 14:44	1
1,2-Dichloroethane-d4 (Surr)	113		70 - 121		03/15/19 14:44	1
Toluene-d8 (Surr)	113		70 - 123		03/15/19 14:44	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB (59-120)	DBFM (75-128)	DCA (70-121)	TOL (70-123)
240-109103-1	MW-15-59D_030519	93	98	111	115
240-109103-2	MW-15-60D_030519	91	93	106	110
240-109103-3	TRIP BLANK	93	99	113	113
LCS 240-371753/35	Lab Control Sample	113	94	107	125 X
MB 240-371753/6	Method Blank	94	100	113	116

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (63-125)
240-109103-1	MW-15-59D_030519	81
240-109103-2	MW-15-60D_030519	82
240-109266-A-1 MS	Matrix Spike	79
240-109266-A-1 MSD	Matrix Spike Duplicate	77
LCS 240-371371/4	Lab Control Sample	79
MB 240-371371/5	Method Blank	81

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA (10-150)
MRL 240-371371/6	Lab Control Sample	68

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-371753/6

Matrix: Water

Analysis Batch: 371753

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			03/15/19 12:33	1
Benzene	1.0	U	1.0	0.13	ug/L			03/15/19 12:33	1
Bromodichloromethane	1.0	U	1.0	0.17	ug/L			03/15/19 12:33	1
Bromoform	1.0	U	1.0	0.76	ug/L			03/15/19 12:33	1
Bromomethane	1.0	U	1.0	0.42	ug/L			03/15/19 12:33	1
2-Butanone (MEK)	10	U	10	1.2	ug/L			03/15/19 12:33	1
Carbon disulfide	5.0	U	5.0	0.28	ug/L			03/15/19 12:33	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			03/15/19 12:33	1
Chlorobenzene	1.0	U	1.0	0.14	ug/L			03/15/19 12:33	1
Chloroethane	1.0	U	1.0	0.83	ug/L			03/15/19 12:33	1
Chloroform	1.0	U	1.0	0.13	ug/L			03/15/19 12:33	1
Chloromethane	1.0	U	1.0	0.20	ug/L			03/15/19 12:33	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			03/15/19 12:33	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			03/15/19 12:33	1
Cyclohexane	1.0	U	1.0	0.24	ug/L			03/15/19 12:33	1
Dibromochloromethane	1.0	U	1.0	0.39	ug/L			03/15/19 12:33	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.91	ug/L			03/15/19 12:33	1
1,2-Dibromoethane	1.0	U	1.0	0.12	ug/L			03/15/19 12:33	1
1,2-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/15/19 12:33	1
1,3-Dichlorobenzene	1.0	U	1.0	0.15	ug/L			03/15/19 12:33	1
1,4-Dichlorobenzene	1.0	U	1.0	0.16	ug/L			03/15/19 12:33	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			03/15/19 12:33	1
1,1-Dichloroethane	1.0	U	1.0	0.17	ug/L			03/15/19 12:33	1
1,2-Dichloroethane	1.0	U	1.0	0.21	ug/L			03/15/19 12:33	1
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/15/19 12:33	1
1,2-Dichloropropane	1.0	U	1.0	0.15	ug/L			03/15/19 12:33	1
Ethylbenzene	1.0	U	1.0	0.11	ug/L			03/15/19 12:33	1
2-Hexanone	10	U	10	0.54	ug/L			03/15/19 12:33	1
Isopropylbenzene	1.0	U	1.0	0.090	ug/L			03/15/19 12:33	1
Methyl acetate	10	U	10	1.7	ug/L			03/15/19 12:33	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			03/15/19 12:33	1
Methylene Chloride	5.0	U	5.0	2.6	ug/L			03/15/19 12:33	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.42	ug/L			03/15/19 12:33	1
Methyl tert-butyl ether	1.0	U	1.0	0.070	ug/L			03/15/19 12:33	1
Styrene	1.0	U	1.0	0.10	ug/L			03/15/19 12:33	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.13	ug/L			03/15/19 12:33	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			03/15/19 12:33	1
Toluene	1.0	U	1.0	0.14	ug/L			03/15/19 12:33	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			03/15/19 12:33	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			03/15/19 12:33	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.26	ug/L			03/15/19 12:33	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/15/19 12:33	1
1,1,2-Trichloroethane	1.0	U	1.0	0.090	ug/L			03/15/19 12:33	1
Trichloroethene	0.128	J	1.0	0.10	ug/L			03/15/19 12:33	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			03/15/19 12:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			03/15/19 12:33	1
1,2,3-Trimethylbenzene	5.0	U	5.0	0.14	ug/L			03/15/19 12:33	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.070	ug/L			03/15/19 12:33	1

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-371753/6
Matrix: Water
Analysis Batch: 371753

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	1.0	U	1.0	0.12	ug/L			03/15/19 12:33	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			03/15/19 12:33	1
Xylenes, Total	2.0	U	2.0	0.15	ug/L			03/15/19 12:33	1
Diethyl ether	2.0	U	2.0	0.19	ug/L			03/15/19 12:33	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		59 - 120		03/15/19 12:33	1
Dibromofluoromethane (Surr)	100		75 - 128		03/15/19 12:33	1
1,2-Dichloroethane-d4 (Surr)	113		70 - 121		03/15/19 12:33	1
Toluene-d8 (Surr)	116		70 - 123		03/15/19 12:33	1

Lab Sample ID: LCS 240-371753/35
Matrix: Water
Analysis Batch: 371753

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	29.6		ug/L		148	21 - 162
Benzene	10.0	11.9		ug/L		119	80 - 123
Bromodichloromethane	10.0	11.5		ug/L		115	77 - 125
Bromoform	10.0	8.41		ug/L		84	49 - 141
Bromomethane	10.0	11.4		ug/L		114	41 - 175
2-Butanone (MEK)	20.0	36.4	*	ug/L		182	39 - 163
Carbon disulfide	10.0	12.2		ug/L		122	60 - 138
Carbon tetrachloride	10.0	9.01		ug/L		90	63 - 140
Chlorobenzene	10.0	10.8		ug/L		108	80 - 121
Chloroethane	10.0	16.2		ug/L		162	33 - 173
Chloroform	10.0	11.4		ug/L		114	79 - 127
Chloromethane	10.0	17.3	*	ug/L		173	54 - 143
cis-1,2-Dichloroethene	10.0	10.8		ug/L		108	76 - 128
cis-1,3-Dichloropropene	10.0	12.9		ug/L		129	64 - 132
Cyclohexane	10.0	15.9	*	ug/L		159	58 - 145
Dibromochloromethane	10.0	11.0		ug/L		110	70 - 132
1,2-Dibromo-3-Chloropropane	10.0	9.68		ug/L		97	46 - 132
1,2-Dibromoethane	10.0	11.5		ug/L		115	77 - 123
1,2-Dichlorobenzene	10.0	10.1		ug/L		101	78 - 120
1,3-Dichlorobenzene	10.0	10.2		ug/L		102	78 - 120
1,4-Dichlorobenzene	10.0	10.0		ug/L		100	78 - 120
Dichlorodifluoromethane	10.0	10.4		ug/L		104	29 - 148
1,1-Dichloroethane	10.0	13.2		ug/L		132	75 - 133
1,2-Dichloroethane	10.0	11.5		ug/L		115	71 - 135
1,1-Dichloroethene	10.0	11.8		ug/L		118	65 - 139
1,2-Dichloropropane	10.0	15.7	*	ug/L		157	78 - 133
Ethylbenzene	10.0	10.9		ug/L		109	80 - 120
2-Hexanone	20.0	37.8	*	ug/L		189	43 - 148
Isopropylbenzene	10.0	10.6		ug/L		106	74 - 120
Methyl acetate	20.0	33.9	*	ug/L		170	52 - 145
Methylcyclohexane	10.0	11.5		ug/L		115	60 - 125
Methylene Chloride	10.0	11.6		ug/L		116	70 - 134

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-371753/35

Matrix: Water

Analysis Batch: 371753

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Methyl-2-pentanone (MIBK)	20.0	32.2	*	ug/L		161	49 - 143
Methyl tert-butyl ether	10.0	8.17		ug/L		82	51 - 133
Styrene	10.0	10.9		ug/L		109	79 - 120
1,1,2,2-Tetrachloroethane	10.0	16.5	*	ug/L		165	65 - 139
Tetrachloroethene	10.0	8.86		ug/L		89	74 - 130
Toluene	10.0	12.9		ug/L		129	78 - 129
trans-1,2-Dichloroethene	10.0	10.8		ug/L		108	78 - 133
trans-1,3-Dichloropropene	10.0	13.2	*	ug/L		132	55 - 128
1,2,4-Trichlorobenzene	10.0	6.63		ug/L		66	42 - 133
1,1,1-Trichloroethane	10.0	9.69		ug/L		97	69 - 134
1,1,2-Trichloroethane	10.0	12.3		ug/L		123	78 - 133
Trichloroethene	10.0	9.06		ug/L		91	76 - 125
Trichlorofluoromethane	10.0	10.5		ug/L		105	51 - 164
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.65		ug/L		87	50 - 156
1,2,4-Trimethylbenzene	10.0	12.0		ug/L		120	74 - 120
1,3,5-Trimethylbenzene	10.0	12.8	*	ug/L		128	75 - 121
Vinyl chloride	10.0	15.5	*	ug/L		155	58 - 143
Xylenes, Total	20.0	22.7		ug/L		114	80 - 120
Diethyl ether	10.0	16.8	*	ug/L		168	70 - 146

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	113		59 - 120
Dibromofluoromethane (Surr)	94		75 - 128
1,2-Dichloroethane-d4 (Surr)	107		70 - 121
Toluene-d8 (Surr)	125	X	70 - 123

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-371371/5

Matrix: Water

Analysis Batch: 371371

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/13/19 10:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		63 - 125		03/13/19 10:50	1

Lab Sample ID: LCS 240-371371/4

Matrix: Water

Analysis Batch: 371371

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	12.1		ug/L		121	59 - 131

TestAmerica Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-371371/4
Matrix: Water
Analysis Batch: 371371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	79		63 - 125

Lab Sample ID: MRL 240-371371/6
Matrix: Water
Analysis Batch: 371371

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane			0.00100	0.00101	J	ng/uL		101	10 - 150
Surrogate	MRL	MRL							
1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier							
	68								10 - 150

Lab Sample ID: 240-109266-A-1 MS
Matrix: Water
Analysis Batch: 371371

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.8		ug/L		118	52 - 129
Surrogate	MS	MS							
1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier							
	79								63 - 125

Lab Sample ID: 240-109266-A-1 MSD
Matrix: Water
Analysis Batch: 371371

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
1,4-Dioxane	2.0	U	10.0	11.6		ug/L		116	52 - 129	2	13
Surrogate	MSD	MSD									
1,2-Dichloroethane-d4 (Surr)	%Recovery	Qualifier									
	77										63 - 125

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

GC/MS VOA

Analysis Batch: 371371

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-109103-1	MW-15-59D_030519	Total/NA	Water	8260B SIM	
240-109103-2	MW-15-60D_030519	Total/NA	Water	8260B SIM	
MB 240-371371/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-371371/4	Lab Control Sample	Total/NA	Water	8260B SIM	
MRL 240-371371/6	Lab Control Sample	Total/NA	Water	8260B SIM	
240-109266-A-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-109266-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 371753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-109103-1	MW-15-59D_030519	Total/NA	Water	8260B	
240-109103-2	MW-15-60D_030519	Total/NA	Water	8260B	
240-109103-3	TRIP BLANK	Total/NA	Water	8260B	
MB 240-371753/6	Method Blank	Total/NA	Water	8260B	
LCS 240-371753/35	Lab Control Sample	Total/NA	Water	8260B	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Client Sample ID: MW-15-59D_030519

Lab Sample ID: 240-109103-1

Date Collected: 03/05/19 10:45

Matrix: Water

Date Received: 03/08/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371753	03/15/19 13:59	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	371371	03/13/19 14:11	SAM	TAL CAN

Client Sample ID: MW-15-60D_030519

Lab Sample ID: 240-109103-2

Date Collected: 03/05/19 12:30

Matrix: Water

Date Received: 03/08/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371753	03/15/19 14:22	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	371371	03/13/19 14:36	SAM	TAL CAN

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-109103-3

Date Collected: 03/05/19 00:00

Matrix: Water

Date Received: 03/08/19 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	371753	03/15/19 14:44	LEE	TAL CAN

Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Livonia MI - E203728

TestAmerica Job ID: 240-109103-1

Laboratory: TestAmerica Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-19
Kansas	NELAP	7	E-10336	04-30-19 *
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-19 *
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton Sample Receipt Form/Narrative

Login #: 109103

Canton Facility

Client Acwis

Site Name _____

Cooler unpacked by: [Signature]

Cooler Received on 3/8/14

Opened on 3/8/14

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # 770 Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. 3.4 °C Corrected Cooler Temp. 3.2 °C
IR GUN #36 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC861525

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials? Yes No NA Larger than this. 

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 831701 Yes No

16. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: AM

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

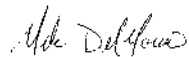
ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-126696-1
Client Project/Site: Ford LTP On Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
3/6/2020 2:05:37 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Job ID: 240-126696-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 240-126696-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/22/2020 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.5° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126696-1), MW-124_022020 (240-126696-2) and MW-19_022020 (240-126696-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/26/2020 and 02/27/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-124_022020 (240-126696-2) and MW-19_022020 (240-126696-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 02/28/2020 and 03/02/2020.

Sample MW-19_022020 (240-126696-3)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126696-1	TRIP BLANK	Water	02/20/20 00:00	02/22/20 09:40	
240-126696-2	MW-124_022020	Water	02/20/20 10:24	02/22/20 09:40	
240-126696-3	MW-19_022020	Water	02/20/20 11:52	02/22/20 09:40	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126696-1

No Detections.

Client Sample ID: MW-124_022020

Lab Sample ID: 240-126696-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.8		1.0	0.16	ug/L	1		8260B	Total/NA
trans-1,2-Dichloroethene	0.20	J	1.0	0.19	ug/L	1		8260B	Total/NA
Vinyl chloride	0.27	J	1.0	0.20	ug/L	1		8260B	Total/NA

Client Sample ID: MW-19_022020

Lab Sample ID: 240-126696-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	540		10	4.3	ug/L	5		8260B SIM	Total/NA
cis-1,2-Dichloroethene	0.73	J	1.0	0.16	ug/L	1		8260B	Total/NA
Trichloroethene	0.62	J	1.0	0.10	ug/L	1		8260B	Total/NA
Vinyl chloride	1.1		1.0	0.20	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126696-1

Date Collected: 02/20/20 00:00

Matrix: Water

Date Received: 02/22/20 09:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 20:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 20:35	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 20:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 20:35	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 20:35	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 20:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		75 - 130		02/26/20 20:35	1
4-Bromofluorobenzene (Surr)	58		47 - 134		02/26/20 20:35	1
Toluene-d8 (Surr)	78		69 - 122		02/26/20 20:35	1
Dibromofluoromethane (Surr)	90		78 - 129		02/26/20 20:35	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Client Sample ID: MW-124_022020

Lab Sample ID: 240-126696-2

Date Collected: 02/20/20 10:24

Matrix: Water

Date Received: 02/22/20 09:40

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		02/28/20 20:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 133		02/28/20 20:38	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/26/20 20:57	1
cis-1,2-Dichloroethene	1.8		1.0	0.16	ug/L			02/26/20 20:57	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/26/20 20:57	1
trans-1,2-Dichloroethene	0.20	J	1.0	0.19	ug/L			02/26/20 20:57	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/26/20 20:57	1
Vinyl chloride	0.27	J	1.0	0.20	ug/L			02/26/20 20:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		75 - 130		02/26/20 20:57	1
4-Bromofluorobenzene (Surr)	61		47 - 134		02/26/20 20:57	1
Toluene-d8 (Surr)	85		69 - 122		02/26/20 20:57	1
Dibromofluoromethane (Surr)	94		78 - 129		02/26/20 20:57	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Client Sample ID: MW-19_022020

Lab Sample ID: 240-126696-3

Date Collected: 02/20/20 11:52

Matrix: Water

Date Received: 02/22/20 09:40

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	540		10	4.3	ug/L			03/02/20 13:22	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	92		70 - 133					03/02/20 13:22	5

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/27/20 12:03	1
cis-1,2-Dichloroethene	0.73	J	1.0	0.16	ug/L			02/27/20 12:03	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/27/20 12:03	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/27/20 12:03	1
Trichloroethene	0.62	J	1.0	0.10	ug/L			02/27/20 12:03	1
Vinyl chloride	1.1		1.0	0.20	ug/L			02/27/20 12:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	84		75 - 130					02/27/20 12:03	1
4-Bromofluorobenzene (Surr)	60		47 - 134					02/27/20 12:03	1
Toluene-d8 (Surr)	84		69 - 122					02/27/20 12:03	1
Dibromofluoromethane (Surr)	88		78 - 129					02/27/20 12:03	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-126571-F-4 MSD	Matrix Spike Duplicate	79	81	89	89
240-126571-H-4 MS	Matrix Spike	78	78	88	88
240-126696-1	TRIP BLANK	86	58	78	90
240-126696-2	MW-124_022020	90	61	85	94
240-126696-3	MW-19_022020	84	60	84	88
LCS 240-424351/4	Lab Control Sample	77	80	91	89
LCS 240-424516/4	Lab Control Sample	79	80	89	88
LCSD 240-424516/36	Lab Control Sample Dup	80	78	92	90
MB 240-424351/7	Method Blank	90	70	88	95
MB 240-424516/7	Method Blank	93	67	89	96

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-126552-O-2 MS	Matrix Spike	92
240-126552-O-2 MSD	Matrix Spike Duplicate	93
240-126664-L-2 MS	Matrix Spike	93
240-126664-L-2 MSD	Matrix Spike Duplicate	95
240-126696-2	MW-124_022020	95
240-126696-3	MW-19_022020	92
LCS 240-424746/4	Lab Control Sample	90
LCS 240-424853/4	Lab Control Sample	91
MB 240-424746/5	Method Blank	91
MB 240-424853/5	Method Blank	91

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-424351/7
Matrix: Water
Analysis Batch: 424351

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 12:59	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 12:59	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 12:59	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 12:59	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 12:59	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 12:59	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		75 - 130		02/26/20 12:59	1
4-Bromofluorobenzene (Surr)	70		47 - 134		02/26/20 12:59	1
Toluene-d8 (Surr)	88		69 - 122		02/26/20 12:59	1
Dibromofluoromethane (Surr)	95		78 - 129		02/26/20 12:59	1

Lab Sample ID: LCS 240-424351/4
Matrix: Water
Analysis Batch: 424351

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	9.69		ug/L		97	73 - 129
cis-1,2-Dichloroethene	10.0	10.2		ug/L		102	75 - 124
Tetrachloroethene	10.0	12.0		ug/L		120	70 - 125
trans-1,2-Dichloroethene	10.0	10.3		ug/L		103	74 - 130
Trichloroethene	10.0	10.1		ug/L		101	71 - 121
Vinyl chloride	10.0	8.21		ug/L		82	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	77		75 - 130
4-Bromofluorobenzene (Surr)	80		47 - 134
Toluene-d8 (Surr)	91		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-126571-F-4 MSD
Matrix: Water
Analysis Batch: 424351

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	1.0	U	10.0	9.03		ug/L		90	68 - 121	2	35
Tetrachloroethene	1.0	U	10.0	10.6		ug/L		106	52 - 129	9	35
trans-1,2-Dichloroethene	1.0	U	10.0	9.24		ug/L		92	69 - 126	3	35
Trichloroethene	1.0	U	10.0	8.63		ug/L		86	56 - 124	1	35
Vinyl chloride	1.0	U	10.0	8.41		ug/L		84	49 - 136	19	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	79		75 - 130
4-Bromofluorobenzene (Surr)	81		47 - 134
Toluene-d8 (Surr)	89		69 - 122
Dibromofluoromethane (Surr)	89		78 - 129

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-126571-H-4 MS

Matrix: Water

Analysis Batch: 424351

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier	Added	Result	Qualifier				
cis-1,2-Dichloroethene	1.0	U	10.0	8.82		ug/L		88	68 - 121
Tetrachloroethene	1.0	U	10.0	9.66		ug/L		97	52 - 129
trans-1,2-Dichloroethene	1.0	U	10.0	8.97		ug/L		90	69 - 126
Trichloroethene	1.0	U	10.0	8.58		ug/L		86	56 - 124
Vinyl chloride	1.0	U	10.0	6.92		ug/L		69	49 - 136

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	78		75 - 130
4-Bromofluorobenzene (Surr)	78		47 - 134
Toluene-d8 (Surr)	88		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Lab Sample ID: MB 240-424516/7

Matrix: Water

Analysis Batch: 424516

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/27/20 11:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/27/20 11:19	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/27/20 11:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/27/20 11:19	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/27/20 11:19	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/27/20 11:19	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	93		75 - 130		02/27/20 11:19	1
4-Bromofluorobenzene (Surr)	67		47 - 134		02/27/20 11:19	1
Toluene-d8 (Surr)	89		69 - 122		02/27/20 11:19	1
Dibromofluoromethane (Surr)	96		78 - 129		02/27/20 11:19	1

Lab Sample ID: LCS 240-424516/4

Matrix: Water

Analysis Batch: 424516

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
1,1-Dichloroethene	10.0	9.30		ug/L		93	73 - 129
cis-1,2-Dichloroethene	10.0	10.4		ug/L		104	75 - 124
Tetrachloroethene	10.0	12.0		ug/L		120	70 - 125
trans-1,2-Dichloroethene	10.0	10.5		ug/L		105	74 - 130
Trichloroethene	10.0	10.0		ug/L		100	71 - 121
Vinyl chloride	10.0	8.16		ug/L		82	61 - 134

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	79		75 - 130
4-Bromofluorobenzene (Surr)	80		47 - 134
Toluene-d8 (Surr)	89		69 - 122
Dibromofluoromethane (Surr)	88		78 - 129

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 240-424516/36
Matrix: Water
Analysis Batch: 424516

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	10.0	8.50		ug/L		85	73 - 129	9	35
cis-1,2-Dichloroethene	10.0	9.98		ug/L		100	75 - 124	4	35
Tetrachloroethene	10.0	11.7		ug/L		117	70 - 125	3	35
trans-1,2-Dichloroethene	10.0	9.87		ug/L		99	74 - 130	6	35
Trichloroethene	10.0	9.82		ug/L		98	71 - 121	2	35
Vinyl chloride	10.0	7.51		ug/L		75	61 - 134	8	35

Surrogate	LCSD %Recovery	LCSD Qualifier	LCSD Limits
1,2-Dichloroethane-d4 (Surr)	80		75 - 130
4-Bromofluorobenzene (Surr)	78		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-424746/5
Matrix: Water
Analysis Batch: 424746

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			02/28/20 12:24	1

Surrogate	MB %Recovery	MB Qualifier	MB Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 133		02/28/20 12:24	1

Lab Sample ID: LCS 240-424746/4
Matrix: Water
Analysis Batch: 424746

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.2		ug/L		102	80 - 135

Surrogate	LCS %Recovery	LCS Qualifier	LCS Limits
1,2-Dichloroethane-d4 (Surr)	90		70 - 133

Lab Sample ID: 240-126552-O-2 MS
Matrix: Water
Analysis Batch: 424746

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	9.86		ug/L		99	46 - 170

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	92		70 - 133

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-126552-O-2 MSD
Matrix: Water
Analysis Batch: 424746

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.91		ug/L		99	46 - 170	0	26
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	93		70 - 133								

Lab Sample ID: MB 240-424853/5
Matrix: Water
Analysis Batch: 424853

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac			
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/02/20 10:46	1			
Surrogate	%Recovery	Qualifier	Limits							Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 133							03/02/20 10:46	1	

Lab Sample ID: LCS 240-424853/4
Matrix: Water
Analysis Batch: 424853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.1		ug/L		101	80 - 135
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	91		70 - 133				

Lab Sample ID: 240-126664-L-2 MS
Matrix: Water
Analysis Batch: 424853

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	8.96		ug/L		90	46 - 170
Surrogate	%Recovery	Qualifier	Limits						
1,2-Dichloroethane-d4 (Surr)	93		70 - 133						

Lab Sample ID: 240-126664-L-2 MSD
Matrix: Water
Analysis Batch: 424853

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.0	U	10.0	9.22		ug/L		92	46 - 170	3	26
Surrogate	%Recovery	Qualifier	Limits								
1,2-Dichloroethane-d4 (Surr)	95		70 - 133								

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

GC/MS VOA

Analysis Batch: 424351

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126696-1	TRIP BLANK	Total/NA	Water	8260B	
240-126696-2	MW-124_022020	Total/NA	Water	8260B	
MB 240-424351/7	Method Blank	Total/NA	Water	8260B	
LCS 240-424351/4	Lab Control Sample	Total/NA	Water	8260B	
240-126571-F-4 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
240-126571-H-4 MS	Matrix Spike	Total/NA	Water	8260B	

Analysis Batch: 424516

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126696-3	MW-19_022020	Total/NA	Water	8260B	
MB 240-424516/7	Method Blank	Total/NA	Water	8260B	
LCS 240-424516/4	Lab Control Sample	Total/NA	Water	8260B	
LCSD 240-424516/36	Lab Control Sample Dup	Total/NA	Water	8260B	

Analysis Batch: 424746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126696-2	MW-124_022020	Total/NA	Water	8260B SIM	
MB 240-424746/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424746/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126552-O-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126552-O-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Analysis Batch: 424853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126696-3	MW-19_022020	Total/NA	Water	8260B SIM	
MB 240-424853/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424853/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126664-L-2 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126664-L-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126696-1

Date Collected: 02/20/20 00:00

Matrix: Water

Date Received: 02/22/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424351	02/26/20 20:35	LEE	TAL CAN

Client Sample ID: MW-124_022020

Lab Sample ID: 240-126696-2

Date Collected: 02/20/20 10:24

Matrix: Water

Date Received: 02/22/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424351	02/26/20 20:57	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		1	424746	02/28/20 20:38	SAM	TAL CAN

Client Sample ID: MW-19_022020

Lab Sample ID: 240-126696-3

Date Collected: 02/20/20 11:52

Matrix: Water

Date Received: 02/22/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424516	02/27/20 12:03	LEE	TAL CAN
Total/NA	Analysis	8260B SIM		5	424853	03/02/20 13:22	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126696-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



TestAmerica Laboratory location: Brighton — 15448 Chatham Drive, Suite 2002 / Brighton, MI 48116 / 810-229-2763

Regulatory program: DW NPDES RCRA Other

Client Contact
 Company Name: Arradis
 Address: 26550 Cabot Drive, Suite S00
 City/State/Zip: Novi, MI, 48377
 Phone: 248-994-2240
 Project Name: Ford LTP On-Site
 Project Number: 30042006.0401.02
 IVO #: 30042006.0401.02

Client Manager: Kevin Hinkley
 Telephone: 248-994-2240
 Email: khinkley@arradis.com

Site Contact: Justin McCafferty
 Telephone: 734-644-5131

Lab Contact: Mike DeMunico
 Telephone: 313-497-9186

Sample Name: H. Woodrow
 Method of Shipment: air/rtr
 Shipping Tracking No:

Sample Identification	Sample Date	Sample Time	Matrix						Other	Comments	Special Instructions
			Water	Sediment	Soil	Sludge	Ice	Other			
TRIP BLANK											
MW-124-032020	2/20/20	102A									
MW-29-032020	2/20/20	1152									



Possible Hazard Identification: Non-Hazardous Inert Organic Volatile Acidic Alkaline Oxidizing Corrosive Flammable Toxic Other

Submit all results through Cadessa at tomalia@cadessa.com. Cadessa #E203726
 Listed in Reporting requested.

Company	Day/Time	Signature	Company	Day/Time	Signature
ARCADIS	2/20/20 1600	[Signature]	ARCADIS	2/20/20 1700	[Signature]
ARCADIS	2/20/20 1520	[Signature]	ARCADIS	2/20/20 1520	[Signature]
ARCADIS	2/20/20 1600	[Signature]	ARCADIS	2/20/20 1520	[Signature]

Company: **ARCADIS**
 Date/Time: **2/20/20 1600**
 Company: **ARCADIS**
 Date/Time: **2/20/20 1700**
 Company: **ARCADIS**
 Date/Time: **2/20/20 1520**
 Company: **ARCADIS**
 Date/Time: **2/20/20 1520**

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 1246916

Client Accuris Site Name _____ Cooler unpacked by: _____
 Cooler Received on 02/22/20 Opened on 02/22/20 TDSD
 FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # TAC Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 3.8 °C Corrected Cooler Temp. 4.5 °C
 IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # NA Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: AEI

18. SAMPLE CONDITION
 Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____
 VOA Sample Preservation - Date/Time VOAs Frozen: _____

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-126746-1
Client Project/Site: Ford LTP On Site

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
3/6/2020 2:06:02 PM

Michael DelMonico, Project Manager I
(330)497-9396
michael.delmonico@testamericainc.com

LINKS

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results through
TotalAccess

Have a Question?



Visit us at:
www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
E	Result exceeded calibration range.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Job ID: 240-126746-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP On Site

Report Number: 240-126746-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 2/25/2020 2:45 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.0° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-126746-1), MW-15-60D_022120 (240-126746-2), MW-15-59D_022120 (240-126746-3) and MW-29_022120 (240-126746-4) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 02/26/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-15-60D_022120 (240-126746-2), MW-15-59D_022120 (240-126746-3) and MW-29_022120 (240-126746-4) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 03/02/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
8260B SIM	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-126746-1	TRIP BLANK	Water	02/21/20 00:00	02/25/20 14:45	
240-126746-2	MW-15-60D_022120	Water	02/21/20 11:10	02/25/20 14:45	
240-126746-3	MW-15-59D_022120	Water	02/21/20 13:22	02/25/20 14:45	
240-126746-4	MW-29_022120	Water	02/21/20 14:42	02/25/20 14:45	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126746-1

No Detections.

Client Sample ID: MW-15-60D_022120

Lab Sample ID: 240-126746-2

No Detections.

Client Sample ID: MW-15-59D_022120

Lab Sample ID: 240-126746-3

No Detections.

Client Sample ID: MW-29_022120

Lab Sample ID: 240-126746-4

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126746-1

Date Collected: 02/21/20 00:00

Matrix: Water

Date Received: 02/25/20 14:45

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 22:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 22:34	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 22:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 22:34	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 22:34	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 22:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		02/26/20 22:34	1
4-Bromofluorobenzene (Surr)	99		47 - 134		02/26/20 22:34	1
Toluene-d8 (Surr)	90		69 - 122		02/26/20 22:34	1
Dibromofluoromethane (Surr)	84		78 - 129		02/26/20 22:34	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Client Sample ID: MW-15-60D_022120

Lab Sample ID: 240-126746-2

Date Collected: 02/21/20 11:10

Matrix: Water

Date Received: 02/25/20 14:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/02/20 17:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		70 - 133		03/02/20 17:18	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 22:58	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 22:58	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 22:58	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 22:58	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 22:58	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 22:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	86		75 - 130		02/26/20 22:58	1
4-Bromofluorobenzene (Surr)	101		47 - 134		02/26/20 22:58	1
Toluene-d8 (Surr)	89		69 - 122		02/26/20 22:58	1
Dibromofluoromethane (Surr)	85		78 - 129		02/26/20 22:58	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Client Sample ID: MW-15-59D_022120

Lab Sample ID: 240-126746-3

Date Collected: 02/21/20 13:22

Matrix: Water

Date Received: 02/25/20 14:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/02/20 17:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		70 - 133		03/02/20 17:44	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 23:23	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 23:23	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 23:23	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 23:23	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 23:23	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 23:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	81		75 - 130		02/26/20 23:23	1
4-Bromofluorobenzene (Surr)	102		47 - 134		02/26/20 23:23	1
Toluene-d8 (Surr)	93		69 - 122		02/26/20 23:23	1
Dibromofluoromethane (Surr)	87		78 - 129		02/26/20 23:23	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Client Sample ID: MW-29_022120

Lab Sample ID: 240-126746-4

Date Collected: 02/21/20 14:42

Matrix: Water

Date Received: 02/25/20 14:45

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L	-		03/02/20 18:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		70 - 133		03/02/20 18:10	1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/26/20 23:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L	-		02/26/20 23:48	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L	-		02/26/20 23:48	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L	-		02/26/20 23:48	1
Trichloroethene	1.0	U	1.0	0.10	ug/L	-		02/26/20 23:48	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L	-		02/26/20 23:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		75 - 130		02/26/20 23:48	1
4-Bromofluorobenzene (Surr)	103		47 - 134		02/26/20 23:48	1
Toluene-d8 (Surr)	92		69 - 122		02/26/20 23:48	1
Dibromofluoromethane (Surr)	87		78 - 129		02/26/20 23:48	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL	DBFM
		(75-130)	(47-134)	(69-122)	(78-129)
240-126624-B-2 MS	Matrix Spike	85	100	94	89
240-126624-B-2 MSD	Matrix Spike Duplicate	83	99	90	84
240-126746-1	TRIP BLANK	81	99	90	84
240-126746-2	MW-15-60D_022120	86	101	89	85
240-126746-3	MW-15-59D_022120	81	102	93	87
240-126746-4	MW-29_022120	83	103	92	87
LCS 240-424389/4	Lab Control Sample	84	99	92	90
MB 240-424389/7	Method Blank	83	100	91	86

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA
		(70-133)
240-126746-2	MW-15-60D_022120	96
240-126746-3	MW-15-59D_022120	95
240-126746-4	MW-29_022120	94
240-126748-C-1 MS	Matrix Spike	94
240-126748-C-1 MSD	Matrix Spike Duplicate	103
LCS 240-424853/4	Lab Control Sample	91
MB 240-424853/5	Method Blank	91

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-424389/7
Matrix: Water
Analysis Batch: 424389

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 15:55	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.16	ug/L			02/26/20 15:55	1
Tetrachloroethene	1.0	U	1.0	0.15	ug/L			02/26/20 15:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.19	ug/L			02/26/20 15:55	1
Trichloroethene	1.0	U	1.0	0.10	ug/L			02/26/20 15:55	1
Vinyl chloride	1.0	U	1.0	0.20	ug/L			02/26/20 15:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		75 - 130		02/26/20 15:55	1
4-Bromofluorobenzene (Surr)	100		47 - 134		02/26/20 15:55	1
Toluene-d8 (Surr)	91		69 - 122		02/26/20 15:55	1
Dibromofluoromethane (Surr)	86		78 - 129		02/26/20 15:55	1

Lab Sample ID: LCS 240-424389/4
Matrix: Water
Analysis Batch: 424389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	10.0	10.1		ug/L		101	73 - 129
cis-1,2-Dichloroethene	10.0	10.0		ug/L		100	75 - 124
Tetrachloroethene	10.0	9.82		ug/L		98	70 - 125
trans-1,2-Dichloroethene	10.0	10.6		ug/L		106	74 - 130
Trichloroethene	10.0	9.36		ug/L		94	71 - 121
Vinyl chloride	10.0	12.4		ug/L		124	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	84		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	92		69 - 122
Dibromofluoromethane (Surr)	90		78 - 129

Lab Sample ID: 240-126624-B-2 MS
Matrix: Water
Analysis Batch: 424389

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethene	100	U	1000	993		ug/L		99	64 - 132
cis-1,2-Dichloroethene	3100		1000	4040	E	ug/L		93	68 - 121
Tetrachloroethene	100	U	1000	985		ug/L		98	52 - 129
trans-1,2-Dichloroethene	860		1000	1850		ug/L		99	69 - 126
Trichloroethene	100	U	1000	956		ug/L		96	56 - 124
Vinyl chloride	280		1000	1580		ug/L		130	49 - 136

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	94		69 - 122

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-126624-B-2 MS
Matrix: Water
Analysis Batch: 424389

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Dibromofluoromethane (Surr)	89		78 - 129

Lab Sample ID: 240-126624-B-2 MSD
Matrix: Water
Analysis Batch: 424389

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1-Dichloroethene	100	U	1000	1010		ug/L		101	64 - 132	1	35
cis-1,2-Dichloroethene	3100		1000	3830		ug/L		72	68 - 121	5	35
Tetrachloroethene	100	U	1000	929		ug/L		93	52 - 129	6	35
trans-1,2-Dichloroethene	860		1000	1860		ug/L		100	69 - 126	1	35
Trichloroethene	100	U	1000	894		ug/L		89	56 - 124	7	35
Vinyl chloride	280		1000	1510		ug/L		123	49 - 136	4	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	83		75 - 130
4-Bromofluorobenzene (Surr)	99		47 - 134
Toluene-d8 (Surr)	90		69 - 122
Dibromofluoromethane (Surr)	84		78 - 129

Method: 8260B SIM - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-424853/5
Matrix: Water
Analysis Batch: 424853

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	2.0	U	2.0	0.86	ug/L			03/02/20 10:46	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	91		70 - 133		03/02/20 10:46	1

Lab Sample ID: LCS 240-424853/4
Matrix: Water
Analysis Batch: 424853

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	10.0	10.1		ug/L		101	80 - 135

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	91		70 - 133

Lab Sample ID: 240-126748-C-1 MS
Matrix: Water
Analysis Batch: 424853

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.0	U	10.0	11.2		ug/L		112	46 - 170

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Method: 8260B SIM - Volatile Organic Compounds (GC/MS) (Continued)

<i>Surrogate</i>	<i>MS %Recovery</i>	<i>MS Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	94		70 - 133

Lab Sample ID: 240-126748-C-1 MSD
 Matrix: Water
 Analysis Batch: 424853

Client Sample ID: Matrix Spike Duplicate
 Prep Type: Total/NA

<i>Analyte</i>	<i>Sample Result</i>	<i>Sample Qualifier</i>	<i>Spike Added</i>	<i>MSD Result</i>	<i>MSD Qualifier</i>	<i>Unit</i>	<i>D</i>	<i>%Rec</i>	<i>%Rec. Limits</i>	<i>RPD</i>	<i>RPD Limit</i>
1,4-Dioxane	2.0	U	10.0	10.1		ug/L		101	46 - 170	10	26

<i>Surrogate</i>	<i>MSD %Recovery</i>	<i>MSD Qualifier</i>	<i>Limits</i>
1,2-Dichloroethane-d4 (Surr)	103		70 - 133

- 1
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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

GC/MS VOA

Analysis Batch: 424389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126746-1	TRIP BLANK	Total/NA	Water	8260B	
240-126746-2	MW-15-60D_022120	Total/NA	Water	8260B	
240-126746-3	MW-15-59D_022120	Total/NA	Water	8260B	
240-126746-4	MW-29_022120	Total/NA	Water	8260B	
MB 240-424389/7	Method Blank	Total/NA	Water	8260B	
LCS 240-424389/4	Lab Control Sample	Total/NA	Water	8260B	
240-126624-B-2 MS	Matrix Spike	Total/NA	Water	8260B	
240-126624-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	

Analysis Batch: 424853

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-126746-2	MW-15-60D_022120	Total/NA	Water	8260B SIM	
240-126746-3	MW-15-59D_022120	Total/NA	Water	8260B SIM	
240-126746-4	MW-29_022120	Total/NA	Water	8260B SIM	
MB 240-424853/5	Method Blank	Total/NA	Water	8260B SIM	
LCS 240-424853/4	Lab Control Sample	Total/NA	Water	8260B SIM	
240-126748-C-1 MS	Matrix Spike	Total/NA	Water	8260B SIM	
240-126748-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B SIM	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-126746-1

Date Collected: 02/21/20 00:00

Matrix: Water

Date Received: 02/25/20 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 22:34	LRW	TAL CAN

Client Sample ID: MW-15-60D_022120

Lab Sample ID: 240-126746-2

Date Collected: 02/21/20 11:10

Matrix: Water

Date Received: 02/25/20 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 22:58	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424853	03/02/20 17:18	SAM	TAL CAN

Client Sample ID: MW-15-59D_022120

Lab Sample ID: 240-126746-3

Date Collected: 02/21/20 13:22

Matrix: Water

Date Received: 02/25/20 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 23:23	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424853	03/02/20 17:44	SAM	TAL CAN

Client Sample ID: MW-29_022120

Lab Sample ID: 240-126746-4

Date Collected: 02/21/20 14:42

Matrix: Water

Date Received: 02/25/20 14:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	424389	02/26/20 23:48	LRW	TAL CAN
Total/NA	Analysis	8260B SIM		1	424853	03/02/20 18:10	SAM	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP On Site

Job ID: 240-126746-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20 *
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 126744

Canton Facility

Client Arraoli, S Site Name Ford, LTP

Cooler unpacked by:

Cooler Received on 2/25/20 Opened on 2/25/20

[Signature]

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # _____ Foam Box _____ Client Cooler _____ Box _____ Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. 2.3 °C Corrected Cooler Temp. 3.0 °C
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels be reconciled with the COC? Yes No

9. Were correct bottle(s) used for the test(s) indicated? Yes No

10. Sufficient quantity received to perform indicated analyses? Yes No

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC995364

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials? Yes No NA

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # N/A Yes No

16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.

Sample(s) _____ were received in a broken container.

Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

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