

TRANSMITTAL LETTER



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Copies:

Date:
January 30, 2018

Subject:
Livonia Transmission Plant
Q4 2017 Progress Report

Arcadis Project No.:
MI001322.0001

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FORD MOTOR COMPANY

QUARTERLY PROGRESS REPORT - 4Q 2017

Livonia Transmission Plant

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January 30, 2018

A large, solid orange geometric shape, resembling a stylized triangle or a section of a larger triangle, is positioned in the bottom right corner of the page. It has a diagonal line running from the bottom left to the top right, and a horizontal line near the top, creating a sense of depth and movement.

QUARTERLY PROGRESS REPORT - 4Q 2017

Livonia Transmission Plant

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January 30, 2018

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Certified Project Manager

Q4 2017: Activities

On-Site

1. Groundwater Sampling
- ② Hydraulic Control System Performance Monitoring
 - ✓ Operating as Designed Since March 15, 2017
 - ✓ Discharge Compliance
3. LTP VI Mitigation System Design and Construction

Total On-Site Samples

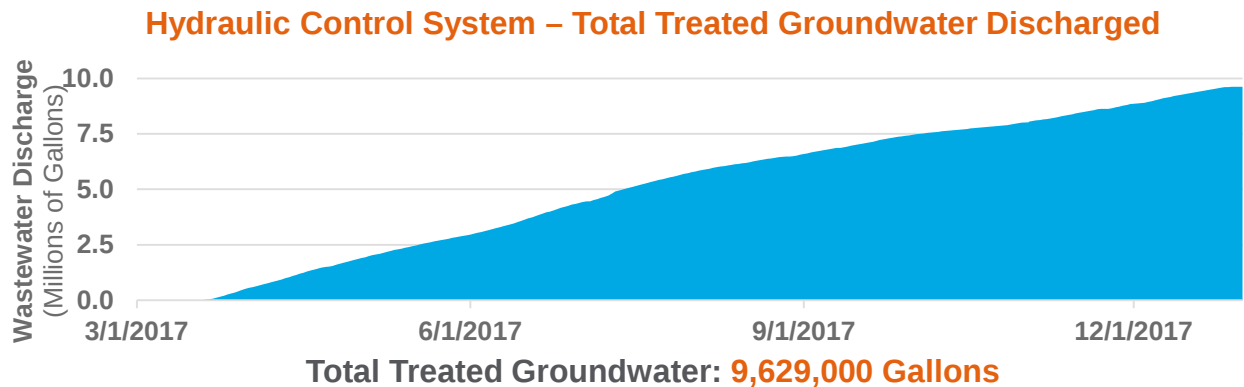
Period	Groundwater / Water	Soil/ Sediment	Vapor
Q4 2017	66	0	0
Total since Oct. 2015	543	328	152

Off-Site

1. Groundwater Sampling
2. Soil Vapor Sampling

Total Off-Site Samples

Period	Groundwater	Vapor
Q4 2017	20	29
Total since Oct. 2015	331	107



Key Dates

Document Submittal

Document	Date Submitted	Status
GW Work Plan	4/20/2017	Received
Off-Site VI Work Plan	4/21/2017	Received
Site Specific VIAC	8/9/2017	Approved
CSM	8/30/2017	Approved
QAPPs	8/30/2017	Received
HASP	8/30/2017	Received
Target Detection Limit Request RespAP	11/17/17	Approved
3Q 2017 Progress Report	11/22/17	Received
Response to MDEQ Comments for the Conceptual Site Model	12/12/17	Received
Remedial Investigation RespAP	12/13/17	With MDEQ Awaiting Comments

Upcoming Dates

2018

- February 5** On and Off-Site 1Q 2018 Groundwater Sampling
- February 19** On and Off-Site 1Q 2018 Off-Site Soil Vapor Sampling

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ACRONYMS AND ABBREVIATIONS

1,1-DCE	1,1-dichloroethene
3Q 2017	third quarter of 2017
4Q 2017	fourth quarter of 2017
AOC	Area of Concern
ATNPC	Automatic Transmission New Product Center
Cis-1,2-DCE	cis-1,2-dichloroethene
COC	constituent of concern
CSM	conceptual site model
DO	dissolved oxygen
GLWA	Great Lakes Water Authority
gpd	gallons per day
gpm	gallons per minute
GWIC	groundwater in contact
HCS	hydraulic control system
LTP	Livonia Transmission Plant
µg/l	microgram per liter
MDEQ	Michigan Department of Environmental Quality
mg/l	milligram per liter
mL	milliliter
MW	monitoring well
ORP	oxidation-reduction potential
PCE	tetrachloroethene
PLC	programmable logic controller
RIASL	Residential Interim Action Screening Level
RRD	Remediation and Redevelopment Division
SSD	sub-slab depressurization
SVMP	soil vapor monitoring point
SVOC	semi-volatile organic compound
TCE	trichloroethene
TDL	Target Detection Limit
trans-1,2-DCE	trans-1,2-dichloroethene
TWM	total waste manager
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound
WWTP	Wastewater Treatment Plant

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1 INTRODUCTION

Purpose of This Report

Arcadis of Michigan LLC (Arcadis), on behalf of Ford Motor Company (Ford) has prepared this Progress Report (report) for the Livonia Transmission Plant (LTP) property (the site). This document was produced in compliance with a Consent Decree filed by MDEQ July 27, 2017 (No: 2:1712372-GAD-RSW). The purpose of this progress report is to summarize continued response activities completed voluntarily by Ford. These activities were completed both at the site and the area east of the site since submittal of the conceptual site model (CSM) to the MDEQ on August 25, 2017. This progress report includes activities completed from October 1 through December 31, 2017 (4Q 2017).

The report primarily focuses on the seven constituents of concern (COCs) for the site including: 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene, (trans-1,2-DCE), tetrachloroethene (PCE), trichloroethene (TCE), vinyl chloride (VC), and 1,4-dioxane.

Background

The LTP has been active in manufacturing in some capacity since the 1950s. The site is located at 36200 Plymouth Road, Livonia, Michigan (**Figure 1**) and occupies 178 acres of land. The LTP building covers approximately 3 million square feet. The area surrounding the site includes light industrial, commercial, and residential properties. For the purposes of this report, data are presented based on their location as either on site or off site (**Figure 2**). On-site area of concern (AOC) locations include all areas within the site boundary including the LTP, Test Track, Waste Water Pre-Treatment Plant (WWTP), Automatic Transmission Plant New Product Center (ATNPC), associated outbuildings, and the Plymouth Road right-of-way. Off-site AOC locations include commercial and residential properties located east of the site, from Belden Court west to Stark Road, and from Plymouth Road north to the railroad right-of-way (**Figure 2**).

2 SUMMARY OF RESPONSE ACTIVITIES

The following table summarizes all response activities completed during 4Q 2017. Refer to the subsequent sections for further detail on each respective event and associated tables and figures.

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Date	Activity	Tables	Figures
November 2017	On-Site Groundwater Sampling	1, 2	3, 4, 5, 6, 7
November 2017	Off-Site Groundwater Sampling	3, 4	3, 8, 9
November 2017	Off-Site Residential Soil Vapor Sampling	5	10, 11, 12, 13
October through December 2017	Hydraulic Control System Monitoring	6, 7	

On-Site Groundwater Sampling

Arcadis completed site-wide groundwater gauging on November 6, 2017, which included 79 monitoring wells (**Figure 2**). Out of the 79 total monitoring wells on site, 71 were successfully gauged. The remaining eight monitoring wells (LMW-15-01, LMW-15-04, LMW-15-05, LMW-15-06, LMW-15-08, MW-21, MW-27, and MW-49) either could not be located or were inaccessible at the time of the gauging. Each monitoring well was gauged from the top of casing using an electronic water-level meter to within 0.01 foot. A summary of the on-site 4Q 2017 groundwater elevations is included on the on-site quarterly groundwater elevation summary table (**Table 1**). Groundwater elevation contours and apparent groundwater flow for the 4Q 2017 response activity are provided on **Figure 3**.

On-site groundwater sampling was completed following gauging from November 7 through 15, 2017. Groundwater was purged from the well at a low flow rate (100 to 300 milliliters per minute) until field parameters (conductivity, pH, turbidity, temperature, dissolved oxygen [DO], and oxygen reduction potential [ORP]) stabilized. Once field parameters stabilized, groundwater samples were collected into laboratory supplied bottles. On-site groundwater field sampling logs are provided for reference in **Appendix A**.

A total of 74 groundwater samples were collected and submitted on ice under chain-of-custody seal to TestAmerica Laboratories in Canton, Ohio (TestAmerica), including three duplicate samples and 5 trip blanks. All groundwater samples were submitted for analysis of volatile organic compounds (VOCs) via United States Environmental Protection Agency (USEPA) Method 8260B and 1,4-dioxane via USEPA Method 8260B-SIM on a standard turnaround time of 10 business days. The groundwater analytical results are discussed below.

Off-Site Groundwater Sampling

Arcadis completed off-site gauging on November 6, 2017, which included 20 monitoring wells (MW-72 through MW-87, illustrated on **Figure 2**). Each monitoring well was gauged from the top of casing using an electronic water-level meter accurate to within 0.01 foot. A summary of the 4Q 2017 groundwater

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elevations is included on the off-site quarterly groundwater elevation summary table (**Table 3**). Groundwater elevation contours and apparent groundwater flow are provided on **Figure 3**.

Off-site groundwater sampling was completed following gauging from November 7 through 10, 2017. Groundwater was purged from the well at a low flow rate (100 to 300 milliliters per minute) until field parameters (conductivity, pH, turbidity, temperature, DO, and ORP) had stabilized. Once field parameters were stable, groundwater samples were collected into laboratory supplied bottles. Off-site groundwater field sampling logs are provided for reference in **Appendix B**.

A total of 22 groundwater samples were collected and submitted on ice under chain-of-custody seal to TestAmerica, including one duplicate sample and one trip blank. All groundwater samples were submitted for analysis of VOCs via USEPA Method 8260B and 1,4-dioxane via USEPA Method 8260B-SIM based on a standard turnaround time of 10 business days. The groundwater analytical results are discussed below.

Off-Site Soil Vapor Sampling

Arcadis completed off-site soil vapor sampling between November 17 and 21, 2017. A total of 29 soil vapor samples were collected from soil vapor monitoring points (SVMPs) within the area east of the site (**Figure 2**). Samples from SVMP-17 and SVMP-20 could not be collected due to saturated sample ports. The 29 SVMPs were sampled for 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, PCE, TCE, VC, and 1,4-dioxane via USEPA Method TO-15 using 1-liter summa canisters and 20-minute flow controllers. Each location was purged of approximately 120 milliliters (mL) of air and leak-checked using an MGD-2002 Helium leak detector and ultra-pure helium. All locations passed the leak check. Ambient air temperature, wind speed, and barometric pressure were recorded during the field event.

The soil vapor samples were submitted under chain-of-custody protocols to Eurofins AirToxics Laboratory located in Folsom, California for analysis of the specific list of VOCs via USEPA Method TO-15 based on a standard turnaround time of 10 business days. Soil vapor analytical results are summarized in **Table 5**, and field sampling logs are provided for reference in **Appendix C**. The off-site soil vapor results are discussed below.

Hydraulic Control System

System Overview

The hydraulic control system (HCS) was installed to intercept groundwater and mitigate the potential for impacted groundwater to continue migrating east of the HCS. HCS performance is monitored and evaluated in accordance with the USEPA guidance – A Systematic Approach for Evaluation of Capture Zone at Pump and Treat Systems (USEPA 2008). Ford began operation of the HCS on March 15, 2017.

The system is designed to extract groundwater via four horizontal wells (ESD-1, ESD-2, ESD-3, and ESD-4; see **Figure 2**), each equipped with a groundwater extraction pump. Each extraction well screen is 400 to 600 feet long; the combined length of the four wells extends across approximately 2,000 linear feet on a line approximately perpendicular to groundwater flow. Extracted groundwater is pumped to an above-grade treatment system, where it is treated by bag filters, an air stripper, and granular-activated

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carbon filters before being discharged to the sanitary sewer under a permit with the Great Lakes Water Authority (GLWA).

Remediation system equipment is operated by a programmable logic controller (PLC) unit that allows the remediation system to function without operator supervision. The HCS operates each horizontal well by extracting groundwater to achieve the maximum drawdown available within each pumping well without dewatering the horizontal screen. Pumping in each well ceases when target drawdown is achieved and resumes when the water table begins to recharge.

System Operation and Performance Monitoring

The HCS performance is continually evaluated and monitored. Treated water discharge volumes are documented daily and tabulated monthly. Minor system shutdown events are documented and resolved as detailed below. Samples are collected each month to document permit compliance for sanitary discharge and air permitting.

As part of routine field activities, Arcadis periodically collects groundwater elevations from monitoring wells across the site. Groundwater elevation trend, groundwater horizontal gradient, along with long-term groundwater analytical trends, will be the primary lines of evidence used to demonstrate effectiveness of the HCS.

3 SUMMARY OF RESPONSE ACTIVITY RESULTS

On-Site Groundwater Sampling

The results of the on-site monitoring well gauging indicate an apparent groundwater flow direction from west to east, locally influenced by the HCS. On-site groundwater elevation contours are presented on **Figure 3**.

The on-site monitoring well groundwater results are compared to Michigan Part 201 Non-residential Generic Cleanup Criteria (Dec. 2013). The analytical results are summarized in **Table 2**. Compound concentrations exceeding Part 201 Criteria include cis-1,2-DCE, trans-1,2-DCE, TCE, and VC. Figures summarizing the exceedances of cis-1,2-DCE, trans-1,2-DCE, TCE, and VC are provided on **Figures 4 through 7**, respectively. All other site-specific compounds (1,1-DCE, PCE, and 1,4-dioxane) were either not detected above the reporting limits or were detected at concentrations below Part 201 Criteria.

Off-Site Groundwater Sampling

The results of the off-site monitoring well gauging indicate an apparent groundwater flow direction from west to east. Off-site groundwater elevation contours are included on **Figure 3**.

The off-site monitoring well groundwater results are compared to the Part 201 Residential Generic Cleanup Criteria (Dec. 2013) and the site-specific groundwater vapor intrusion screening levels included as part of the Consent Decree, which became effective on July 27, 2017. However, the site-specific screening levels provided for TCE and VC where groundwater may be in contact (GWIC) with a structure are below typical target detection limits (TDLs) for these compounds. Therefore, Ford requested the use

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of the MDEQ Remediation and Redevelopment Division (RRD) TDLs for TCE and VC of 1.0 microgram per liter (µg/L) as the groundwater screening level protective of vapor intrusion at residential structures where there is potential for GWIC on November 17, 2017. The MDEQ approved the use of the TDLs for TCE and VC on December 20, 2017.

The off-site groundwater results are summarized in **Table 4**. Only VC was detected in off-site monitoring wells at concentrations above the 1.0 µg/L TDL. The results for TCE and VC are provided on **Figures 8 and 9**, respectively. All other site-specific compounds (1,1-DCE, cis-DCE, trans-DCE, PCE, and 1,4-dioxane) were either not detected above the reporting limits or were detected at concentrations below Part 201 Criterion.

Off-Site Soil Vapor Monitoring

The soil vapor analytical results are compared to site-specific recommended interim action screening levels (RIASLs) provided by the MDEQ. Results are summarized in **Table 5**, and compound-specific results for detections of cis-DCE, PCE, TCE, and VC are provided on **Figures 10, 11, 12 and 13**, respectively. All other site-specific compounds (1,1-DCE, trans-DCE, and 1,4-dioxane) were not detected at concentrations above laboratory reporting limits. There were no off-site exceedances of the RIASLs for the above-mentioned COCs.

Hydraulic Control System Operation and Performance Monitoring

System Operation

The HCS operated for more than 87 percent of this reporting period with minimal maintenance downtime. **Exhibit 1** below describes the system shutdowns, approximate durations, and dates.

Exhibit 1: HCS Shutdown Summary

Date of Shutdown	Duration of Shutdown	Summary of Shutdown
2,5,13,19-Nov-17	Less than a 24-hour day	System shut down due to high water level in the air stripper sump and high pressure at the effluent bag filter housings restricting discharge pump flow. The effluent bag filters were replaced, and operation resumed on the same day as shutdown. HCS shutdowns varied in duration from .5 to 16 hours on Nov. 2, 5, 13, and 19, 2017. The shutdowns did not exceed 24 hours during each day and the total shutdown time was approximately 22.5 hours over this time period.
6-Nov-17 through 10-Nov-17	Less than 24 hours per day	System deactivated for heat trace installation. The HCS was shut down each morning, upon arrival to site, and resumed normal operation each evening, before departure from site (8-hour work days). Total hours of shut down was 40 hours.

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Date of Shutdown	Duration of Shutdown	Summary of Shutdown
22- 26 Nov-17 1- 4 Dec-17	Less than 24 hours per day	System shut down due to high water level in the air stripper sump. Troubleshooting of air stripper sump pump occurred on each of these days. It was determined that the sump float was clogged and needed to be disassembled and cleaned. During this shutdown period, the air stripper was also disassembled and cleaned. Once the float and air stripper were cleaned, the HCS restarted, and normal operation resumed on December 4, 2017. System shutdowns varied in duration from Nov. 22 to Nov. 26, 2017 and Dec. 1 to Dec 4, 2017. The HCS shutdowns varied anywhere from 2 to 22 hours throughout this time period, but never exceeded a full day. Total shutdown time was approximately 91 hours over a 9-day time frame.
6-Dec-17	Less than 24 hours	System manually shut down to install new catalytic oxidizer blower assembly. System restarted, and operation resumed on the same day as the shutdown.
26-31 Dec-17	24 hours or less per day	System shut down due to components freezing on the catalytic oxidizer during extreme cold conditions with temperatures ranging from 19 to -2 degrees Fahrenheit. Troubleshooting of catalytic oxidizer occurred each day. It was determined that condensation associated with the flow meter was freezing and causing the catalytic oxidizer to shut down due to improper air flow. Shutdown lengths varied from Dec. 26 through Dec 31, 2018. The shutdown lengths varied between 4 to 24 hours. Total shutdown time was approximately 109 hours over a 6-day time period. The catalytic oxidizer was removed from operation, and the HCS resumed normal operation on January 2, 2018.

During the reporting period, groundwater was extracted from the horizontal wells in a manner to maintain continuous and consistent drawdown in each horizontal well. Discharge volumes and flowrates tabulated monthly during the reporting period are summarized in **Exhibit 2** below. Daily HCS discharge volumes and monthly discharge totals are provided in **Table 7** for the 4Q 2017 reporting period. The total volume of water collected and treated since March 15, 2017, through the 4Q 2017, is 9,629,000 gallons. Discharge has generally decreased through the most recent 3 months of operation (October through December). This is due to dewatering of the vadose zone as the system reached steady-state conditions, as well as a falling water table related to seasonal fluctuation. Flow rates are expected to increase moderately through the upcoming wet season.

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Exhibit 2: HCS Treated Discharge Water Volume and Flowrate Summary – 4Q 2017

Month	Volume Treated (Gallons)	Average Flowrate (GPM)
October	565,133	13
November	835,515	23
December	791,989	23

Exhibit 3 below depicts the cumulative constituent-specific mass removal of the above VOCs through the 4Q 2017 reporting period. Some site-specific compounds (1,1-DCE and trans-1,2-DCE) were detected at low concentrations and are not included on the graph, while other site-specific compounds (1-4-dioxane and PCE) were not detected. Vapor analytical concentrations are provided in **Table 6**.

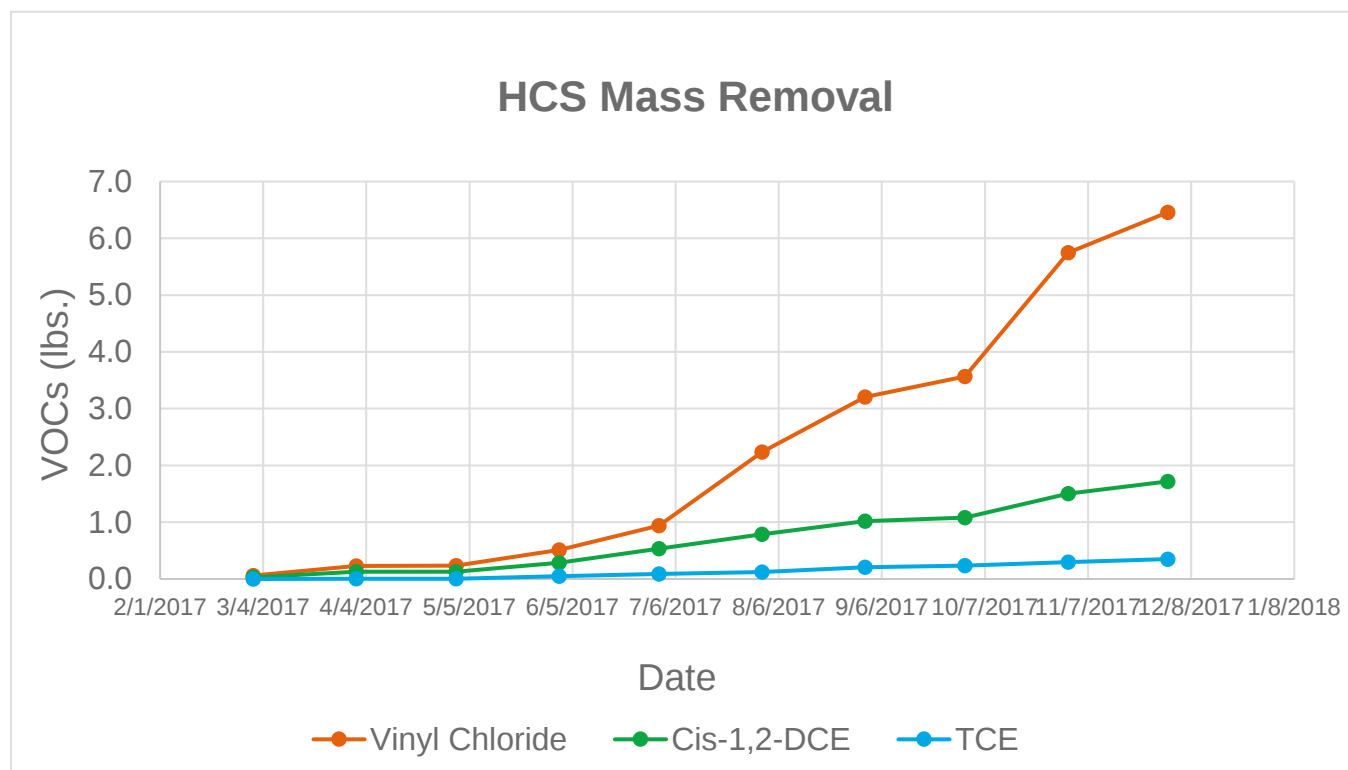


Exhibit 3: HCS Mass Removal – 4Q 2017

Hydraulic Capture

HCS performance is being evaluated in general accordance with USEPA guidance – A Systematic Approach for Evaluation of Capture Zone at Pump and Treat Systems (USEPA 2008) to ensure that the system is capturing groundwater as designed and mitigating additional migration of impacted

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groundwater to the east of the HCS. Two lines of evidence will be used to evaluate system performance: groundwater elevation and groundwater analytical trends.

A groundwater elevation contour map, including the area around the HCS system, is provided as **Figure 3**. The November contour map uses an estimated pumping water level at each of the HCS wells (ESD-1 through 4) to help determine groundwater gradient. To estimate the pumping water levels, the drawdown at each of the HCS wells is measured with a pressure transducer. The groundwater elevation is then estimated by assuming an apparent ambient groundwater elevation near the HCS (based on horizontal gradient and distance from a known point) and subtracting the drawdown recorded on the date of the November gauging event.

As shown on **Figure 3**, there is a relatively steep gradient observed west of the HCS as groundwater moves into the zone of influence and groundwater flux is captured by the system. The HCS operates relative to a set target drawdown. The system pumps until the target level is reached and then reduces to maintain the pumping water level. The average monthly pumping rates (~10 to 25 gallons per minute [gpm]) are consistent with the ambient groundwater flux values calculated for the site. There is an apparent groundwater divide beneath and east of the ATNPC building with groundwater west of the divide flowing to the HCS and groundwater east of the divide flowing east; however, the extent of downgradient capture has not been calculated due to limited performance well network coverage in this area. Additional piezometers are proposed and outlined in the Remedial Investigation Response Activity Plan provided to the MDEQ on December 13, 2017. The additional piezometers will document the gradient around the HCS system and the extent of capture east of the HCS in more detail, particularly within the hydraulically flat area between the HCS and the eastern property boundary. Additional piezometers will further support the evaluation of HCS capture and provide sufficient data to represent site groundwater flow using more traditional gradient maps as outlined in the USEPA guidance document.

Groundwater Analytical Trends

To date, only three rounds of groundwater samples have been collected from the performance monitoring wells since the HCS startup (second, third, and fourth quarter 2017). Analytical results for the quarterly events are included on **Figures 4 through 9**. To date, analytical results suggest concentrations are stable downgradient of the HCS. As additional samples are collected, Ford will evaluate analytical trends in key monitoring wells located east of the HCS system. Observations and measurements to date indicate the HCS system operates as designed and prevents further migration of groundwater impacts to the east of the HCS. Analytical trends near the system will take time to develop, particularly within or near zones of stagnation that have developed east of the system.

Summary of Compliance Actions

Monthly compliance sampling for the HCS GLWA discharge permit was completed in the first week of each month. Samples were collected after treatment and before discharge. Samples were analyzed for constituents required by the discharge permit. **Exhibit 4** below depicts the sampling parameters, methods, and discharge limits monitored for compliance with the GLWA discharge permit.

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Parameter	Analytical Method	Discharge Limit
Cadmium (Cd)	USEPA 200.7 – Metals	1.0 milligrams per liter (mg/l)
Chromium (Cr)	USEPA 200.7 – Metals	25 mg/l
Copper (Cu)	USEPA 200.7 – Metals	2.5 mg/l
Lead (Pb)	USEPA 200.7 – Metals	1.0 mg/l
Nickel (Ni)	USEPA 200.7 – Metals	5.0 mg/l
Mercury (Hg)	USEPA 245.1 - Mercury	Non-Detect
Silver (Ag)	USEPA 200.7	1.0 mg/l
Zinc (Zn)	USEPA 200.7	7.3 mg/l
Total PCB	USEPA 608	Non-Detect
Total Toxic Organics	USEPA 624 - VOCs USEPA 625 – Semi-Volatile Organic Compounds (SVOCs) USEPA 625 Dioxin Screen USEPA 1613B – Dioxins and Furans	20 micrograms per liter (µg/l)

Exhibit 4: GLWA Discharge Limitations for HCS

In addition, the GLWA discharge permit limits discharge to 100,800 gallons per day (gpd) and/or 70 gpm. Discharge volumes are documented daily and tabulated monthly. Discharge volumes were within discharge limits during 4Q 2017. Tabulated discharge volumes for the 4Q 2017 reporting period are presented in **Table 7**.

The vapor discharge from the air stripper is treated with a catalytic oxidizer and is discharged in accordance with the air permitting exemption contained in R 336.1290 (Rule 290) of the Michigan Air Pollution Control Rules. The catalytic oxidizer was shut down from November 17 through December 6, 2017 because the blower malfunctioned and ultimately needed to be replaced. During this time, the HCS was in operation, but not while the catalytic oxidizer was being repaired. From December 26 through January 2, 2018, due to the condensate line freezing, the HCS was shut down while the lines were thawed as detailed in Exhibit 1.

During the reporting period, Arcadis collected vapor samples from the air stripper effluent before vapor treatment by the catalytic oxidizer. These samples were analyzed for VOCs using the USEPA Air Method TO-15 for documenting compliance with the Rule 290 air permitting exemption of the Michigan Air Pollution Control Rules. The vapor analytical data from the air stripper effluent are summarized in **Table 6**.

Livonia Transmission Plant Vapor Mitigation System

In response to the presence of VOCs and methane beneath the LTP building, Ford has designed and started installation of an interim measure sub-slab depressurization (SSD) system to limit the potential for vapor intrusion into the LTP building.

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Construction of the interim measure SSD system began in September 2017. To date, the completed construction consists of nine sub-grade suction pits and associated above-grade vertical riser piping. Currently, the sub-grade suction pits are attached to a capped riser pipe with a closed valve. The installation of overhead conveyance piping is scheduled to begin in the first quarter 2018 and final system design is currently ongoing. Further information regarding the progress of the construction of the SSD system will be included in subsequent progress reports

4 ACCESS AGREEMENTS

No additional agreements were needed to achieve Ford's objectives during the 4Q 2017 reporting period.

5 OTHER RELEVANT INFORMATION

Due Care Obligations

Response activities are ongoing and maintaining the due care obligation.

Official Communications

MDEQ and Ford have had an open line of communication during the 4Q 2017 reporting period.

Public Outreach

Ford currently has an active website that allows the general public access to project updates. The website link is <http://www.fordlivoniabostonbeaconproject.com>. Ford is currently working to update the existing website to organize the documents in a manner that matches the Consent Decree.

List of Reporting Documents

A list of all reporting documents submitted through the 4Q 2017 reporting period is included in **Exhibit 5** below.

Report Title	Submission Date
LTP Target Detection Limit Request Response Activity Plan	November 17, 2017
3Q 2017 Progress Report	November 21, 2017
Response to MDEQ Comments for the Conceptual Site Model	December 12, 2017
Remedial Investigation Response Activity Plan	December 13, 2017

Exhibit 5: Submitted Reporting Documents – 4Q 2017

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6 WASTE MANAGEMENT

All investigation-derived waste, construction debris, or other waste is properly stored in labelled containers (e.g., 55-gallon drum, frac tank) pending off-site disposal. All waste is managed by Ford and Veolia Environmental Services (Veolia). Veolia is the Total Waste Manager (TWM) for the site.

7 PROPOSED SCHEDULE

Future response activities are scheduled as follows:

Response Activity	Proposed Schedule	Anticipated Completion
1Q 2018 On-site groundwater sampling	Week of February 5, 2018	February 13, 2018
1Q 2018 Off-site groundwater sampling	Week of February 5, 2018	February 13, 2018
1Q 2018 Off-site soil vapor sampling	Week of February 19, 2018	February 23, 2018
Hydraulic control system performance monitoring	Monthly intervals	Ongoing

Exhibit 6: Response Activity Schedule

TABLES



Table 1
On-Site Groundwater Elevations
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation ⁽¹⁾ (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
LMW-15-01	673.98	7-12	11/16/15	8.42	11.36	2.94	664.97
			11/25/15	8.44	11.35	2.91	664.96
			11/30/15	8.38	11.36	2.98	665.01
			12/08/15	8.35	11.35	3.00	665.03
			11/06/17	Could Not Open ⁽²⁾			
LMW-15-02	673.90	7-12	11/16/15	7.70	10.10	2.40	665.72
			11/25/15	7.68	9.83	2.15	665.79
			11/30/15	7.66	9.84	2.18	665.80
			12/09/15	7.60	9.76	2.16	665.86
			11/06/17	8.39	11.13	2.74	664.96
LMW-15-03	670.18	7-12	11/16/15	6.01	7.46	1.45	663.88
			11/25/15	5.92	7.04	1.12	664.04
			11/30/15	5.81	6.94	1.13	664.14
			12/11/15	5.83	7.26	1.43	664.06
			11/06/17	6.36	7.49	1.13	663.59
LMW-15-04	673.92	6-11	11/16/15	7.10	8.79	1.69	666.48
			11/25/15	7.10	8.79	1.69	666.48
			11/30/15	7.06	8.79	1.73	666.52
			12/09/15	7.00	8.86	1.86	666.55
			11/06/17	Could Not Open ⁽²⁾			
LMW-15-05	673.93	7-12	11/16/15	8.50	10.20	1.70	665.09
			11/25/15	8.50	9.99	1.49	665.14
			11/30/15	8.47	9.98	1.51	665.16
			12/08/15	8.42	9.92	1.50	665.21
			11/06/17	Could Not Open ⁽²⁾			
LMW-15-06	673.93	7-12	11/16/15	6.92	8.82	1.90	666.63
			11/25/15	6.89	8.52	1.63	666.72
			11/30/15	6.74	8.39	1.65	666.86
			12/09/15	6.62	8.40	1.78	666.96
			11/06/17	Could Not Open ⁽²⁾			
LMW-15-07	673.52	7-12	11/16/15	NP	7.70	NM	665.82
			11/25/15	NP	7.32	NM	666.20
			11/30/15	7.14	7.15	0.01	666.38
			12/11/15	7.08	7.09	0.01	666.44
			11/06/17	7.43	7.53	0.10	666.07
LMW-15-08	673.88	7.5-12.5	11/16/15	NP	6.30	NM	667.58
			11/25/15	6.25	6.26	0.01	667.63
			11/30/15	6.12	6.13	0.01	667.76
			12/11/15	6.09	6.10	0.01	667.79
			11/06/17	Could Not Open ⁽²⁾			

See Notes on Last page.

Table 1
On-Site Groundwater Elevations
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation ⁽¹⁾ (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
LMW-15-09	673.93	7-12	11/16/15	7.82	10.62	2.80	665.55
			11/25/15	7.76	10.51	2.75	665.62
			11/30/15	7.72	10.32	2.60	665.69
			12/10/15	7.73	10.38	2.65	665.67
			11/06/17	8.29	NA	3.71	NA**
LMW-15-10	673.89	7-12	11/16/15	8.40	9.26	0.86	665.32
			11/25/15	8.32	9.13	0.81	665.41
			11/30/15	8.24	8.96	0.72	665.51
			12/10/15	8.18	8.79	0.61	665.59
			11/06/17	8.69	9.50	0.81	665.04
MW-15-59D	675.17	94-99	01/07/16	NP	21.83	NM	653.34
			01/19/16	NP	21.91	NM	653.26
			04/19/17	NP	21.37	NM	653.80
			07/24/17	NP	28.71	NM	646.46
			11/06/17	NP	24.48	NM	646.46
MW-15-60D	675.75	93-98	01/07/16	NP	19.47	NM	656.28
			01/19/16	NP	19.71	NM	656.04
			04/19/17	NP	18.65	NM	657.10
			07/24/17	NP	24.09	NM	651.66
			11/06/17	NP	20.63	NM	655.12
MW-15-61D	670.03	88-93	01/07/16	NP	76.49	NM	593.54
			01/08/16	NP	88.02	NM	582.01
			01/19/16	NP	73.23	NM	596.80
			01/20/16	NP	89.31	NM	580.72
			01/26/16	NP	84.09	NM	585.94
			01/27/16	NP	82.42	NM	587.61
			01/28/16	NP	80.71	NM	589.32
			04/19/17	NP	24.71	NM	645.32
			07/24/17	NP	24.74	NM	645.29
			11/06/17	NP	26.58	NM	643.45
MW-1	670.77	14-19	04/17/17	NP	3.82	NM	666.95
			07/24/17	NP	3.57	NM	667.20
			11/06/17	NP	3.93	NM	666.84
MW-2	673.80	15.5-20.5	05/12/16	NP	6.35	NM	667.45
			04/17/17	NP	6.91	NM	666.89
			07/24/17	NP	6.99	NM	666.81
			11/06/17	NP	7.24	NM	666.56
MW-3	673.61	14-19	05/12/16	NP	5.82	NM	667.79
			04/17/17	NP	7.09	NM	666.52
			07/24/17	NP	7.29	NM	666.32
			11/06/17	NP	7.61	NM	666.00

See Notes on Last page.

Table 1
On-Site Groundwater Elevations
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation ⁽¹⁾ (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
MW-4	673.85	15.5-20.5	05/13/16	NP	7.15	NM	666.70
			04/17/17	NP	7.57	NM	666.28
			07/24/17	NP	7.61	NM	666.24
			11/06/17	NP	7.94	NM	665.91
MW-5*	674.40	15.5-20.5	05/13/16	NP	6.49	NM	667.91
			07/24/17	NP	NM	NM	NM
			11/06/17	NP	7.51	NM	666.89
MW-7	670.89	18-23	07/24/17	NP	4.79	NM	666.10
			11/06/17	NP	5.24	NM	665.65
MW-9	671.18	19.5-24.5	05/09/16	NP	5.82	NM	665.36
			04/17/17	NP	6.79	NM	664.39
			07/24/17	NP	5.88	NM	665.30
			11/06/17	NP	6.38	NM	664.80
MW-10	673.78	16.5-21.5	05/13/16	NP	8.16	NM	665.62
			04/17/17	NP	8.15	NM	665.63
			07/24/17	NP	8.58	NM	665.20
			11/06/17	NP	6.00	NM	667.78
MW-14	671.24	15-20	07/24/17	NP	6.63	NM	664.61
			11/06/17	NP	7.01	NM	664.23
MW-18	670.41	13-18	05/09/16	NP	6.29	NM	664.12
			04/17/17	NP	6.67	NM	663.74
			07/24/17	NP	6.92	NM	663.49
			11/06/17	NP	7.31	NM	663.10
MW-19	669.65	15-20	05/13/16	LNAPL			
			04/17/17				
			07/24/17				
			11/06/17	NP	5.91	NM	663.74
MW-20	669.33	13.5-18.5	07/24/17	NP	6.29	NM	663.04
			11/06/17	NP	6.52	NM	662.81
MW-21*	670.76	13.5-18.5	05/13/16	Could Not Open ⁽²⁾			
			04/17/17				
			07/24/17				
			11/06/17				
MW-22	670.18	16.5-21.5	05/10/16	NP	6.18	NM	664.00
			04/17/17	NP	7.13	NM	663.05
			07/24/17	NP	7.53	NM	662.65
			11/06/17	NP	7.51	NM	662.67

See Notes on Last page.

Table 1
On-Site Groundwater Elevations
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation ⁽¹⁾ (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
MW-23	669.24	15-20	05/09/16	NP	6.23	NM	663.01
			04/17/17	NP	6.67	NM	662.57
			07/24/17	NP	6.69	NM	662.55
			11/06/17	NP	6.60	NM	662.64
MW-24	675.48	19-24	04/17/17	NP	9.32	NM	666.16
			07/24/17	NP	10.01	NM	665.47
			11/06/17	NP	10.40	NM	665.08
MW-25	675.04	16-21	04/17/17	NP	5.35	NM	669.69
			07/24/17	NP	6.34	NM	668.70
			11/06/17	NP	6.51	NM	668.53
MW-26	673.39	4.5-14.5	07/24/17	NP	5.96	NM	667.43
			11/06/17	NP	6.09	NM	667.30
MW-27*	671.66	4-14	07/24/17	Could Not Locate ⁽³⁾			
			11/06/17				
MW-28	668.15	2-12	05/09/16	NP	3.21	NM	664.94
			04/17/17	NP	3.78	NM	664.37
			07/24/17	NP	4.61	NM	663.54
			11/06/17	NP	4.81	NM	663.34
MW-29	669.45	5-15	05/13/16	NP	4.10	NM	665.35
			04/17/17	NP	4.53	NM	664.92
			07/24/17	NP	5.41	NM	664.04
			11/06/17	NP	6.65	NM	662.80
MW-30	670.70	19-24	05/09/16	NP	9.37	NM	661.33
			04/17/17	NP	9.86	NM	660.84
			07/24/17	NP	9.93	NM	660.77
			11/06/17	NP	10.47	NM	660.23
MW-31	670.82	17-22	05/09/16	NP	9.96	NM	660.86
			04/17/17	NP	10.13	NM	660.69
			07/24/17	NP	10.19	NM	660.63
			11/06/17	NP	10.65	NM	660.17
MW-32	670.43	18-23	05/09/16	NP	9.64	NM	660.79
			04/17/17	NP	9.52	NM	660.91
			07/24/17	NP	9.71	NM	660.72
			11/06/17	NP	10.18	NM	660.25
MW-33	669.94	14-19	05/09/16	NP	8.68	NM	661.26
			04/17/17	NP	8.76	NM	661.18
			07/24/17	NP	8.84	NM	661.10
			11/06/17	NP	8.58	NM	661.36

See Notes on Last page.

Table 1
On-Site Groundwater Elevations
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation ⁽¹⁾ (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
MW-34	670.49	16.5-21.5	05/09/16	NP	7.98	NM	662.51
			04/17/17	NP	8.83	NM	661.66
			07/24/17	NP	9.45	NM	661.04
			11/06/17	NP	10.02	NM	660.47
MW-35	669.44	19.5-24.5	05/09/16	NP	6.62	NM	662.82
			04/17/17	NP	7.16	NM	662.28
			07/24/17	NP	8.55	NM	660.89
			11/06/17	NP	9.11	NM	660.33
MW-36	676.39	20-25	07/24/17	NP	9.49	NM	666.90
			11/06/17	NP	10.98	NM	665.41
MW-37	671.24	18-23	07/24/17	NP	8.14	NM	663.10
			11/06/17	NP	8.26	NM	662.98
MW-38	671.79	15-20	04/17/17	NP	8.23	NM	663.56
			07/24/17	NP	8.69	NM	663.10
			11/06/17	NP	8.53	NM	663.26
MW-39	672.19	19.5-24.5	04/19/17	NP	11.08	NM	661.11
			07/24/17	NP	11.41	NM	660.78
			11/06/17	NP	11.64	NM	660.55
MW-40	670.65	15-20	05/09/16	NP	9.94	NM	660.71
			04/19/17	NP	9.98	NM	660.67
			07/24/17	NP	10.10	NM	660.55
			11/06/17	NP	10.58	NM	660.07
MW-41	670.34	16-21	05/09/16	NP	8.20	NM	662.14
			04/19/17	NP	8.97	NM	661.37
			07/24/17	NP	9.39	NM	660.95
			11/06/17	NP	9.96	NM	660.38
MW-42	670.10	16-21	05/09/16	NP	7.29	NM	662.81
			04/19/17	NP	8.01	NM	662.09
			07/24/17	NP	9.13	NM	660.97
			11/06/17	NP	9.76	NM	660.34
MW-43	669.24	17-22	05/09/16	NP	6.34	NM	662.90
			04/19/17	NP	6.80	NM	662.44
			07/24/17	NP	8.34	NM	660.90
			11/06/17	NP	8.92	NM	660.32
MW-44	671.48	16-21	05/09/16	NP	6.59	NM	664.89
			04/19/17	NP	7.48	NM	664.00
			07/24/17	NP	8.38	NM	663.10
			11/06/17	NP	8.55	NM	662.93

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Table 1
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Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation ⁽¹⁾ (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
MW-45	670.83	15-20	05/09/16	NP	14.22	NM	656.61
			04/19/17	NP	11.45	NM	659.38
			07/24/17	NP	11.07	NM	659.76
			11/06/17	NP	9.82	NM	661.01
MW-46	670.84	16-21	05/09/16	NP	8.42	NM	662.42
			04/19/17	NP	10.61	NM	660.23
			07/24/17	NP	10.33	NM	660.51
			11/06/17	NP	9.76	NM	661.08
MW-47	671.33	16-21	05/09/16	NP	7.53	NM	663.80
			04/19/17	NP	9.88	NM	661.45
			07/24/17	NP	10.11	NM	661.22
			11/06/17	NP	9.87	NM	661.46
MW-48	670.98	17-22	05/09/16	NP	6.33	NM	664.65
			04/19/17	NP	8.93	NM	662.05
			07/24/17	NP	9.70	NM	661.28
			11/06/17	NP	9.33	NM	661.65
MW-49	669.07	12.5-17.5	05/12/16	NP	6.57	NM	662.50
			04/19/17	NP	7.03	NM	662.04
			07/24/17	NP	6.94	NM	662.13
			11/06/17	NM	NM	NM	NM
MW-50	670.16	16-21	05/09/16	NP	5.42	NM	664.74
			04/19/17	NP	6.77	NM	663.39
			07/24/17	NP	8.16	NM	662.00
			11/06/17	NP	8.15	NM	662.01
MW-51	671.07	15-20	04/19/17	NP	6.12	NM	664.95
			07/24/17	NP	7.82	NM	663.25
			11/06/17	NP	7.58	NM	663.49
MW-52	669.16	15-20	05/09/16	NP	6.39	NM	662.77
			04/19/17	NP	6.59	NM	662.57
			07/24/17	NP	8.33	NM	660.83
			11/06/17	NP	8.87	NM	660.29
MW-53	668.59	16-21	05/09/16	NP	6.05	NM	662.54
			04/18/17	NP	6.03	NM	662.56
			07/24/17	NP	7.92	NM	660.67
			11/06/17	NP	8.35	NM	660.24
MW-54	668.49	16-21	04/19/17	NP	6.01	NM	662.48
			07/24/17	NP	8.08	NM	660.41
			11/06/17	NP	8.17	NM	660.32

See Notes on Last page.

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Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation ⁽¹⁾ (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
MW-55	670.04	15-20	04/19/17	NP	6.84	NM	663.20
			07/24/17	NP	8.95	NM	661.09
			11/06/17	NP	8.98	NM	661.06
MW-56	670.26	16-21	04/19/17	NP	6.67	NM	663.59
			07/24/17	NP	8.18	NM	662.08
			11/06/17	NP	8.37	NM	661.89
MW-57	668.93	17-22	04/19/17	NP	5.89	NM	663.04
			07/24/17	NP	7.83	NM	661.10
			11/06/17	NP	8.12	NM	660.81
MW-58	668.73	15-20	05/09/16	NP	3.51	NM	665.22
			04/19/17	NP	4.28	NM	664.45
			07/24/17	NP	5.68	NM	663.05
			11/06/17	NP	5.78	NM	662.95
MW-62	671.06	16.3-21.3	04/20/17	NP	7.89	NM	663.17
			07/24/17	NP	10.11	NM	660.95
			11/06/17	NP	9.43	NM	661.63
MW-63	669.96	7-12	04/20/17	NP	7.32	NM	662.64
			07/24/17	NP	8.45	NM	661.51
			11/06/17	NP	8.18	NM	661.78
MW-64	671.09	15-20	04/20/17	NP	8.55	NM	662.54
			07/24/17	NP	9.83	NM	661.26
			11/06/17	NP	10.20	NM	660.89
MW-65	671.98	16-21	04/20/17	NP	8.26	NM	663.72
			07/24/17	NP	9.87	NM	662.11
			11/06/17	NP	9.68	NM	662.30
MW-66	669.83	15-20	04/20/17	NP	6.55	NM	663.28
			07/24/17	NP	7.81	NM	662.02
			11/06/17	NP	7.51	NM	662.32
MW-67	671.32	9-14	04/20/17	NP	9.44	NM	661.88
			07/24/17	NP	9.84	NM	661.48
			11/06/17	NP	9.76	NM	661.56
MW-68	670.71	15-20	04/20/17	NP	9.39	NM	661.32
			07/24/17	NP	9.55	NM	661.16
			11/06/17	NP	9.51	NM	661.20
MW-69	670.27	15-20	04/20/17	NP	9.71	NM	660.56
			07/24/17	NP	NM	NM	NM
			11/06/17	NP	9.91	NM	660.36

See Notes on Last page.

Table 1
On-Site Groundwater Elevations
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation ⁽¹⁾ (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
MW-70	671.36	15-20	04/20/17	NP	11.46	NM	659.90
			07/24/17	NP	11.02	NM	660.34
			11/06/17	NP	10.23	NM	661.13
MW-71	671.04	15-20	04/20/17	NP	12.45	NM	658.59
			07/24/17	NP	11.84	NM	659.20
			11/06/17	NP	10.74	NM	660.30
PW-16-01	670.23	9.7-19.7	07/24/17	NP	9.04	NM	661.19
			11/06/17	NP	8.45	NM	661.78
PW-16-02	669.97	6-21	07/24/17	NP	6.77	NM	663.20
			11/06/17	NP	6.54	NM	663.43
TW-16-01	669.53	12-17	07/24/17	NP	8.36	NM	661.17
			11/06/17	NP	7.68	NM	661.85
TW-16-02	669.43	12-17	04/20/17	NP	4.48	NM	664.95
			07/24/17	NP	8.00	NM	661.43
			11/06/17	NP	7.48	NM	661.95
TW-16-03	669.34	9-19	07/24/17	NP	6.10	NM	663.24
			11/06/17	NP	6.00	NM	663.34
TW-16-04	669.80	9-19	04/20/17	NP	4.90	NM	664.90
			07/24/17	NP	6.46	NM	663.34
			11/06/17	NP	6.36	NM	663.44

Notes:

Water level measurements collected from top of well casing.

⁽¹⁾ TOC elevation re-surveyed on October 12-13, and/or November 20, 2017 by Geodetic Designs Inc.

⁽²⁾ Arcadis plans to evaluate the monitoring well and determine if maintenance or repairs can be made in 1Q 2018.

⁽³⁾ Arcadis plans to use available technologies to locate the monitoring well in 1Q 2018.

* Monitoring well TOC could not be re-surveyed due to access.

** Unable to calculate a corrected groundwater elevation due LNAPL thickness throughout well screen.

Abbreviations:

ft. Feet
 ft. amsl Feet above mean sea level
 ft. bgs Feet below ground surface
 ft. btoc Feet below top of casing
 LNAPL Light non-aqueous phase liquid
 NM Not measured
 NP No product detected
 TOC Top of casing

This document is a DRAFT document that has not received approval from the Michigan Department of Environmental Quality (MDEQ). This document was prepared pursuant to a court Consent Decree. The opinions, findings, and conclusions expressed are those of the authors and not those of the MDEQ.

Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-1			MW-2			MW-3			MW-4		
				14-19			15.5-20.5			14-19			15.5-20.5		
				4/26/2017	7/28/2017	11/10/2017	4/27/2017	8/3/2017	11/9/2017	4/27/2017	8/3/2017	11/9/2017	4/27/2017	8/3/2017	11/9/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 25	< 50	< 67	< 1.0	< 1.0	< 1.0	< 1,000	< 1,000	< 1,000
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 25	< 50	< 67	< 1.0	< 1.0	< 1.0	< 1,000	< 1,000	< 1,000
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 25	< 50	< 67	< 1.0	< 1.0	< 1.0	< 1,000	< 1,000	< 1,000
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 25	< 50	< 67	< 1.0	< 1.0	< 1.0	< 1,000	< 1,000	< 1,000
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 50	< 100	< 130	< 2.0	< 2.0	< 2.0	< 2,000	< 2,000	< 2,000
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	200	270	260	< 1.0	< 1.0	< 1.0	1,200	1,100	850 J
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 25	< 50	< 67	< 1.0	< 1.0	< 1.0	< 1,000	< 1,000	< 1,000
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 25	< 50	< 67	< 1.0	< 1.0	< 1.0	21,000	18,000	19,000
Vinyl chloride	µg/l	2.0	13	< 1.0	< 1.0	< 1.0	200	160	140	< 1.0	< 1.0	< 1.0	570 J	640 J	470 J
Gases															
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other															
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals															
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on Last Page.

Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-5		MW-7		MW-9		MW-10			MW-14	
				15.5-20.5		18-23		19.5-24.5		16.5-21.5			15-20	
				8/3/2017	11/9/2017	7/31/2017	11/10/2017	7/28/2017	11/10/2017	4/27/2017	8/4/2017	11/9/2017	7/28/2017	11/10/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 67	< 100	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 67	< 100	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 67	< 100	< 1.0	< 1.0
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 67	< 100	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 100	< 130	< 200	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 67	< 100	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 67	< 100	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 50	< 67	< 100	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	< 1.0	< 1.0	< 1.0	< 1.0	5.5	7.1	1,200	2,100	2,000	< 1.0	< 1.0
Gases														
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other														
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals														
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-15-59D			MW-15-60D			MW-15-61D			MW-18		
				94-99			93-98			88-93			13-18		
				4/26/2017	8/1/2017	11/15/2017	4/26/2017	8/1/2017	11/15/2017	4/26/2017	8/1/2017	11/15/2017	4/21/2017	7/28/2017	11/10/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.27 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	790	270	0.35 J	0.46 J	0.30 J	< 1.0	0.33 J	< 1.0	< 1.0	0.28 J	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	0.25 J	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Gases															
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other															
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals															
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-19	MW-20		MW-22			MW-23		MW-24		
				15-20	13.5-18.5		16.5-21.5			15-20		19-24		
				11/14/2017	7/31/2017	11/10/2017	4/25/2017	8/2/2017	11/7/2017	8/3/2017	11/7/2017	4/26/2017	8/2/2017	11/10/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 63	< 100	< 50	< 1,000	< 2,000	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 63	< 100	< 50	< 1,000	< 2,000	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 63	< 100	< 50	< 1,000	< 2,000	< 1.0	< 1.0	< 1.0
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 63	< 100	< 50	< 1,000	< 2,000	< 1.0	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 130	< 200	< 100	< 2,000	< 4,000	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 63	< 100	< 50	1,200	4,100	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 63	< 100	< 50	< 1,000	< 2,000	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	1.1	< 1.0	< 1.0	< 63	< 100	< 50	5,300	25,000	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	1.8	< 1.0	< 1.0	2,300	2,100	1,600	1,100	2,400	< 1.0	< 1.0	< 1.0
Gases														
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other														
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals														
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-25			MW-26		MW-28		MW-29		
				16-21			4.5-14.5		2-12		5-15		
				4/21/2017	8/2/2017	11/14/2017	8/4/2017	11/14/2017	8/3/2017	11/8/2017	4/26/2017	8/4/2017	11/14/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.68 J	0.59 J	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Gases													
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other													
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-30			MW-31			MW-32		MW-33	
				19-24			17-22			18-23		14-19	
				4/25/2017	7/27/2017	11/9/2017	4/21/2017	7/28/2017	11/10/2017	7/28/2017	11/7/2017	7/28/2017	11/8/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	< 1.0	< 1.0	< 1.0	< 1.0	0.68 J	0.84 J	< 1.0	0.67 J	< 1.0	< 1.0
Gases													
Ethane	µg/l	NS	NS	< 0.50	NA	0.31 J	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	< 0.50	NA	< 1.0	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	65	NA	360	NA	NA	NA	NA	NA	NA	NA
Other													
Carbon, Dissolved	mg/l	NS	NS	2.6	NA	2.5	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	< 1.0	NA	< 0.10	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	52	NA	53	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	2.1	NA	2.4	NA	NA	NA	NA	NA	NA	NA
Metals													
Iron, Dissolved	µg/l	300	NS	< 100	NA	3,700	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	630	NA	3,700	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	77	NA	150	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	70	NA	150	NA	NA	NA	NA	NA	NA	NA

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Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-34			MW-35		MW-36		MW-37		MW-38		
				16.5-21.5			19.5-24.5		20-25		18-23		15-20		
				4/24/2017	7/27/2017	11/9/2017	7/27/2017	11/7/2017	7/28/2017	11/10/2017	8/1/2017	11/10/2017	4/26/2017	7/28/2017	11/8/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	0.52 J	1.5	2.0	3.5	2.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Gases															
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other															
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals															
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-39			MW-40		MW-41			MW-42		
				20-25			20-25		16-21			16-21		
				4/26/2017	7/28/2017	11/7/2017	7/28/2017	11/15/2017	4/24/2017	7/27/2017	11/9/2017	4/24/2017	7/27/2017	11/9/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	0.41 J	0.48 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	< 1.0	< 1.0	< 1.0	0.77 J	1.8	3.2	1.9	2.4	0.81 J	0.99 J	1.0
Gases														
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other														
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals														
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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36200 Plymouth Road
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Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-43			MW-44			MW-45			MW-46		
				17-22			16-21			15-20			16-21		
				4/27/2017	7/27/2017	11/9/2017	4/25/2017	8/2/2017	11/7/2017	4/24/2017	8/1/2017	11/13/2017	4/24/2017	7/31/2017	11/13/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 6.3	< 10	< 20	< 500	< 500	< 67	< 5.0	< 1.0	< 2.5
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 6.3	< 10	< 20	< 500	< 500	< 67	7.9	< 1.0	< 2.5
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 6.3	< 10	< 20	< 500	< 500	< 67	< 5.0	< 1.0	< 2.5
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 6.3	< 10	< 20	< 500	< 500	< 67	< 5.0	< 1.0	< 2.5
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 13	< 20	< 40	< 1,000	< 1,000	< 130	< 10	< 2.0	< 5.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 6.3	< 10	< 20	< 500	< 500	< 67	1.6 J	2.6	2.7
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 6.3	< 10	< 20	< 500	< 500	< 67	< 5.0	< 1.0	< 2.5
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 6.3	< 10	< 20	< 500	< 500	< 67	< 5.0	< 1.0	< 2.5
Vinyl chloride	µg/l	2.0	13	8.4	3.0	2.2	230	380	520	7,600	5,400	1,500	150	13	57
Gases															
Ethane	µg/l	NS	NS	0.48 J	NA	0.74 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	< 0.50	NA	0.27 J	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	190	NA	210	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other															
Carbon, Dissolved	mg/l	NS	NS	4.4	NA	4.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	< 0.50	NA	< 0.20	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	220	NA	260	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	4.0	NA	4.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals															
Iron, Dissolved	µg/l	300	NS	1,700	NA	2,800	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	2,500	NA	3,900	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	210	NA	190	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	210	NA	200	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-47			MW-48			MW-49		MW-50		
				16-21			17-22			12.5-17.5		16-21		
				4/24/2017	7/31/2017	11/10/2017	4/21/2017	8/1/2017	11/14/2017	4/21/2017	7/28/2017	4/21/2017	7/31/2017	11/13/2017
Methyl-tert-butylether	µg/l	40	7,100	< 5.0	< 4.0	< 10	< 1.0	< 1.0	< 1.0	< 2,000	< 1,000	< 5.0	< 4.0	< 5.0
Styrene (Monomer)	µg/l	100	80	< 5.0	< 4.0	< 10	< 1.0	< 1.0	< 1.0	< 2,000	< 1,000	< 5.0	< 4.0	< 5.0
Tetrachloroethene	µg/l	5.0	60	< 5.0	< 4.0	< 10	< 1.0	< 1.0	< 1.0	< 2,000	< 1,000	< 5.0	< 4.0	< 5.0
Toluene	µg/l	790	270	< 5.0	< 4.0	< 10	< 1.0	< 1.0	< 1.0	< 2,000	< 1,000	< 5.0	< 4.0	< 5.0
Total Xylenes	µg/l	280	41	< 10	< 8.0	< 20	< 2.0	< 2.0	< 2.0	< 4,000	< 2,000	< 10	< 8.0	< 10
trans-1,2-Dichloroethene	µg/l	100	1,500	7.1	8.6	9.3 J	< 1.0	< 1.0	< 1.0	< 2,000	< 1,000	< 5.0	< 4.0	< 5.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 5.0	< 4.0	< 10	< 1.0	< 1.0	< 1.0	< 2,000	< 1,000	< 5.0	< 4.0	< 5.0
Trichloroethene	µg/l	5.0	200	< 5.0	< 4.0	< 10	< 1.0	< 1.0	< 1.0	< 2,000	< 1,000	< 5.0	< 4.0	< 5.0
Vinyl chloride	µg/l	2.0	13	120	110	220	0.85 J	11	5.2	10,000	9,800	48	140	150
Gases														
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other														
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals														
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Ford Livonia Transmission Plant
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Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-51			MW-52		MW-53			MW-54		MW-55	
				15-20			15-20		16-21			16-21		15-20	
				4/25/2017	8/3/2017	11/9/2017	7/27/2017	11/10/2017	4/24/2017	7/27/2017	11/8/2017	7/27/2017	11/8/2017	7/27/2017	11/8/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	0.57 J	0.97 J	0.47 J	7.0	9.1	< 1.0	0.63 J	< 1.0	0.88 J	1.5	0.84 J	0.65 J
Gases															
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other															
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals															
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-56			MW-57		MW-58		MW-62		
				16-21			17-22		15-20		16.3-21.3		
				4/24/2017	7/28/2017	11/8/2017	7/27/2017	11/7/2017	7/28/2017	11/8/2017	4/21/2017	7/31/2017	11/13/2017
Semi-volatile Organic Compounds (SVOCs)													
1,4-Dioxane	µg/l	37	2,800	3.8	2.7	2.2	4.6	4.9	10	8.0	2.8	3.7	3.7
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	µg/l	200	89	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	35	78	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane	µg/l	170,000	32	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	5.0	330	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	2,500	740	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	7.0	130	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trimethylbenzene	µg/l	130	ID	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
1,2,4-Trichlorobenzene	µg/l	70	99	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	63	17	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	0.2	ID	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	0.05	5.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	600	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	5.0	360	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	5.0	230	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	72	45	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	19	28	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	75	17	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
-2Butanone (MEK)	µg/l	38,000	2,200	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
-4Methyl-2-Pentanone	µg/l	5,200	ID	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone	µg/l	2,100	1,700	< 10	< 10	< 10	1.8 J	< 10	< 10	< 10	< 10	< 10	< 10
Benzene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	80	ID	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromoform	µg/l	80	ID	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	29	35	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Carbon Disulfide	µg/l	2,300	ID	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Carbon Tetrachloride	µg/l	5.0	45	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CFC-11	µg/l	7,300	ID	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
CFC-12	µg/l	4,800	ID	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	100	25	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chlorodibromomethane	µg/l	80	ID	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1,700	1,100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloroform	µg/l	80	350	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chloromethane	µg/l	1,100	ID	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/l	70	620	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.6	< 1.0	0.30 J
cis-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cyclohexane	µg/l	NA	ID	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Dichloromethane	µg/l	5.0	1,500	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Diethyl ether	µg/l	10	ID	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Ethylbenzene	µg/l	74	18	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	2,300	28	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl Acetate	µg/l	NA	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Methyl N-Butyl Ketone (2-Hexanone)	µg/l	94	ID	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Methylcyclohexane	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-56			MW-57		MW-58		MW-62		
				16-21			17-22		15-20		16.3-21.3		
				4/24/2017	7/28/2017	11/8/2017	7/27/2017	11/7/2017	7/28/2017	11/8/2017	4/21/2017	7/31/2017	11/13/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0	1.0
Gases													
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other													
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-63				MW-64			MW-65		
				7-12				15-20			16-21		
				4/21/2017	5/25/2017	7/31/2017	11/13/2017	4/24/2017	7/27/2017	11/7/2017	4/25/2017	8/2/2017	11/8/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1,000	< 1,000	< 100	< 10	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 2.0
Styrene (Monomer)	µg/l	100	80	13,000	13,000	3,900	320	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 2.0
Tetrachloroethene	µg/l	5.0	60	< 1,000	< 1,000	< 100	< 10	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 2.0
Toluene	µg/l	790	270	< 1,000	< 1,000	< 100	< 10	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 2.0
Total Xylenes	µg/l	280	41	< 2,000	< 2,000	< 200	< 20	< 2.0	< 2.0	< 2.0	< 4.0	< 8.0	< 4.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1,000	< 1,000	< 100	< 10	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 2.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1,000	< 1,000	< 100	< 10	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 2.0
Trichloroethene	µg/l	5.0	200	< 1,000	< 1,000	< 100	< 10	< 1.0	< 1.0	< 1.0	< 2.0	< 4.0	< 2.0
Vinyl chloride	µg/l	2.0	13	< 1,000	< 1,000	< 100	< 10	2.4	4.8	7.0	61	49	48
Gases													
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other													
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-66			MW-67			MW-68			MW-69	
				15-20			9-14			15-20			15-20	
				4/25/2017	8/2/2017	11/13/2017	4/21/2017	7/31/2017	11/14/2017	4/24/2017	8/1/2017	11/10/2017	4/25/2017	11/10/2017
Methyl-tert-butylether	µg/l	40	7,100	< 1.0	< 1.0	< 1.0	< 10	< 4.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 1.0	< 1.0	< 1.0	< 10	< 4.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 1.0	< 1.0	< 1.0	< 10	< 4.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	790	270	< 1.0	< 1.0	< 1.0	< 10	< 4.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes	µg/l	280	41	< 2.0	< 2.0	< 2.0	< 20	< 8.0	< 10	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	< 1.0	< 1.0	< 1.0	< 10	2.4 J	1.7 J	1.9	1.9	1.5	< 1.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 1.0	< 1.0	< 1.0	< 10	< 4.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 1.0	< 1.0	< 1.0	94	91	110	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	2.0	13	5.6	5.4	3.0	14	< 4.0	< 5.0	12	2.1	18	2.8	< 1.0
Gases														
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other														
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals														
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-70			MW-71			PW-16-01		PW-16-02	
				15-20			15-20			9.7-19.7		6-21	
				4/24/2017	8/1/2017	11/13/2017	4/24/2017	8/1/2017	11/13/2017	8/2/2017	11/7/2017	8/3/2017	11/8/2017
Semi-volatile Organic Compounds (SVOCs)													
1,4-Dioxane	µg/l	37	2,800	0.76 J	0.68 J	1.1 J	4.3	1.4 J	0.72 J	< 2.0	14	0.51 J	< 2.0
Volatile Organic Compounds (VOCs)													
1,1,1-Trichloroethane	µg/l	200	89	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	35	78	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,1,2-trichloro-1,2,2-trifluoroethane	µg/l	170,000	32	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,1,2-Trichloroethane	µg/l	5.0	330	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,1-Dichloroethane	µg/l	2,500	740	2.4 J	3.3 J	3.4 J	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,1-Dichloroethene	µg/l	7.0	130	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,2,3-Trimethylbenzene	µg/l	130	ID	< 33	< 50	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 1,000	< 25	< 5.0
1,2,4-Trichlorobenzene	µg/l	70	99	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	63	17	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	0.2	ID	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,2-Dibromoethane	µg/l	0.05	5.7	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,2-Dichlorobenzene	µg/l	600	13	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,2-Dichloroethane	µg/l	5.0	360	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,2-Dichloropropane	µg/l	5.0	230	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	72	45	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,3-Dichlorobenzene	µg/l	19	28	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
1,4-Dichlorobenzene	µg/l	75	17	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
-2Butanone (MEK)	µg/l	38,000	2,200	< 67	< 100	< 100	< 10	< 10	< 10	< 10	< 2,000	< 50	< 10
-4Methyl-2-Pentanone	µg/l	5,200	ID	< 67	< 100	< 100	< 10	< 10	< 10	< 10	< 2,000	< 50	< 10
Acetone	µg/l	2,100	1,700	< 67	< 100	< 100	< 10	< 10	< 10	< 10	< 2,000	< 50	< 10
Benzene	µg/l	5.0	200	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Bromodichloromethane	µg/l	80	ID	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Bromoform	µg/l	80	ID	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Bromomethane	µg/l	29	35	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Carbon Disulfide	µg/l	2,300	ID	< 33	< 50	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 1,000	< 25	< 5.0
Carbon Tetrachloride	µg/l	5.0	45	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
CFC-11	µg/l	7,300	ID	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
CFC-12	µg/l	4,800	ID	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Chlorobenzene	µg/l	100	25	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Chlorodibromomethane	µg/l	80	ID	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Chloroethane	µg/l	1,700	1,100	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	0.55 J	< 200	< 5.0	< 1.0
Chloroform	µg/l	80	350	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Chloromethane	µg/l	1,100	ID	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
cis-1,2-Dichloroethene	µg/l	70	620	190	200	200	< 1.0	< 1.0	0.39 J	2.2	550	63	2.3
cis-1,3-Dichloropropene	µg/l	NA	NA	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Cyclohexane	µg/l	NA	ID	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Dichloromethane	µg/l	5.0	1,500	8.9 J	< 50	< 50	< 5.0	< 5.0	< 5.0	< 5.0	< 1,000	< 25	< 5.0
Diethyl ether	µg/l	10	ID	< 13	< 20	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 10	< 2.0
Ethylbenzene	µg/l	74	18	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Isopropylbenzene	µg/l	2,300	28	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Methyl Acetate	µg/l	NA	NA	< 67	< 100	< 100	< 10	< 10	< 10	< 10	< 2,000	< 50	< 10
Methyl N-Butyl Ketone (2-Hexanone)	µg/l	94	ID	< 67	< 100	< 100	< 10	< 10	< 10	< 10	< 2,000	< 50	< 10
Methylcyclohexane	µg/l	NA	NA	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0

See Notes on Last Page.

Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-70			MW-71			PW-16-01		PW-16-02	
				15-20			15-20			9.7-19.7		6-21	
				4/24/2017	8/1/2017	11/13/2017	4/24/2017	8/1/2017	11/13/2017	8/2/2017	11/7/2017	8/3/2017	11/8/2017
Methyl-tert-butylether	µg/l	40	7,100	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Styrene (Monomer)	µg/l	100	80	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	0.35 J	< 200	< 5.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Toluene	µg/l	790	270	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Total Xylenes	µg/l	280	41	< 13	< 20	< 20	< 2.0	< 2.0	< 2.0	< 2.0	< 400	< 10	< 2.0
trans-1,2-Dichloroethene	µg/l	100	1,500	3.8 J	4.2 J	5.1 J	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
trans-1,3-Dichloropropene	µg/l	NA	NA	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Trichloroethene	µg/l	5.0	200	< 6.7	< 10	< 10	< 1.0	< 1.0	< 1.0	< 1.0	< 200	< 5.0	< 1.0
Vinyl chloride	µg/l	2.0	13	120	100	140	< 1.0	0.68 J	0.83 J	24	5,300	160	2.0
Gases													
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other													
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on Last Page.

Table 2
On-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	TW-16-01		TW-16-02			TW-16-03		TW-16-04		
				12-17		12-17			9-19		9-19		
				8/2/2017	11/7/2017	4/25/2017	8/2/2017	11/7/2017	8/3/2017	11/8/2017	4/25/2017	8/3/2017	11/8/2017
Methyl-tert-butylether	µg/l	40	7,100	< 10	< 13	< 630	< 500	< 400	< 4.0	< 3.3	< 4.0	< 4.0	< 6.7
Styrene (Monomer)	µg/l	100	80	< 10	< 13	< 630	< 500	< 400	< 4.0	< 3.3	< 4.0	< 4.0	< 6.7
Tetrachloroethene	µg/l	5.0	60	< 10	< 13	< 630	< 500	< 400	< 4.0	< 3.3	< 4.0	< 4.0	< 6.7
Toluene	µg/l	790	270	< 10	< 13	< 630	< 500	< 400	< 4.0	< 3.3	< 4.0	< 4.0	< 6.7
Total Xylenes	µg/l	280	41	< 20	< 25	< 1,300	< 1,000	< 800	< 8.0	< 6.7	< 8.0	< 8.0	< 13
trans-1,2-Dichloroethene	µg/l	100	1,500	< 10	< 13	< 630	< 500	< 400	< 4.0	< 3.3	< 4.0	< 4.0	< 6.7
trans-1,3-Dichloropropene	µg/l	NA	NA	< 10	< 13	< 630	< 500	< 400	< 4.0	< 3.3	< 4.0	< 4.0	< 6.7
Trichloroethene	µg/l	5.0	200	< 10	< 13	< 630	< 500	< 400	< 4.0	< 3.3	< 4.0	< 4.0	< 6.7
Vinyl chloride	µg/l	2.0	13	210	320	15,000	12,000	13,000	100	77	150	120	100
Gases													
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other													
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals													
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See Notes on Last Page.

Notes:
Results are compared to the Michigan Department of Environmental Quality Part 201 Generic Cleanup Criteria, December 31, 2013.
< denotes not detected above reporting limit.
Bold Result denotes exceedance of Non-Residential Drinking Water Criteria.
Shaded Result denotes exceedance of Groundwater Surface Water Interface Criteria.

Abbreviations:
ft. bgs Feet below ground surface
ID Insufficient data to develop criterion
J Estimated result
NA Not Analyzed/Not Available
NS No Standard
mg/l Milligrams per liter
µg/l Micrograms per liter

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Table 3
Off-Site Groundwater Elevations
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
MW-72	668.81	15-20	05/22/17	NP	6.98	NM	661.83
			07/24/17	NP	8.60	NM	660.21
			11/06/17	NP	9.20	NM	659.61
MW-73S	666.89	7-12	05/22/17	NP	4.72	NM	662.17
			07/24/17	NP	6.38	NM	660.51
			11/06/17	NP	6.94	NM	659.95
MW-73D	667.08	13.5-18.5	05/22/17	NP	4.98	NM	662.10
			07/24/17	NP	6.64	NM	660.44
			11/06/17	NP	7.22	NM	659.86
MW-74	668.02	14-19	05/22/17	NP	5.94	NM	662.08
			07/24/17	NP	7.47	NM	660.55
			11/06/17	NP	8.12	NM	659.90
MW-75S	666.86	5-10	05/22/17	NP	5.16	NM	661.70
			07/24/17	NP	6.15	NM	660.71
			11/06/17	NP	6.83	NM	660.03
MW-75D	666.89	12-17	05/22/17	NP	5.20	NM	661.69
			07/24/17	NP	6.19	NM	660.70
			11/06/17	NP	6.81	NM	660.08
MW-76	670.10	15-20	05/22/17	NP	9.43	NM	660.67
			07/24/17	NP	10.05	NM	660.05
			11/06/17	NP	10.73	NM	659.37
MW-77	660.56	9-14	05/22/17	NP	4.59	NM	655.97
			07/24/17	NP	5.90	NM	654.66
			11/06/17	NP	6.30	NM	654.26
MW-78	657.23	7-12	05/22/17	NP	1.78	NM	655.45
			07/24/17	NP	3.55	NM	653.68
			11/06/17	NP	3.50	NM	653.73
MW-79S	663.10	5-10	05/22/17	NP	4.15	NM	658.95
			07/24/17	NP	6.37	NM	656.73
			11/06/17	NP	6.56	NM	656.54
MW-79D	663.35	10-15	05/22/17	NP	4.20	NM	659.15
			07/24/17	NP	6.45	NM	656.90
			11/06/17	NP	6.62	NM	656.73
MW-80S	656.08	7-12	05/22/17	NP	2.41	NM	653.67
			07/24/17	NP	4.19	NM	651.89
			11/06/17	NP	3.41	NM	652.67
MW-81	657.32	8-13	05/22/17	NP	6.05	NM	651.27
			07/24/17	NP	7.24	NM	650.08
			11/06/17	NP	8.27	NM	649.05

See Notes on Last Page.

Table 3
Off-Site Groundwater Elevations
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Well ID	TOC Elevation (ft. amsl)	Screen Interval (ft. bgs)	Gauging Date	Depth to LNAPL (ft. btoc)	Depth to Water (ft. btoc)	LNAPL Thickness (ft.)	Corrected Groundwater Elevation (ft. amsl)
MW-82S	658.63	9-14	05/22/17	NP	6.93	NM	651.70
			07/24/17	NP	8.24	NM	650.39
			11/06/17	NP	9.08	NM	649.55
MW-82D	658.45	18-23	05/22/17	NP	7.34	NM	651.11
			07/24/17	NP	8.50	NM	649.95
			11/06/17	NP	9.41	NM	649.04
MW-83	660.09	8-13	05/22/17	NP	6.46	NM	653.63
			07/24/17	NP	7.61	NM	652.48
			11/06/17	NP	8.08	NM	652.01
MW-84	662.50	8-13	05/22/17	NP	3.26	NM	659.24
			07/24/17	NP	5.19	NM	657.31
			11/06/17	NP	5.54	NM	656.96
MW-85	658.85	8-13	05/22/17	NP	4.71	NM	654.14
			07/24/17	NP	6.12	NM	652.73
			11/06/17	NP	6.34	NM	652.51
MW-86	666.11	12-17	05/22/17	NP	6.25	NM	659.86
			07/24/17	NP	8.07	NM	658.04
			11/06/17	NP	8.70	NM	657.41
MW-87	668.89	14-19	05/22/17	NP	9.41	NM	659.48
			07/24/17	NP	10.65	NM	658.24
			11/06/17	NP	11.42	NM	657.47

Notes:

Water level measurements collected from top of well casing.

MW-81 and MW-83 were re-surveyed on November 20, 2017 by Geodetic Designs Inc.

Abbreviations:

ft. Feet
ft. amsl Feet above mean sea level
ft. bgs Feet below ground surface
ft. btoc Feet below top of casing
LNAPL Light non-aqueous phase liquid
NM Not measured
NP No product detected
TOC Top of casing

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Table 4
Off-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-72 15-20			MW-73D 13.5-18.5			MW-73S 7-12		
				5/22/2017	7/26/2017	11/7/2017	5/22/2017	7/26/2017	11/7/2017	5/22/2017	7/26/2017	11/7/2017
Semi-volatile Organic Compounds (SVOCs)												
1,4-Dioxane	µg/l	7.2*	2,800	1.1 J	0.53 J	0.97 J	3.2	3.1	2.8	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs)												
1,1-Dichloroethene	µg/l	7.0	130	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/l	70	620	NA	< 1.0	< 1.0	NA	0.45 J	0.50 J	NA	1.9	1.8
Tetrachloroethene	µg/l	5.0	60	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/l	100	1,500	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Trichloroethene	µg/l	1.0**	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.40 J	0.48 J	0.48 J
Vinyl chloride	µg/l	1.0**	13	3.9	2.9	1.6	1.1	0.85 J	1.3	1.6	1.3	1.9
Metals												
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	3,900	NA	1,200
Iron, Total	µg/l	300	NS	NA	NA	NA	NA	NA	NA	3,900	NA	1,200
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	1,200	NA	940
Manganese, Total	µg/l	50	NS	NA	NA	NA	NA	NA	NA	1,200	NA	890
Anions												
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	< 1.0	NA	< 0.10 J
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	80	NA	89
Total Organic Carbon (TOC)												
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	6.1	NA	4.8
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	5.2	NA	4.6
Gases												
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	24

See Notes on Last Page.

Table 4
Off-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-74 14-19			MW-75D 12-17			MW-75S 5-10		
				5/23/2017	7/26/2017	11/7/2017	5/23/2017	7/26/2017	11/8/2017	5/23/2017	7/26/2017	11/8/2017
Semi-volatile Organic Compounds (SVOCs)												
1,4-Dioxane	µg/l	7.2*	2,800	< 2.0	1.5 J	1.3 J	1.9 J	1.8 J	1.8 J	< 2.0	< 2.0	< 2.0
Volatile Organic Compounds (VOCs)												
1,1-Dichloroethene	µg/l	7.0	130	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/l	70	620	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/l	100	1,500	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Trichloroethene	µg/l	1.0**	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	1.0**	13	< 1.0	2.7	2.4	6.4	3.7	4.9 J	0.45 J	< 1.0	< 1.0
Metals												
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	< 100	NA	330
Iron, Total	µg/l	300	NS	NA	NA	NA	NA	NA	NA	210	NA	350
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	63	NA	42
Manganese, Total	µg/l	50	NS	NA	NA	NA	NA	NA	NA	70	NA	42
Anions												
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	21	NA	8.0 J
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	89	NA	110
Total Organic Carbon (TOC)												
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	4.6	NA	13
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	3.6	NA	13
Gases												
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	0.95 J
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	3,200

See Notes on Last Page.

Table 4
Off-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-76 15-20			MW-77 9-14			MW-78 7-12		
				5/23/2017	7/26/2017	11/8/2017	5/25/2017	7/26/2017	11/10/2017	5/25/2017	7/25/2017	11/9/2017
Semi-volatile Organic Compounds (SVOCs)												
1,4-Dioxane	µg/l	7.2*	2,800	< 2.0	< 2.0	< 2.0	NA	0.32 J	< 2.0	NA	< 2.0	< 2.0
Volatile Organic Compounds (VOCs)												
1,1-Dichloroethene	µg/l	7.0	130	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/l	70	620	NA	3.9	4.0	NA	0.67 J	0.73 J	NA	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/l	100	1,500	NA	0.54 J	0.49 J	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Trichloroethene	µg/l	1.0**	200	< 1.0	< 1.0	< 1.0	0.87 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	1.0**	13	< 1.0	< 1.0	< 1.0	0.51 J	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0
Metals												
Iron, Dissolved	µg/l	300	NS	340	NA	270	NA	NA	NA	NA	NA	NA
Iron, Total	µg/l	300	NS	480	NA	280	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	760	NA	760	NA	NA	NA	NA	NA	NA
Manganese, Total	µg/l	50	NS	800	NA	770	NA	NA	NA	NA	NA	NA
Anions												
Nitrate-N	mg/l	10	NS	1.2 J	NA	3.3 J	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	120	NA	160	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)												
Carbon, Dissolved	mg/l	NS	NS	1.1	NA	4.1	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	0.90 J	NA	1.3	NA	NA	NA	NA	NA	NA
Gases												
Ethane	µg/l	NS	NS	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	< 1.0	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	1.5	NA	NA	NA	NA	NA	NA

See Notes on Last Page.

Table 4
Off-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-79D			MW-79S			MW-80S		
				10-15			5-10			7-12		
				5/24/2017	7/25/2017	11/9/2017	5/24/2017	7/25/2017	11/9/2017	5/24/2017	7/25/2017	11/8/2017
Semi-volatile Organic Compounds (SVOCs)												
1,4-Dioxane	µg/l	7.2*	2,800	NA	< 2.0	< 2.0	NA	< 2.0	< 2.0	NA	0.52 J	0.55 J
Volatile Organic Compounds (VOCs)												
1,1-Dichloroethene	µg/l	7.0	130	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/l	70	620	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/l	100	1,500	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Trichloroethene	µg/l	1.0**	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	1.0**	13	3.2	4.1	3.6	< 1.0	< 1.0	< 1.0	4.6	7.1	7.6
Metals												
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	990	NA	2,500	600	NA	3,600
Iron, Total	µg/l	300	NS	NA	NA	NA	1,100	NA	2,900	530	NA	3,600
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	110	NA	200	200	NA	230
Manganese, Total	µg/l	50	NS	NA	NA	NA	120	NA	200	190	NA	230
Anions												
Nitrate-N	mg/l	10	NS	NA	NA	NA	0.063 J	NA	< 0.10	< 0.10	NA	< 0.10
Sulfate	mg/l	250	NS	NA	NA	NA	41	NA	69	97	NA	110
Total Organic Carbon (TOC)												
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	4.1	NA	4.9	5.6	NA	5.7
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	3.1	NA	4.4	4.5	NA	5.2
Gases												
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	< 1.0	NA	NA	< 1.0
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	< 1.0	NA	NA	< 1.0
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	6.6	NA	NA	55

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Table 4
Off-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-81			MW-82D			MW-82S		
				8-13			18-23			9-14		
				5/26/2017	7/25/2017	11/9/2017	5/24/2017	7/25/2017	11/8/2017	5/24/2017	7/25/2017	11/8/2017
Semi-volatile Organic Compounds (SVOCs)												
1,4-Dioxane	µg/l	7.2*	2,800	NA	< 2.0	< 2.0	NA	< 2.0	< 2.0	NA	< 2.0	< 2.0
Volatile Organic Compounds (VOCs)												
1,1-Dichloroethene	µg/l	7.0	130	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/l	70	620	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/l	100	1,500	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Trichloroethene	µg/l	1.0**	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	1.0**	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals												
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	180	NA	710
Iron, Total	µg/l	300	NS	NA	NA	NA	NA	NA	NA	380	NA	720
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	510	NA	390
Manganese, Total	µg/l	50	NS	NA	NA	NA	NA	NA	NA	550	NA	380
Anions												
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	< 0.10	NA	< 0.10 J
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	470	NA	270
Total Organic Carbon (TOC)												
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	2.7	NA	4.8
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	2.1	NA	2.2
Gases												
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	< 1.0
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	10

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Table 4
Off-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-83			MW-84			MW-85		
				8-13			8-13			8-13		
				5/26/2017	7/25/2017	11/9/2017	5/25/2017	7/25/2017	11/9/2017	5/25/2017	7/25/2017	11/7/2017
Semi-volatile Organic Compounds (SVOCs)												
1,4-Dioxane	µg/l	7.2*	2,800	NA	< 2.0	< 2.0	NA	< 2.0	< 2.0	NA	0.29 J	< 2.0
Volatile Organic Compounds (VOCs)												
1,1-Dichloroethene	µg/l	7.0	130	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/l	70	620	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/l	100	1,500	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Trichloroethene	µg/l	1.0**	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	1.0**	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	8.6	7.3	7.3
Metals												
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron, Total	µg/l	300	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese, Total	µg/l	50	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anions												
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)												
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gases												
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 4
Off-Site Groundwater Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Screen Interval (ft. bgs): Date:	Unit	Residential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	MW-86 12-17			MW-87 14-19		
				5/25/2017	7/26/2017	11/10/2017	5/23/2017	7/26/2017	11/10/2017
Semi-volatile Organic Compounds (SVOCs)									
1,4-Dioxane	µg/l	7.2*	2,800	NA	0.99 J	0.87 J	NA	< 2.0	< 2.0
Volatile Organic Compounds (VOCs)									
1,1-Dichloroethene	µg/l	7.0	130	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/l	70	620	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Tetrachloroethene	µg/l	5.0	60	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/l	100	1,500	NA	< 1.0	< 1.0	NA	< 1.0	< 1.0
Trichloroethene	µg/l	1.0**	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/l	1.0**	13	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Metals									
Iron, Dissolved	µg/l	300	NS	NA	NA	NA	NA	NA	NA
Iron, Total	µg/l	300	NS	NA	NA	NA	NA	NA	NA
Manganese, Dissolved	µg/l	50	NS	NA	NA	NA	NA	NA	NA
Manganese, Total	µg/l	50	NS	NA	NA	NA	NA	NA	NA
Anions									
Nitrate-N	mg/l	10	NS	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	250	NS	NA	NA	NA	NA	NA	NA
Total Organic Carbon (TOC)									
Carbon, Dissolved	mg/l	NS	NS	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/l	NS	NS	NA	NA	NA	NA	NA	NA
Gases									
Ethane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA
Ethene	µg/l	NS	NS	NA	NA	NA	NA	NA	NA
Methane	µg/l	NS	NS	NA	NA	NA	NA	NA	NA

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Notes:
All results are compared to the Michigan Department of Environmental Quality (MDEQ) Proposed Part 201 Generic Cleanup Criteria (September 2016).
Bolded Result exceeds residential Drinking Water criteria
< Result not detected above reporting limit.

Footnote:
* Residential Drinking Water Criteria for 1,4-dioxane is derived from the MDEQ Proposed Rule Changes (September 2016) and Emergency Rules (October 27, 2016).
** Groundwater results for Trichloroethene and Vinyl Chloride are compared to the published MDEQ Remediation and Redevelopment Division (RRD) Target Detection Limit (TDL) of 1.0 µg/l.

Abbreviations:
ft. bgs feet below ground surface
J Estimated Result
mg/l milligrams per liter
NA Not Analyzed
NS No Standard
µg/l micrograms per liter

This document is a DRAFT document that has not received approval from the Michigan Department of Environmental Quality (MDEQ). This document was prepared pursuant to a court Consent Decree. The opinions, findings, and conclusions expressed are those of the authors and not those of the MDEQ.

Table 5
Off-Site Soil Vapor Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan



Location: Sample Depth (ft. bgs): Sample Date:	Residential RIASL	SVMP-01						SVMP-02						SVMP-03		
		3.5			7			4.5			8.5			3.5		
		6/8/2017	9/20/2017	11/17/2017	6/8/2017	9/20/2017	11/17/2017	6/9/2017	9/20/2017	11/17/2017	6/9/2017	9/20/2017	11/17/2017	6/12/2017	9/21/2017	11/17/2017
VOCs (Method TO15) µg/m ³																
1,1-Dichloroethene	7,000	NA	< 5.0	< 4.2	NA	< 4.8	< 4.8	NA	< 5.2	< 4.5	NA	< 5.2	< 4.6	NA	< 4.9	< 4.0
1,4-Dioxane	170	NA	< 18	< 15	NA	< 17	< 17	NA	< 19	< 16	NA	< 19	< 17	NA	< 18	< 15
cis-1,2-Dichloroethene	280	NA	< 5.0	< 4.2	NA	< 4.8	< 4.8	NA	< 5.2	< 4.5	NA	< 5.2	< 4.6	NA	< 4.9	< 4.0
Tetrachloroethene	1,400	NA	< 8.5	< 7.1	NA	< 8.2	< 8.2	NA	< 9.0	< 7.8	NA	< 9.0	< 7.9	NA	< 8.3	< 6.9
trans-1,2-Dichloroethene	9,000	NA	< 5.0	< 4.2	NA	< 4.8	< 4.8	NA	< 5.2	< 4.5	NA	< 5.2	< 4.6	NA	< 4.9	< 4.0
Trichloroethene	67	< 6.2	< 6.8	< 5.6	< 6.2	< 6.5	< 6.5	< 6.0	< 7.1	< 6.2	< 6.1	< 7.1	< 6.3	< 6.3	< 6.6	< 5.5
Vinyl chloride	54	< 3.0	< 3.2	< 2.7	< 3.0	< 3.1	< 3.1	< 2.8	< 3.4	< 2.9	< 2.9	< 3.4	< 3.0	< 3.0	< 3.1	< 2.6

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Table 5
Off-Site Soil Vapor Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan



Location: Sample Depth (ft. bgs): Sample Date:	Residential RIASL	SVMP-03			SVMP-04			SVMP-05			SVMP-06			SVMP-07		
		7			3.5			4.5			4.5			3.5		
		6/12/2017	9/21/2017	11/17/2017	6/12/2017	9/20/2017	11/20/2017	6/12/2017	9/20/2017	11/20/2017	6/13/2017	9/20/2017	11/20/2017	6/13/2017	9/20/2017	11/20/2017
VOCs (Method TO15) µg/m ³																
1,1-Dichloroethene	7,000	NA	< 4.7	< 4.3	NA	< 4.9	< 4.9	NA	< 4.8	< 4.6	NA	< 4.6	< 4.5	NA	< 4.8	< 4.7
1,4-Dioxane	170	NA	< 17	< 16	NA	< 18	< 18	NA	< 17	< 16	NA	< 17	< 16	NA	< 17	< 17
cis-1,2-Dichloroethene	280	NA	< 4.7	< 4.3	NA	< 4.9	< 4.9	NA	< 4.8	< 4.6	NA	8.0	< 4.5	NA	< 4.8	< 4.7
Tetrachloroethene	1,400	NA	< 8.1	< 7.4	NA	8.3 J	< 8.4	NA	< 8.2	< 7.8	NA	24	< 7.7	NA	< 8.2	< 8.1
trans-1,2-Dichloroethene	9,000	NA	< 4.7	< 4.3	NA	< 4.9	< 4.9	NA	< 4.8	< 4.6	NA	< 4.6	< 4.5	NA	< 4.8	< 4.7
Trichloroethene	67	< 6.8	< 6.4	< 5.8	< 6.0	< 6.6	< 6.7	< 6.7	< 6.5	< 6.2	< 6.0	< 6.3	< 6.1	< 6.3	< 6.5	< 6.4
Vinyl chloride	54	< 3.2	< 3.0	< 2.8	< 2.9	< 3.2	< 3.2	< 3.2	< 3.1	< 2.9	< 2.9	< 3.0	< 2.9	< 3.0	< 3.1	< 3.0

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Table 5
Off-Site Soil Vapor Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan



Location: Sample Depth (ft. bgs): Sample Date:	Residential RIASL	SVMP-08			SVMP-09			SVMP-10			SVMP-11	SVMP-12		
		3.5			4			3			3.5	3.5		
		6/15/2017	9/20/2017	11/20/2017	6/14/2017	9/20/2017	11/20/2017	6/13/2017	9/20/2017	11/21/2017	6/13/2017	6/13/2017	9/19/2017	11/21/2017
VOCs (Method TO15) µg/m³														
1,1-Dichloroethene	7,000	NA	< 4.7	< 4.6	NA	< 4.9	< 4.5	NA	< 4.8	< 4.4	NA	NA	< 4.8	< 4.7
1,4-Dioxane	170	NA	< 17	< 17	NA	< 18	< 16	NA	< 17	< 16	NA	NA	< 17	< 17
cis-1,2-Dichloroethene	280	NA	< 4.7	< 4.6	NA	< 4.9	< 4.5	NA	< 4.8	< 4.4	NA	NA	< 4.8	< 4.7
Tetrachloroethene	1,400	NA	< 8.1	< 7.9	NA	< 8.4	< 7.7	NA	< 8.2	< 7.5	NA	NA	< 8.2	< 8.0
trans-1,2-Dichloroethene	9,000	NA	< 4.7	< 4.6	NA	< 4.9	< 4.5	NA	< 4.8	< 4.4	NA	NA	< 4.8	< 4.7
Trichloroethene	67	< 6.5	< 6.4	< 6.2	6.9	< 6.6	< 6.1	< 6.7	< 6.5	< 5.9	< 6.3	< 6.4	< 6.5	< 6.3
Vinyl chloride	54	< 3.1	< 3.0	< 3.0	< 3.0	< 3.2	< 2.9	< 3.2	< 3.1	< 2.8	< 3.0	< 3.0	< 3.1	< 3.0

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Table 5
Off-Site Soil Vapor Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan



Location: Sample Depth (ft. bgs): Sample Date:	Residential RIASL	SVMP-13			SVMP-14			SVMP-15			SVMP-16			SVMP-17		
		2			2			2			2			2		
		6/16/2017	9/19/2017	11/21/2017	6/16/2017	9/19/2017	11/21/2017	6/16/2017	9/19/2017	11/20/2017	6/16/2017	9/19/2017	11/20/2017	6/16/2017	9/19/2017	11/20/2017
VOCs (Method TO15) µg/m ³																
1,1-Dichloroethene	7,000	NA	< 4.6	< 4.6	NA	< 4.5	< 4.1	NA	< 4.7	< 4.4	NA	< 4.5	< 4.3	NA	< 4.8	NS
1,4-Dioxane	170	NA	< 17	< 16	NA	< 16	< 15	NA	< 17	< 16	NA	< 16	< 16	NA	< 17	NS
cis-1,2-Dichloroethene	280	NA	< 4.6	< 4.6	NA	< 4.5	< 4.1	NA	< 4.7	< 4.4	NA	< 4.5	< 4.3	NA	< 4.8	NS
Tetrachloroethene	1,400	NA	< 7.9	< 7.8	NA	< 7.8	< 7.0	NA	< 8.1	< 7.6	NA	< 7.8	< 7.4	NA	< 8.2	NS
trans-1,2-Dichloroethene	9,000	NA	< 4.6	< 4.6	NA	< 4.5	< 4.1	NA	< 4.7	< 4.4	NA	< 4.5	< 4.3	NA	< 4.8	NS
Trichloroethene	67	< 6.6	< 6.3	< 6.2	< 6.4	< 6.2	< 5.6	< 6.3	< 6.4	< 6.0	< 6.4	< 6.2	< 5.9	18	22	NS
Vinyl chloride	54	< 3.2	< 3.0	< 2.9	< 3.0	< 2.9	< 2.6	< 3.0	< 3.0	< 2.9	< 3.0	< 2.9	< 2.8	< 3.0	< 3.1	NS

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Table 5
Off-Site Soil Vapor Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan



Location: Sample Depth (ft. bgs): Sample Date:	Residential RIASL	SVMP-18			SVMP-19			SVMP-20			SVMP-21			SVMP-22		
		3			3			3			2			3		
		6/16/2017	9/18/2017	11/17/2017	6/16/2017	9/18/2017	11/17/2017	6/19/2017	9/19/2017	11/20/2017	6/19/2017	9/19/2017	11/20/2017	6/19/2017	9/18/2017	11/17/2017
VOCs (Method TO15) µg/m ³																
1,1-Dichloroethene	7,000	NA	< 4.6	< 4.3	NA	< 5.1	< 4.3	NA	< 4.8	NS	NA	< 4.6	< 4.6	NA	< 4.8	< 4.9
1,4-Dioxane	170	NA	< 17	< 16	NA	< 18	< 16	NA	< 17	NS	NA	< 17	< 17	NA	< 17	< 18
cis-1,2-Dichloroethene	280	NA	< 4.6	< 4.3	NA	< 5.1	< 4.3	NA	< 4.8	NS	NA	< 4.6	< 4.6	NA	< 4.8	< 4.9
Tetrachloroethene	1,400	NA	< 7.9	< 7.3	NA	< 8.8	< 7.4	NA	< 8.2	NS	NA	< 7.9	< 7.9	NA	< 8.2	< 8.4
trans-1,2-Dichloroethene	9,000	NA	< 4.6	< 4.3	NA	< 5.1	< 4.3	NA	< 4.8	NS	NA	< 4.6	< 4.6	NA	< 4.8	< 4.9
Trichloroethene	67	< 6.6	< 6.3	< 5.8	< 6.4	< 6.9	< 5.9	< 5.8	< 6.5	NS	< 6.2	< 6.3	< 6.2	< 6.4	< 6.5	< 6.7
Vinyl chloride	54	< 3.2	< 3.0	< 2.8	< 3.0	< 3.3	< 2.8	< 2.7	< 3.1	NS	< 3.0	< 3.0	< 3.0	< 3.1	< 3.1	< 3.2

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Table 5
Off-Site Soil Vapor Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan



Location: Sample Depth (ft. bgs): Sample Date:	Residential RIASL	SVMP-23			SVMP-24			SVMP-25						SVMP-26		
		3			4			3			6			4		
		6/19/2017	9/18/2017	11/17/2017	6/19/2017	9/18/2017	11/17/2017	6/19/2017	9/21/2017	11/21/2017	6/19/2017	9/21/2017	11/21/2017	6/19/2017	9/21/2017	11/21/2017
VOCs (Method TO15) µg/m ³																
1,1-Dichloroethene	7,000	NA	< 4.6	< 4.3	NA	< 4.6	< 4.4	NA	< 4.7	< 4.5	NA	< 4.4	< 4.7	NA	< 4.9	< 4.4
1,4-Dioxane	170	NA	< 17	< 16	NA	< 17	< 16	NA	< 17	< 16	NA	< 16	< 17	NA	< 18	< 16
cis-1,2-Dichloroethene	280	NA	< 4.6	< 4.3	NA	< 4.6	< 4.4	NA	< 4.7	< 4.5	NA	< 4.4	< 4.7	NA	< 4.9	< 4.4
Tetrachloroethene	1,400	NA	< 7.9	< 7.4	NA	< 7.9	< 7.5	NA	< 8.1	< 7.7	NA	12	< 8.1	NA	< 8.4	< 7.6
trans-1,2-Dichloroethene	9,000	NA	< 4.6	< 4.3	NA	< 4.6	< 4.4	NA	< 4.7	< 4.5	NA	< 4.4	< 4.7	NA	< 4.9	< 4.4
Trichloroethene	67	< 6.4	< 6.3	< 5.8	< 6.2	< 6.3	< 5.9	< 6.2	< 6.4	< 6.1	< 6.4	< 6.0	< 6.4	< 6.2	< 6.6	< 6.0
Vinyl chloride	54	< 3.1	< 3.0	< 2.8	< 3.0	< 3.0	< 2.8	< 3.0	< 3.0	< 2.9	< 3.0	< 2.9	< 3.0	< 3.0	< 3.2	< 2.9

See Notes on Last Page.

Table 5
Off-Site Soil Vapor Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan



Location: Sample Depth (ft. bgs): Sample Date:	Residential RIASL	SVMP-27			SVMP-28			SVMP-29		SVMP-30	SVMP-31	SVMP-32		SVMP-33	SVMP-34	SVMP-35
		4.5			3			3.5	7.5	4	5.5	3	6	4	4	4
		6/19/2017	9/21/2017	11/21/2017	6/19/2017	9/21/2017	11/21/2017	6/14/2017	6/14/2017	6/14/2017	6/14/2017	6/15/2017	6/15/2017	6/15/2017	6/15/2017	6/15/2017
VOCs (Method TO15) µg/m ³																
1,1-Dichloroethene	7,000	NA	< 4.4	< 4.4	NA	< 4.8	< 4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	170	NA	< 16	< 16	NA	< 17	< 17	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	280	NA	11	< 4.4	NA	< 4.8	< 4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	1,400	NA	< 7.6	< 7.5	NA	25	< 7.9	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	9,000	NA	< 4.4	< 4.4	NA	< 4.8	< 4.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	67	< 6.2	7.2	< 5.9	< 6.1	< 6.5	< 6.3	< 6.3	< 6.0	31	< 6.1	< 6.4	< 6.5	< 6.5	< 6.3	< 6.9
Vinyl chloride	54	< 3.0	< 2.9	< 2.8	< 2.9	< 3.1	< 3.0	< 3.0	< 2.8	< 2.9	< 2.9	< 3.0	< 3.1	< 3.1	< 3.0	< 3.3

See Notes on Last Page.

Table 5
Off-Site Soil Vapor Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan



Location: Sample Depth (ft. bgs): Sample Date:	Residential RIASL	SVMP-36	SVMP-37
		4	2.5
		6/16/2017	6/16/2017
VOCs (Method TO15) µg/m ³			
1,1-Dichloroethene	7,000	NA	NA
1,4-Dioxane	170	NA	NA
cis-1,2-Dichloroethene	280	NA	NA
Tetrachloroethene	1,400	NA	NA
trans-1,2-Dichloroethene	9,000	NA	NA
Trichloroethene	67	< 6.2	< 6.2
Vinyl chloride	54	< 2.9	< 3.0

See Notes on Last Page.

Notes:

The residential RIASLs apply to a residential structure with a basement.
SVMP-11 abandoned after the initial sampling event per the adjacent property owners request.
SVMP-29 through SVMP-37 are located on residential properties and therefore only sampled during the initial sampling event.
SVMP-17 and SVMP-20 not sampled during the November 2017 sampling event due to the screen being submerged in groundwater.
Bold Concentration was detected above reporting limit.

Abbreviations:

- < denotes not detected above reporting limit
- µg/m³ Micrograms per cubic meter
- ft. bgs Feet below ground surface
- J Reported value is estimated
- NA Not analyzed
- RIASL Recommended Interim Action Screening Levels
- SVMP Soil vapor monitoring point
- VOC Volatile organic compounds

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Table 6
Hydraulic Control System Air Stripper Effluent Analytical Results
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Location: Date:	Air Stripper Effluent 10/20/2017	Air Stripper Effluent_1 11/17/2017	Air Stripper Effluent_2 11/17/2017	Air Stripper Effluent_1 12/21/2017	Air Stripper Effluent_2 12/21/2017
Method TO-15 (Full Scan)					
1,1,1-Trichloroethane	1.1 J	< 9.0	< 19	2.0 J	2.0 J
1,1,2,2-Tetrachloroethane	< 7.1	< 11	< 24	< 12	< 11
1,1,2-Trichloroethane	< 5.7	< 9.0	< 19	< 9.2	< 9.1
1,1-Dichloroethane	3.6 J	7.2	17	11	9.5
1,1-Dichloroethene	< 4.1	< 6.6	< 14	< 6.7	< 6.6
1,2,4-Trichlorobenzene	< 31	< 49	< 100	< 50	< 50
1,2,4-Trimethylbenzene	< 5.1	< 8.2	< 17	< 8.3	2.2 J
1,2-Dibromoethane (EDB)	< 8.0	< 13	< 27	< 13	< 13
1,2-Dichlorobenzene	< 6.2	< 10	< 21	< 10	< 10
1,2-Dichloroethane	< 4.2	< 6.7	< 14	< 6.9	< 6.8
1,2-Dichloropropane	< 4.8	< 7.7	< 16	< 7.8	< 7.7
1,3,5-Trimethylbenzene	< 5.1	< 8.2	< 17	< 8.3	< 8.2
1,3-Butadiene	< 2.3	< 3.7	< 7.7	< 3.7	< 3.7
1,3-Dichlorobenzene	< 6.2	< 10	< 21	< 10	< 10
1,4-Dichlorobenzene	< 6.2	< 10	< 21	< 10	< 10
1,4-Dioxane	< 15	< 24	< 50	< 24	< 24
2,2,4-Trimethylpentane	< 4.8	< 7.8	< 16	< 7.9	< 7.8
2-Butanone (Methyl Ethyl Ketone)	5.2 J	< 20	< 41	5.6 J	7.9 J
2-Hexanone	< 17	< 27	< 57	< 28	< 27
2-Propanol	< 10	< 16	< 34	< 17	< 16
3-Chloropropene	< 13	< 21	< 44	< 21	< 21
4-Ethyltoluene	< 5.1	< 8.2	< 17	< 8.3	< 8.2
4-Methyl-2-pentanone	< 4.3	< 6.8	< 14	< 6.9	< 6.8
Acetone	21 J	< 39	< 83	11 J	9.1 J
alpha-Chlorotoluene	< 5.4	< 8.6	< 18	< 8.8	< 8.6
Benzene	0.87 J	< 5.3	< 11	0.95 J	0.94 J
Bromodichloromethane	< 7.0	< 11	< 23	< 11	< 11
Bromoform	< 11	< 17	< 36	< 18	< 17
Bromomethane	< 40	< 64	< 140	< 66	< 65
Carbon Disulfide	< 13	< 21	< 43	4.7 J	3.4 J
Carbon Tetrachloride	< 6.5	< 10	< 22	< 11	< 10
Chlorobenzene	< 4.8	< 7.6	< 16	< 7.8	< 7.7
Chloroethane	< 11	< 18	< 37	< 18	< 18
Chloroform	< 5.1	< 8.1	< 17	< 8.3	< 8.2
Chloromethane	< 21	< 34	< 72	< 35	< 34
cis-1,2-Dichloroethene	76	320	520	260	280
cis-1,3-Dichloropropene	< 4.7	< 7.5	< 16	< 7.7	< 7.6
Cumene	< 5.1	< 8.2	< 17	1.8 J	1.8 J
Cyclohexane	< 3.6	< 5.7	< 12	< 5.8	< 5.7
Dibromochloromethane	< 8.8	< 14	< 30	< 14	< 14
Ethanol	7.7 J	19	< 26	< 13	< 12
Ethyl Benzene	1.1 J	< 7.2	< 15	1.2 J	< 7.2
Freon 11	1.3 J	< 9.3	< 20	< 9.5	< 9.4
Freon 113	< 8.0	< 13	< 27	< 13	< 13
Freon 114	< 7.3	< 12	< 24	< 12	< 12
Freon 12	2.8 J	< 8.2	< 17	2.0 J	< 8.2
Heptane	< 4.3	< 6.8	< 14	< 6.9	< 6.8
Hexachlorobutadiene	< 44	< 71	< 150	< 72	< 71
Hexane	< 3.7	< 5.8	< 12	< 6.0	< 5.9
m,p-Xylene	< 4.5	< 7.2	< 15	1.8 J	< 7.2
Methyl tert-butyl ether	< 15	< 24	< 50	< 24	< 24
Methylene Chloride	< 36	< 58	< 120	< 59	< 58
o-Xylene	< 4.5	< 7.2	< 15	< 7.4	< 7.2
Propylbenzene	< 5.1	< 8.2	< 17	< 8.3	< 8.2
Styrene	10	< 7.1	< 15	18	22
Tetrachloroethene	< 7.0	< 11	< 24	7.3 J	< 11
Tetrahydrofuran	< 3.1	< 4.9	< 10	< 5.0	< 4.9
Toluene	1.4 J	39	< 13	3.4 J	2.7 J
trans-1,2-Dichloroethene	2.4 J	11	14	8.6	11
trans-1,3-Dichloropropene	< 4.7	< 7.5	< 16	<7.7	< 7.6
Trichloroethene	28	46	76	67	71
Vinyl Chloride	430	1,200	2,700	850	880

Notes:
United States Environmental Protection Agency Method, Toxic Organics - 15 (TO-15)
Compounds exempt under Rule 290
All units are measured in micrograms per cubic meter (µg/m³).
Two samples collected during the November and December events to verify that Rule 290 was being met.
< denotes not detected above reporting limit.
J denotes an estimated value.

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Table 7
Hydraulic Control System Monthly Discharge Volumes
Ford Livonia Transmission Plant
36200 Plymouth Road
Livonia, Michigan

Date	Approximate Volume of Treated Water Discharged [‡] (Gallons)	Date	Approximate Volume of Treated Water Discharged [‡] (Gallons)	Date	Approximate Volume of Treated Water Discharged [‡] (Gallons)
10/1/2017	22,506	11/1/2017 ^Ω	26,299	12/1/2017 ^S	16,218
10/2/2017	21,658	11/2/2017 ^{ΩS}	25,051	12/2/2017 ^S	24,007
10/3/2017	21,155	11/3/2017 ^Ω	27,463	12/3/2017 ^S	14,284
10/4/2017 ^Ω	20,326	11/4/2017	26,859	12/4/2017 ^Ω	8,383
10/5/2017	19,478	11/5/2017 ^S	20,957	12/5/2017 ^Ω	42,365
10/6/2017 ^Ω	18,525	11/6/2017 ^{ΩSH}	18,601	12/6/2017 ^Ω	35,145
10/7/2017	17,256	11/7/2017 ^H	21,199	12/7/2017	40,646
10/8/2017	16,648	11/8/2017 ^H	27,954	12/8/2017 ^Ω	39,893
10/9/2017 ^Ω	16,335	11/9/2017 ^H	28,498	12/9/2017	37,765
10/10/2017	16,553	11/10/2017 ^{ΩH}	34,140	12/10/2017	34,401
10/11/2017	16,195	11/11/2017	33,592	12/11/2017 ^Ω	32,094
10/12/2017	16,617	11/12/2017	28,887	12/12/2017	34,942
10/13/2017 ^Ω	16,615	11/13/2017 ^{ΩS}	29,686	12/13/2017	33,374
10/14/2017	16,352	11/14/2017 ^Ω	36,192	12/14/2017	32,030
10/15/2017	15,456	11/15/2017	33,274	12/15/2017 ^Ω	30,876
10/16/2017 ^Ω	16,527	11/16/2017	29,778	12/16/2017	29,964
10/17/2017	16,458	11/17/2017 ^Ω	33,066	12/17/2017	29,632
10/18/2017	16,336	11/18/2017	29,722	12/18/2017 ^Ω	28,547
10/19/2017	15,971	11/19/2017 ^S	26,166	12/19/2017	27,887
10/20/2017 ^Ω	15,861	11/20/2017 ^Ω	35,123	12/20/2017	28,178
10/21/2017	16,177	11/21/2017	32,008	12/21/2017	28,395
10/22/2017	15,605	11/22/2017 ^{ΩS}	14,590	12/22/2017 ^Ω	28,161
10/23/2017 ^Ω	14,589	11/23/2017 ^S	93	12/23/2017	28,157
10/24/2017	13,791	11/24/2017 ^{ΩS}	11,863	12/24/2017	28,475
10/25/2017	13,693	11/25/2017 ^S	23,628	12/25/2017	27,725
10/26/2017	14,192	11/26/2017 ^{ΩS}	35,753	12/26/2017 ^{Ω.S}	21,878
10/27/2017 ^Ω	18,225	11/27/2017 ^Ω	38,496	12/27/2017 ^S	11,467
10/28/2017	28,095	11/28/2017	38,054	12/28/2017 ^{ΩS}	3,083
10/29/2017	26,368	11/29/2017	36,832	12/29/2017 ^S	14,017
10/30/2017	24,936	11/30/2017	31,691	12/30/2017 ^Ω	0
10/31/2017	26,634	--	--	12/31/2017 ^Ω	0
Total volume discharged during October 2017	565,133	Total volume discharged during November 2017	835,515	Total volume discharged during December 2017	791,989

Notes:

Treated groundwater discharged volume readings are recorded daily.

Footnotes:

* Monthly treated groundwater discharge compliance sample collected as required by the Wastewater Discharge Permit Addendum #1 (Permit No.: 006-27510-IU).

[‡] Volume of treated groundwater discharged from the Groundwater Remediation System is based on a totalizer flow meter installed on the effluent discharge pipe inside the system building.

^Ω Groundwater remediation treatment system inspection visit.

^S System shut down (Less than 1 day).

^H System deactivated for heat trace installation (less than 1 day)

^Ω System offline due to extreme cold temperatures. System was restarted on January 2, 2018 and is operating as designed.

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FIGURES



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SITE LOCATION

CITY: Novi DIV: ENV DB: MG PROJECT NUMBER: M0001322.0001 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet
Z: GISProjects\ENVA\Novi\Brighton MI\FordLivonia\GIS\docs\2018-01\Progress Report 402017\Site Location Map 20180109.mxd PLOTTED: 1/9/2018 3:05:46 PM BY: mrcress

Copyright: © 2013 National Geographic Society, i-cubed



0 2,000 4,000
SCALE IN FEET

SOURCE:
USGS 7.5 MINUTE TOPOGRAPHIC MAP
NORTHVILLE AND WAYNE QUADRANGLES

FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

SITE LOCATION MAP

 **ARCADIS** Design & Consultancy
for natural and
built assets

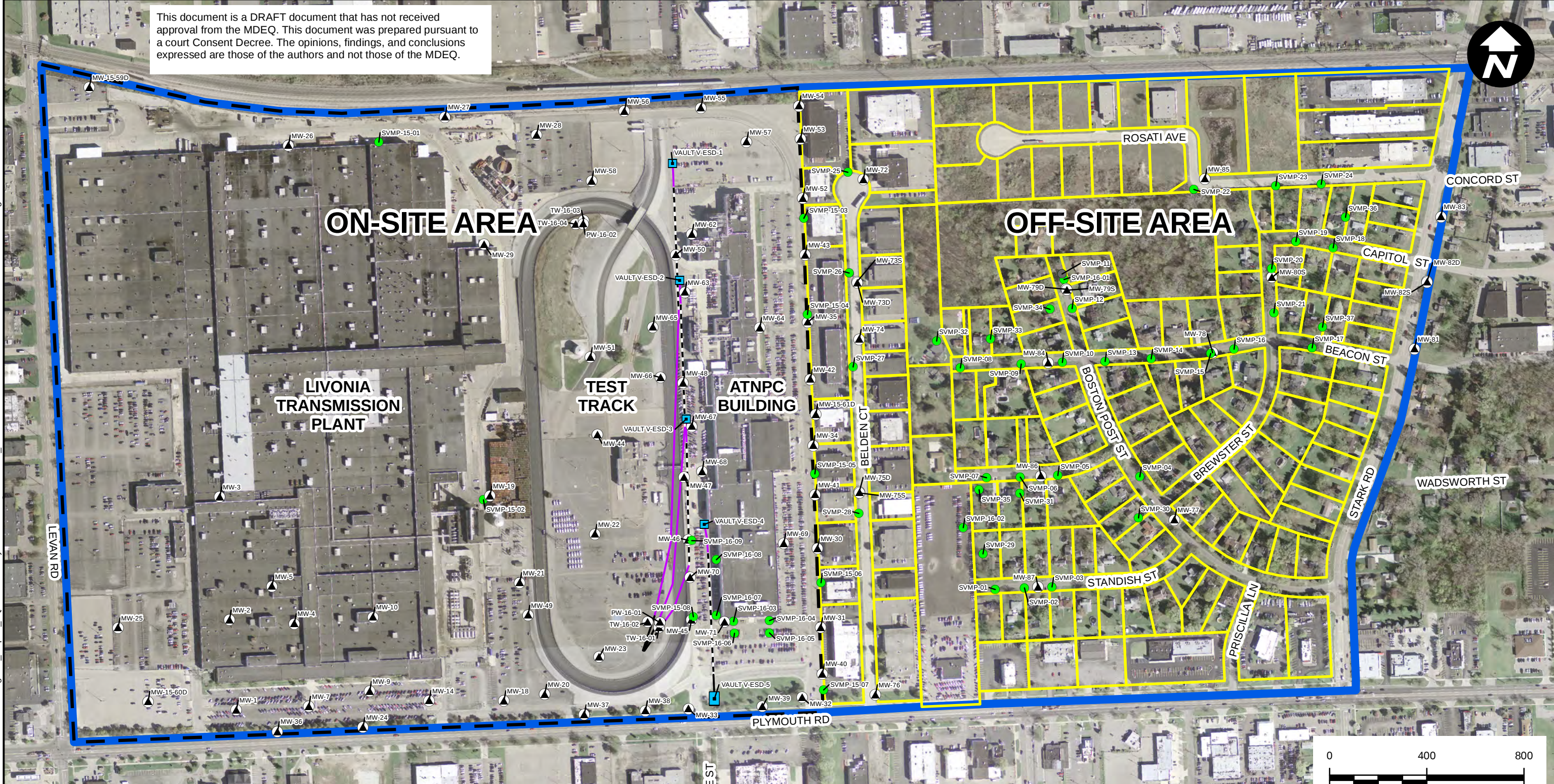
FIGURE

1

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CITY: Novi DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY PROJECT NUMBER: M001322.0001 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Z:\GIS\Projects\ENVT\Novi\Brighton_MtFordLivoniaGISdocs2018-01\Progress_Report_4Q2017\Site Layout On-site and Off-site_20180109.mxd PLOTTED: 1/9/2018 3:11:23 PM BY: mgress



LEGEND

- | | | |
|---|--|--|
| ● ABANDONED SOIL VAPOR MONITORING POINT | --- WELL SCREEN (4-INCH SDR-11 HDPE, CUSTOM SLOTTED) | FORD PROPERTY BOUNDARY |
| ● SOIL VAPOR MONITORING POINT | — WELL BLANK CASING (4-INCH SDR-11 HDPE) | □ COMMERCIAL/RESIDENTIAL PROPERTY BOUNDARY |
| ▲ MONITORING WELL | — WELL BLANK CASING (6-INCH SDR-11 HDPE) | □ AREA OF CONCERN |
| ■ VAULT (2 FT x 2 FT) | | |
| ■ VAULT (4 FT x 6 FT) | | |

NOTES:

ATNPC - AUTOMATIC TRANSMISSION NEW PRODUCT CENTER



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

SITE LAYOUT



FIGURE

2

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LEGEND

- | | | | |
|--|--|----------|--|
| | MONITORING WELL | (661.85) | GROUNDWATER ELEVATION |
| | LNAPL MONITORING WELL | | GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED; CONTOUR INTERVAL = 1.0 FT) |
| | VAULT (2 FT x 2 FT) | | APPARENT GROUNDWATER FLOW DIRECTION |
| | VAULT (4 FT x 6 FT) | | PROPERTY BOUNDARIES |
| | WELL SCREEN (4-INCH SDR-11 HDPE, CUSTOM SLOTTED) | | FORD PROPERTY BOUNDARY |
| | WELL BLANK CASING (4-INCH SDR-11 HDPE) | | |
| | WELL BLANK CASING (6-INCH SDR-11 HDPE) | | |

NOTES:

1. ALL ELEVATIONS COLLECTED ON NOVEMBER 6, 2017 AND MEASURED FROM TOP OF WELL CASING.
2. ALL ELEVATIONS ARE REFERENCED TO A MEAN SEA LEVEL DATUM AND ARE IN UNITS OF FEET ABOVE SEA LEVEL.
3. WHERE NESTED WELLS ARE PRESENT, THE DEEP WELL IS USED FOR CONTOURING PURPOSES.
4. *WELL NOT USED TO CREATE CONTOURS
5. LNAPL = LIGHT NON-AQUEOUS PHASE LIQUID
6. NM = NOT MEASURED
7. GROUNDWATER ELEVATION AT HYDRAULIC CONTROL SYSTEM HORIZONTAL WELLS ARE DETERMINED BY ESTIMATING AN APPARENT AMBIENT GROUNDWATER ELEVATION AND SUBTRACTING THE PUMPING WATER LEVEL.
8. HYDRAULIC CONTROL SYSTEM PERFORMANCE MONITORING WELLS RE-SURVEYED IN OCTOBER 2017. MONITORING WELLS RE-SURVEYED IN NOVEMBER 2017. MW-5 WAS UNABLE TO BE RE-SURVEYED DURING THE NOVEMBER 2017 EVENT DUE TO ACCESS.
9. MONITORING WELLS WITH LNAPL PRESENT IN THEM HAVE HAD THEIR GROUNDWATER ELEVATIONS CORRECTED TO ACCOUNT FOR THE LNAPL.
10. UNABLE TO CALCULATE CORRECTED GROUNDWATER ELEVATION AT LMW-15-09 DUE TO NO MEASURABLE GROUNDWATER PRESENT WITHIN THE WELL COLUMN.

0 400 800
SCALE IN FEET

FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

**SITE-WIDE GROUNDWATER ELEVATION
CONTOUR MAP UNDER PUMPING CONDITIONS
NOVEMBER 6, 2017**

ARCADIS Design & Consultancy
for natural and built assets

FIGURE
3

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LEGEND

- ON-SITE MONITORING WELL
CIS-1,2-DICHLOROETHENE $\leq 70 \mu\text{g/L}$
- ON-SITE MONITORING WELL
CIS-1,2-DICHLOROETHENE $> 70 \mu\text{g/L}$
- EXCEEDANCE OF NONRESIDENTIAL DRINKING WATER CRITERIA FROM PAST AND PRESENT SAMPLING EVENTS
- WELL NOT SAMPLED
- VAULT (2 FT x 2 FT)
- VAULT (4 FT x 6 FT)
- WELL SCREEN (4-INCH SDR-11 HDPE, CUSTOM SLOTTED)
- WELL BLANK CASING (4-INCH SDR-11 HDPE)
- WELL BLANK CASING (6-INCH SDR-11 HDPE)
- FORD PROPERTY BOUNDARY

NOTES:

$\mu\text{g/L}$ - MICROGRAMS PER LITER
(PARTS PER BILLION)

THE NONRESIDENTIAL DRINKING WATER CRITERIA FOR CIS-1,2-DICHLOROETHENE IS $70 \mu\text{g/L}$.

THE GROUNDWATER-SURFACE WATER INTERFACE CRITERIA FOR CIS-1,2-DICHLOROETHENE IS $620 \mu\text{g/L}$.

FT = FEET BELOW GROUND SURFACE

"ND" INDICATES VALUE IS BELOW THE LABORATORY REPORTING LIMIT OF $1.0 \mu\text{g/L}$ FOR CIS-1,2-DICHLOROETHENE

J = ESTIMATED RESULT

MW = MONITORING WELL

LMW = LIGHT NON-AQUEOUS PHASE LIQUID MONITORING WELL

RESULTS COLLECTED DURING THE APRIL, JULY, AND NOVEMBER 2017 SAMPLING EVENTS.

BLUE BOX INDICATES EXCEEDANCE OF NONRESIDENTIAL DRINKING WATER CRITERIA ASSOCIATED WITH THE MOST RECENT SAMPLING EVENT POSSIBLE



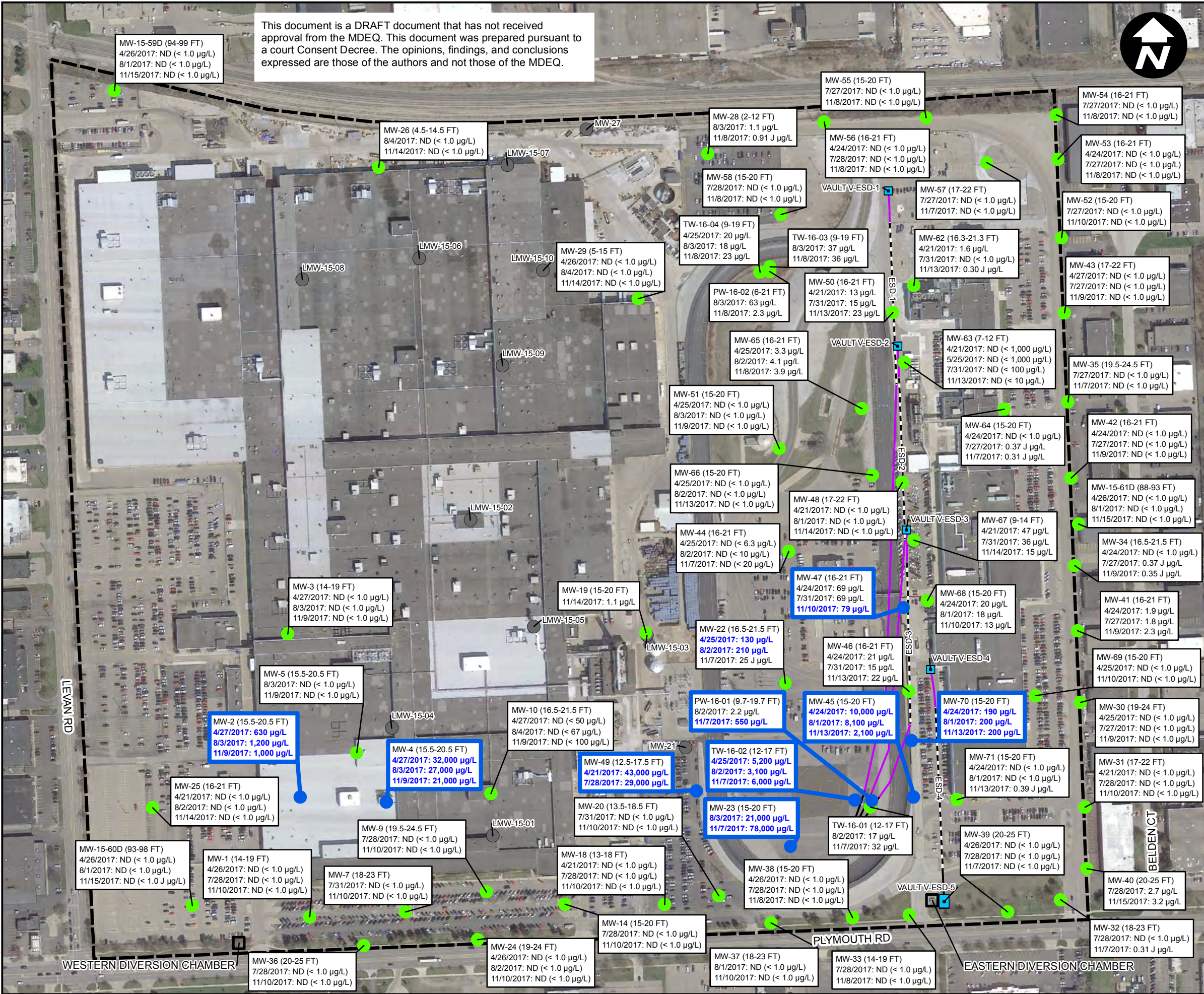
FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

ON-SITE MONITORING WELLS CIS-1,2-DICHLOROETHENE IN GROUNDWATER



FIGURE

4



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LEGEND

- ON-SITE MONITORING WELL
TRANS-1,2-DICHLOROETHENE $\leq 100 \mu\text{g/L}$
- ON-SITE MONITORING WELL
TRANS-1,2-DICHLOROETHENE $> 100 \mu\text{g/L}$
- EXCEEDANCE OF NONRESIDENTIAL
DRINKING WATER CRITERIA FROM
PAST AND PRESENT SAMPLING EVENTS
- WELL NOT SAMPLED
- VAULT (2 FT x 2 FT)
- VAULT (4 FT x 6 FT)
- WELL SCREEN (4-INCH SDR-11 HDPE,
CUSTOM SLOTTED)
- WELL BLANK CASING (4-INCH SDR-11 HDPE)
- WELL BLANK CASING (6-INCH SDR-11 HDPE)
- FORD PROPERTY BOUNDARY

NOTES:

$\mu\text{g/L}$ - MICROGRAMS PER LITER
(PARTS PER BILLION)

THE NONRESIDENTIAL DRINKING WATER CRITERIA FOR
TRANS-1,2-DICHLOROETHENE IS $100 \mu\text{g/L}$.

THE GROUNDWATER-SURFACE WATER INTERFACE
CRITERIA FOR TRANS-1,2-DICHLOROETHENE IS $1,500 \mu\text{g/L}$.

FT = FEET BELOW GROUND SURFACE

"ND" INDICATES VALUE IS BELOW THE LABORATORY
REPORTING LIMIT OF $1.0 \mu\text{g/L}$ FOR TRANS-1,2-
DICHLOROETHENE

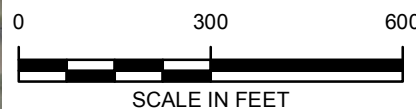
J = ESTIMATED RESULT

MW = MONITORING WELL

LMW = LIGHT NON-AQUEOUS PHASE LIQUID MONITORING
WELL

RESULTS COLLECTED DURING THE APRIL, JULY, AND
NOVEMBER 2017 SAMPLING EVENTS.

BLUE BOX INDICATES EXCEEDANCE OF NONRESIDENTIAL
DRINKING WATER CRITERIA ASSOCIATED WITH THE
MOST RECENT SAMPLING EVENT POSSIBLE



SCALE IN FEET

FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

ON-SITE MONITORING WELLS TRANS-1,2-DICHLOROETHENE IN GROUNDWATER



FIGURE

5

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LEGEND

- ON-SITE MONITORING WELL TRICHLOROETHENE $\leq 5 \mu\text{g/L}$
- ON-SITE MONITORING WELL TRICHLOROETHENE $> 5 \mu\text{g/L}$
- EXCEEDANCE OF NONRESIDENTIAL DRINKING WATER CRITERIA FROM PAST AND PRESENT SAMPLING EVENTS
- WELL NOT SAMPLED
- VAULT (2 FT x 2 FT)
- VAULT (4 FT x 6 FT)
- WELL SCREEN (4-INCH SDR-11 HDPE, CUSTOM SLOTTED)
- WELL BLANK CASING (4-INCH SDR-11 HDPE)
- WELL BLANK CASING (6-INCH SDR-11 HDPE)
- FORD PROPERTY BOUNDARY

NOTES:

$\mu\text{g/L}$ - MICROGRAMS PER LITER (PARTS PER BILLION)

THE NONRESIDENTIAL DRINKING WATER CRITERIA FOR TRICHLOROETHENE IS $5.0 \mu\text{g/L}$.

THE GROUNDWATER-SURFACE WATER INTERFACE CRITERIA FOR TRICHLOROETHENE IS $200 \mu\text{g/L}$.

FT = FEET BELOW GROUND SURFACE

"ND" INDICATES VALUE IS BELOW THE LABORATORY REPORTING LIMIT OF $1.0 \mu\text{g/L}$ FOR TRICHLOROETHENE

J = ESTIMATED RESULT

MW = MONITORING WELL

LMW = LIGHT NON-AQUEOUS PHASE LIQUID MONITORING WELL

RESULTS COLLECTED DURING THE APRIL, JULY, AND NOVEMBER 2017 SAMPLING EVENTS.

BLUE BOX INDICATES EXCEEDANCE OF NONRESIDENTIAL DRINKING WATER CRITERIA ASSOCIATED WITH THE MOST RECENT SAMPLING EVENT POSSIBLE



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

ON-SITE MONITORING WELLS TRICHLOROETHENE IN GROUNDWATER



FIGURE

6

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LEGEND

●

ON-SITE MONITORING WELL
VINYL CHLORIDE ≤ 2.0 µg/L

●

ON-SITE MONITORING WELL
VINYL CHLORIDE > 2.0 µg/L

BLUE/BOLD TEXT

EXCEEDANCE OF NONRESIDENTIAL
DRINKING WATER CRITERIA FROM
PAST AND PRESENT SAMPLING EVENTS

●

WELL NOT SAMPLED

■

VAULT (2 FT x 2 FT)

■

VAULT (4 FT x 6 FT)

WELL SCREEN (4-INCH SDR-11 HDPE,
CUSTOM SLOTTED)

WELL BLANK CASING (4-INCH SDR-11 HDPE)

WELL BLANK CASING (6-INCH SDR-11 HDPE)

FORD PROPERTY BOUNDARY

NOTES:

µg/L - MICROGRAMS PER LITER
(PARTS PER BILLION)

THE NONRESIDENTIAL DRINKING WATER CRITERIA FOR VINYL CHLORIDE IS 2.0 µg/L.

THE GROUNDWATER-SURFACE WATER INTERFACE CRITERIA FOR VINYL CHLORIDE IS 13 µg/L.

FT = FEET BELOW GROUND SURFACE

"ND" INDICATES VALUE IS BELOW THE LABORATORY REPORTING LIMIT OF 1.0 µg/L FOR VINYL CHLORIDE

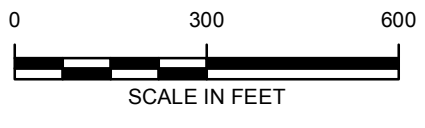
J = ESTIMATED RESULT

MW = MONITORING WELL

LMW = LIGHT NON-AQUEOUS PHASE LIQUID MONITORING WELL

RESULTS COLLECTED DURING THE APRIL, JULY, AND NOVEMBER 2017 SAMPLING EVENTS.

BLUE BOX INDICATES EXCEEDANCE OF NONRESIDENTIAL DRINKING WATER CRITERIA ASSOCIATED WITH THE MOST RECENT SAMPLING EVENT POSSIBLE

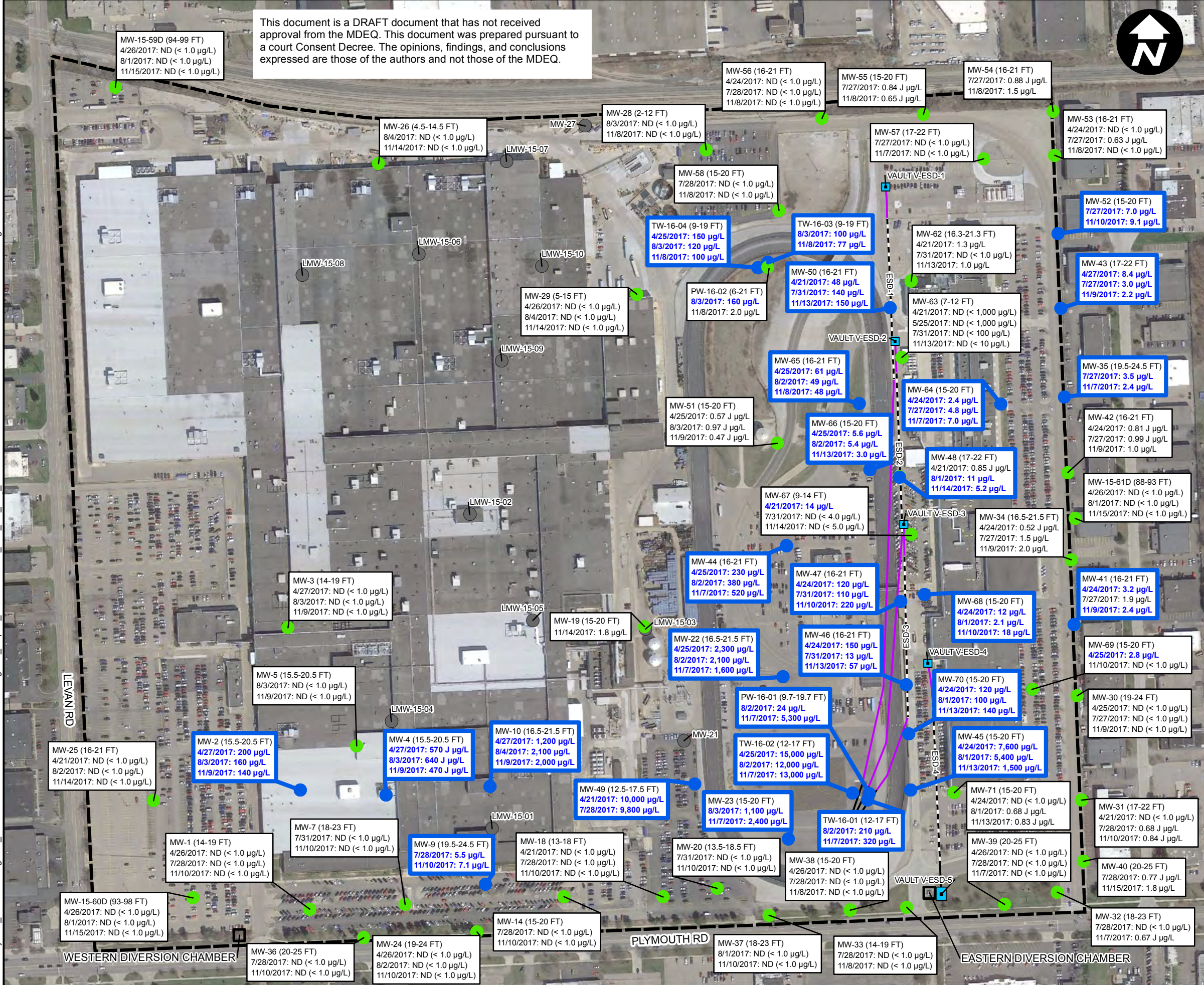


FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

ON-SITE MONITORING WELLS
VINYL CHLORIDE IN GROUNDWATER

ARCADIS
Design & Consultancy
for natural and
built assets

FIGURE
7



CITY: NOVI DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY TM: A. DEGRANDIS TR: P. CURRY PROJECT NUMBER: MI001322.0001 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet
Z:\GIS\Projects\ENV\NoviBrighton_MtFord\Livonia\GISdocs\2018-01\Progress_Report_4Q2017\ICE_Offsite_Wells_20180110.mxd PLOTTED: 1/18/2018 10:42:37 AM BY: mgress

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LEGEND

- PROPERTY BOUNDARY
- FORD PROPERTY BOUNDARY
- OFF-SITE MONITORING WELL
TRICHLOROETHENE ≤ 1.0 $\mu\text{g/L}$

NOTES:

$\mu\text{g/L}$ - MICROGRAMS PER LITER (PARTS PER BILLION)

THE PUBLISHED 2016 MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIATION AND REDEVELOPMENT DIVISION TARGET DETECTION LIMIT FOR TRICHLOROETHENE IS 1.0 $\mu\text{g/L}$.

THE RESIDENTIAL DRINKING WATER CRITERIA FOR TRICHLOROETHENE IS 5.0 $\mu\text{g/L}$.

THE GROUNDWATER-SURFACE WATER INTERFACE CRITERIA FOR TRICHLOROETHENE IS 200 $\mu\text{g/L}$.

FT = FEET BELOW GROUND SURFACE

J = ESTIMATED CONCENTRATION ABOVE THE METHOD DETECTION LIMIT AND BELOW THE REPORTING LIMIT.

"ND" INDICATES VALUE IS BELOW THE LABORATORY REPORTING LIMIT OF 1.0 $\mu\text{g/L}$ FOR TRICHLOROETHENE.

MW = MONITORING WELL

RESULTS COLLECTED DURING THE MAY, JULY, AND NOVEMBER 2017 SAMPLING EVENTS



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

**OFF-SITE MONITORING WELLS
TRICHLOROETHENE IN GROUNDWATER**

 Design & Consultancy
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built assets

FIGURE
8



CITY: NOVI DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY TM: A. DEGRANDIS TR: P. CURRY PROJECT NUMBER: M001322.0001 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet
Z:\GIS\Projects\ENV\NoviBrighton_MtFordLivonia\GISdocs\2018-01\Progress_Report_4Q2017\VC_Offsite_Wells_20180110.mxd PLOTTED: 1/19/2018 10:53:11 AM BY: mgress

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LEGEND

- PROPERTY BOUNDARY
- FORD PROPERTY BOUNDARY
- OFF-SITE MONITORING WELL
VINYL CHLORIDE ≤ 1.0 $\mu\text{g/L}$
- OFF-SITE MONITORING WELL
VINYL CHLORIDE > 1.0 $\mu\text{g/L}$
- BLUE/BOLD TEXT** EXCEEDANCE OF THE TDL FROM PAST AND PRESENT SAMPLING EVENTS.

NOTES:

$\mu\text{g/L}$ - MICROGRAMS PER LITER (PARTS PER BILLION)

THE PUBLISHED 2016 MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY REMEDIATION AND REDEVELOPMENT DIVISION TARGET DETECTION LIMIT FOR VINYL CHLORIDE IS 1.0 $\mu\text{g/L}$.

THE RESIDENTIAL DRINKING WATER CRITERIA FOR VINYL CHLORIDE IS 2.0 $\mu\text{g/L}$.

THE GROUNDWATER-SURFACE WATER INTERFACE CRITERIA FOR VINYL CHLORIDE IS 13 $\mu\text{g/L}$.

FT = FEET BELOW GROUND SURFACE

J = ESTIMATED CONCENTRATION ABOVE THE METHOD DETECTION LIMIT AND BELOW THE REPORTING LIMIT.

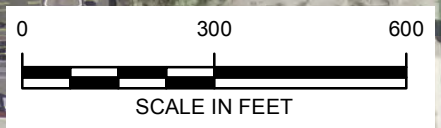
"ND" INDICATES VALUE IS BELOW THE LABORATORY REPORTING LIMIT OF 1.0 $\mu\text{g/L}$ FOR VINYL CHLORIDE.

MW = MONITORING WELL

TDL = TARGET DETECTION LIMIT

RESULTS COLLECTED DURING THE MAY, JULY, AND NOVEMBER 2017 SAMPLING EVENTS

BLUE BOX INDICATES EXCEEDANCE OF THE TARGET DETECTION LIMIT FOR VINYL CHLORIDE ASSOCIATED WITH THE MOST RECENT SAMPLING EVENT POSSIBLE



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

**OFF-SITE MONITORING WELLS
VINYL CHLORIDE IN GROUNDWATER**

ARCADIS Design & Consultancy
for natural and built assets

FIGURE
9



CITY: NOVI DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY TM: A. DEGRANDIS TR: P. CURRY PROJECT NUMBER: M001322.0001 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Z:\GIS\Projects\ENV\Novi\Brighton_MtFord\Livonia\GIS\docs\2018-01\Progress_Report_4Q2017\CIS_Offsite_SVMP_20180110.mxd PLOTTED: 1/19/2018 1:32:58 PM BY: mgress

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LEGEND

- PROPERTY BOUNDARIES
- FORD PROPERTY BOUNDARY
- OFF-SITE SVMP
CIS-1,2-DICHLOROETHENE < 280 $\mu\text{g}/\text{m}^3$
- OFF-SITE SVMP NOT SAMPLED
FOR CIS-1,2-DICHLOROETHENE

NOTES:

$\mu\text{g}/\text{m}^3$ - MICROGRAMS PER CUBIC METER

THE MDEQ PROVIDED RESIDENTIAL VOLATILIZATION TO INDOOR AIR SOIL VAPOR SCREENING LEVEL FOR CIS-1,2-DICHLOROETHENE IS 280 $\mu\text{g}/\text{m}^3$

THE MDEQ PROVIDED COMMERCIAL VOLATILIZATION TO INDOOR AIR SOIL VAPOR SCREENING LEVEL FOR CIS-1,2-DICHLOROETHENE IS 410 $\mu\text{g}/\text{m}^3$

MDEQ = MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

FT = FEET BELOW GROUND SURFACE

ND = NON-DETECT INDICATES VALUE IS BELOW THE LABORATORY REPORTING LIMIT, RANGING FROM 4.0 TO 5.2 $\mu\text{g}/\text{m}^3$, FOR CIS-1,2-DICHLOROETHENE

SVMP = SOIL VAPOR MONITORING POINT

RESULTS COLLECTED DURING SEPTEMBER AND NOVEMBER 2017 SAMPLING EVENTS.

SVMP-29 THROUGH 37 WERE NOT SAMPLED DURING THE SEPTEMBER OR NOVEMBER 2017 SAMPLING EVENTS.

SVMP-17 AND SVMP-20 WERE NOT SAMPLED DURING THE NOVEMBER 2017 EVENT DUE TO THE SCREEN BEING SUBMERGED IN GROUNDWATER.

SVMP-11, WHICH RESIDED IN THE CITY OF LIVONIA RIGHT-OF-WAY, WAS REMOVED PER THE ADJACENT PROPERTY OWNERS REQUEST.



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

OFF-SITE VAPOR INTRUSION ASSESSMENT CIS-1,2-DICHLOROETHENE IN SOIL VAPOR



FIGURE

10

CITY: NOVI DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY TM: A. DEGRANDIS TR: P. CURRY PROJECT NUMBER: MI001322.0001 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Z:\GIS\Projects\ENV\NoviBrighton_MtFordLivonia\GISdocs\2018-01\Progress_Report_4Q2017\PCF_Offsite_SVMP_20180110.mxd PLOTTED: 1/19/2018 1:35:35 PM BY: mgress

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LEGEND

PROPERTY BOUNDARIES

FORD PROPERTY BOUNDARY

OFF-SITE SVMP
TETRACHLOROETHENE < 1,400 µg/m³

OFF-SITE SVMP NOT SAMPLED
FOR TETRACHLOROETHENE

NOTES:

µg/m³ - MICROGRAMS PER CUBIC METER

THE MDEQ PROVIDED VOLATILIZATION TO INDOOR AIR SOIL VAPOR SCREENING LEVEL (RESIDENTIAL AND COMMERCIAL) FOR TETRACHLOROETHENE IS 1,400 µg/m³

MDEQ = MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

FT = FEET BELOW GROUND SURFACE

J = REPORTED VALUE IS ESTIMATED

ND = NON-DETECT INDICATES VALUE IS BELOW THE LABORATORY REPORTING LIMIT, RANGING FROM 6.9 TO 9.0 µg/m³, FOR TETRACHLOROETHENE

SVMP = SOIL VAPOR MONITORING POINT

RESULTS COLLECTED DURING SEPTEMBER AND NOVEMBER 2017 SAMPLING EVENTS.

SVMP-29 THROUGH 37 WERE NOT SAMPLED DURING THE SEPTEMBER OR NOVEMBER 2017 SAMPLING EVENTS.

SVMP-17 AND SVMP-20 WERE NOT SAMPLED DURING THE NOVEMBER 2017 EVENT DUE TO THE SCREEN BEING SUBMERGED IN GROUNDWATER.

SVMP-11, WHICH RESIDED IN THE CITY OF LIVONIA RIGHT-OF-WAY, WAS REMOVED PER THE ADJACENT PROPERTY OWNERS REQUEST.



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

OFF-SITE VAPOR INTRUSION ASSESSMENT
TETRACHLOROETHENE IN SOIL VAPOR

ARCADIS Design & Consultancy
for natural and
built assets

FIGURE
11



CITY: NOVI DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY TM: A. DEGRANDIS TR: P. CURRY PROJECT NUMBER: M001322.0001 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Z:\GIS\Projects\ENV\Novi\Brighton_MtFord\Livonia\GIS\docs\2018-01\Progress_Report_4Q2017\TCE_Offsite_SVMP_20180110.mxd PLOTTED: 1/19/2018 1:38:24 PM BY: mgress

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LEGEND

- PROPERTY BOUNDARIES
- FORD PROPERTY BOUNDARY
- OFF-SITE SVMP TRICHLOROETHENE < 67 µg/m³

NOTES:

µg/m³ - MICROGRAMS PER CUBIC METER

THE MDEQ PROVIDED VOLATILIZATION TO INDOOR AIR SOIL VAPOR SCREENING LEVEL (RESIDENTIAL AND COMMERCIAL) FOR TRICHLOROETHENE IS 67 µg/m³

MDEQ = MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

FT = FEET BELOW GROUND SURFACE

ND = NON-DETECT INDICATES VALUE IS BELOW THE LABORATORY REPORTING LIMIT, RANGING FROM 5.5 TO 7.1 µg/m³, FOR TRICHLOROETHENE

SVMP = SOIL VAPOR MONITORING POINT

RESULTS COLLECTED DURING JUNE, SEPTEMBER, AND NOVEMBER 2017 SAMPLING EVENTS.

SVMP-29 THROUGH 37 WERE NOT SAMPLED DURING THE SEPTEMBER OR NOVEMBER 2017 SAMPLING EVENTS.

SVMP-17 AND SVMP-20 WERE NOT SAMPLED DURING THE NOVEMBER 2017 EVENT DUE TO THE SCREEN BEING SUBMERGED IN GROUNDWATER.

SVMP-11, WHICH RESIDED IN THE CITY OF LIVONIA RIGHT-OF-WAY, WAS REMOVED PER THE ADJACENT PROPERTY OWNERS REQUEST.



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

**OFF-SITE VAPOR INTRUSION ASSESSMENT
TRICHLOROETHENE IN SOIL VAPOR**

ARCADIS Design & Consultancy
for natural and built assets

FIGURE
12



CITY: NOVI DIV: ENV DB: MG PIC: R. ELLIS PM: K. HINSKEY TM: A. DEGRANDIS TR: P. CURRY PROJECT NUMBER: M001322.0001 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Z:\GIS\Projects\ENV\Novi\Brighton_MtFord\Livonia\GIS\docs\2018-01\Progress_Report_4Q2017\VC_Offsite_SVMP_20180110.mxd PLOTTED: 1/19/2018 1:39:30 PM BY: mngress

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LEGEND

- PROPERTY BOUNDARIES
- FORD PROPERTY BOUNDARY
- OFF-SITE SVMP VINYL CHLORIDE < 54 µg/m³

NOTES:

µg/m³ - MICROGRAMS PER CUBIC METER

THE MDEQ PROVIDED RESIDENTIAL VOLATILIZATION TO INDOOR AIR SOIL VAPOR SCREENING LEVEL FOR VINYL CHLORIDE IS 54 µg/m³

THE MDEQ PROVIDED COMMERCIAL VOLATILIZATION TO INDOOR AIR SOIL VAPOR SCREENING LEVEL FOR VINYL CHLORIDE IS 450 µg/m³

MDEQ = MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

FT = FEET BELOW GROUND SURFACE

ND = NON-DETECT INDICATES VALUE IS BELOW THE LABORATORY REPORTING LIMIT, RANGING FROM 2.6 TO 3.4 µg/m³, FOR VINYL CHLORIDE

SVMP = SOIL VAPOR MONITORING POINT

RESULTS COLLECTED DURING JUNE, SEPTEMBER, AND NOVEMBER 2017 SAMPLING EVENTS.

SVMP-29 THROUGH 37 WERE NOT SAMPLED DURING THE SEPTEMBER OR NOVEMBER 2017 SAMPLING EVENTS.

SVMP-17 AND SVMP-20 WERE NOT SAMPLED DURING THE NOVEMBER 2017 EVENT DUE TO THE SCREEN BEING SUBMERGED IN GROUNDWATER.

SVMP-11, WHICH RESIDED IN THE CITY OF LIVONIA RIGHT-OF-WAY, WAS REMOVED PER THE ADJACENT PROPERTY OWNERS REQUEST.



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

OFF-SITE VAPOR INTRUSION ASSESSMENT
VINYL CHLORIDE IN SOIL VAPOR



APPENDIX A

On-Site Groundwater Field Sampling Logs



ARCADIS

Water-Level Measurement Form

Project No.: MI001380.0001.00002
 Site Location: LIVONIA, MI
 Instrument Model: _____

Field Personnel: A. Reibel
 Date: 11/16/17
 Instrument Serial No.: _____

Well Number	Time	W.L. Measurements			Comments	
		DTP (feet)	DTW (feet)	TD (feet)	Well Locked	Other Comments
MW-1						
MW-2	1059	—	7.24	19.50		
MW-3	1136	—	7.61	18.80		
MW-4	1110	—	7.94	20.05		
MW-5	1121	—	7.51	19.71		
MW-7						
MW-9						
MW-10	1354	—	10.00	20.84		high traffic area
MW-14	0940	—	7.01	19.61		missing bolt
MW-18	1016	—	6.52	16.84		irregular well casing
MW-19	1230	—	5.91	19.85		
MW-20	1022	—	7.31	17.80		missing bolt
MW-21						Unable to open, broken bolt
MW-22						
MW-23						
MW-24	1545	—	10.40	23.76		
MW-25						
MW-26	1154	—	6.09	14.10		
MW-27						CAL
MW-28						
MW-29	1222	—	10.65	15.81		
MW-30						
MW-31						
MW-32						
MW-33						
MW-34						
MW-35						
MW-36	1535	—	10.98	24.95		
MW-37						
MW-38						

W.L.
 TD
 DTW
 DTP

Water Level
 Total Depth
 Depth To Water
 Depth To Product

Scanned by CamScanner

ARCADIS Water-Level Measurement Form

Project No.: MI001380.0001.00002

Site Location: LIVONIA, MI

Instrument Model SOLINST INTERFACE METER

Field Personnel: DIVYA KAMATH

Date: 11/6/17

Instrument Serial No.: 13037/800-301-9863 (PINE)

Well Number	Time	W.L. Measurements			Comments	
		DTP (feet)	DTW (feet)	TD (feet)	Well Locked	Other Comments
MW-1 MW-7	1530	NA	5.24	22.56	N	LOTS OF PRESSURE BUILD-UP
MW-2						
MW-3						
MW-4						
MW-5						
MW-7 MW-1	1520	NA	3.93	18.78		LOTS OF WATER IN WELL VAPULT. SAW GED OUT WATER
MW-9	1500	NA	6.38	24.53	N	
MW-10						
MW-14						
MW-18						
MW-19						
MW-20						
MW-21						
MW-22						
MW-23						
MW-24						
MW-25						
MW-26						
MW-27						
MW-28						
MW-29						
MW-30	1215	NA	10.47	24.84	N	
MW-31	1240		10.65	21.92		
MW-32	1300		10.18	23.03		
MW-33	1320		8.58	19.08		BOLTS ARE BOWING COULD USE NEW BOLTS
MW-34 MW-35	1155		9.11	24.45		
MW-35	1125		9.76	20.79		
MW-36 MW-34	1145		10.02	21.65		
MW-37 MW-38	1335		8.53	19.75		
MW-38 MW-37	1345		8.26	23.18		

W.L. Water Level
TD Total Depth
DTW Depth To Water
DTP Depth To Product

NA Not Applicable

ARCADIS

Water-Level Measurement Form

Project No.: MI001380.0001.00002

Site Location: LIVONIA, MI

Instrument Model SOLINSKI INTERFACE METER

Field Personnel: DIVYA KAMATH

Date: 11/6/17

Instrument Serial No.: 13037/800-301-9868 (PNE)

Well Number	Time	W.L. Measurements			Comments	
		DTP (feet)	DTW (feet)	TD (feet)	Well Locked	Other Comments
MW-39	1310		11.64	24.36		
MW-40	1250		10.58	19.75		WATER IN VAULT ABOVE PVC. WAS SATURATED TO DEPTH
MW-41	1205		9.96	21.25		
MW-42	1125		9.76	20.77		
MW-43	1105		8.92	21.98		
MW-44						
MW-45						
MW-46						
MW-47						
MW-48						
MW-49						Covered by frac tanks
MW-50						
MW-51						
MW-52	1055		8.87	19.83		
MW-53	1045		8.35	21.08		
MW-54	1035		8.17	20.71		
MW-55	1020		8.98	20.03		
MW-56	1605		8.37	20.76		
MW-57	1010		8.10	21.83		
MW-58						
MW-15-59D						
MW-15-60D						
MW-15-61D	1555		26.58	94.72		
MW-62						
MW-63						
MW-64	1115		10.20	20.36		WATER IN WELL VAULT BUT BELOW PVC. APE. SEE PIC
MW-65						
MW-66						
MW-67						
MW-68						

W.L. Water Level
 TD Total Depth
 DTW Depth To Water
 DTP Depth To Product

ARCADIS

Water-Level Measurement Form

Project No.: MI001380.0001.00002

Site Location: LIVONIA, MI

Instrument Model SOLINKS I INTERFACE
METER

Field Personnel:

Date:

Instrument Serial No.:

DIVYA KAMATH

A1/6117

13037 / 800-301-9863 (PINE)

[illegible]

W.L.	Water Level
TD	Total Depth
DTW	Depth To Water
DTP	Depth To Product

ARCADIS
Water-Level Measurement Form

Project No.: MI001380.0001.00002

Site Location: LIVONIA, MI

Instrument Model: Norm oil-water
interface meterField Personnel: D. StokardDate: 11/6/17Instrument Serial No.: 19967

Well Number	Time	W.L. Measurements			Comments	
		DTP (feet)	DTW (feet)	TD (feet)	Well Locked	Other Comments
MW-39						
MW-40						
MW-41						
MW-42						
MW-43						
MW-44	10:40	—	8.55	20.74	no	—
MW-45	13:45	—	9.82	19.75	no	—
MW-46	13:27	—	9.76	19.81	no	—
MW-47	13:12	—	9.87	19.98	no	
MW-48	12:52	—	9.33	20.34	no	—
MW-49						
MW-50	12:31	—	8.15	18.81	no	—
MW-51	11:08	7.58	7.54	18.91	no	No product. 7.58 is DTW
MW-52						
MW-53						
MW-54						
MW-55						
MW-56						
MW-57						
MW-58	11:50	—	5.78	19.69	no	Well casing was flooded.
MW-15-59D	15:00	—	24.48	100.65		
MW-15-60D	14:41	—	20.63	99.92	no	—
MW-15-61D						
MW-62	12:20	—	9.43	21.19	no	—
MW-63	12:42	—	8.18	11.80	no	—
MW-64						
MW-65	10:57	—	8.68	21.11	no	—
MW-66	10:50	—	7.51	19.23	no	—
MW-67	13:04	—	9.76	14.01	no	—
MW-68	13:18	—	9.51	19.85	no	—

W.L. Water Level
 TD Total Depth
 DTW Depth To Water
 DTP Depth To Product

ARCADIS
Water-Level Measurement Form

Project No.: MI001380.0001.00002
Site Location: LIVONIA, MI
Instrument Model: _____

Field Personnel: _____
Date: _____
Instrument Serial No.: _____

Well Number	Time	W.L. Measurements			Comments	
		DTP (feet)	DTW (feet)	TD (feet)	Well Locked	Other Comments
MW-1						
MW-2						
MW-3						
MW-4						
MW-5						
MW-7						
MW-9						
MW-10						
MW-14						
MW-18						
MW-19						
MW-20						
MW-21						
MW-22	10:27	—	7.51	20.51	No	—
MW-23	1400	—	6.60	19.72	No	Filled w/ water, had to be locked.
MW-24						
MW-25			6.51	20.38	no	—
MW-26						
MW-27						
MW-28	12:07	4.81	4.82	11.68	no	Cover is cracked
MW-29						No product in MW-28. 4.81 is DTW
MW-30						
MW-31						
MW-32						
MW-33						
MW-34						
MW-35						
MW-36						
MW-37						
MW-38						

W.L. Water Level
TD Total Depth
DTW Depth To Water
DTP Depth To Product

ARCADIS

Water-Level Measurement Form

Project No.: MI001380.0001.00002
Site Location: LIVONIA, MI
Instrument Model *Heron oil-water interface meter*

Field Personnel:
Date:
Instrument Serial No.:

[illegible]

W.L.	Water Level
TD	Total Depth
DTW	Depth To Water
DTP	Depth To Product

8.43, 21.56

ARCADIS

Water Sampling Log

Project UNIVAR Farr St. FORDLTP Project No. M1001373.0001.00002 Page 1 of 1
 Site Location 6468 Farr St., Detroit, Michigan Date 9/14/2017
 Site/Well No. MW-50 Replicate No. NA Code No. NA
 Weather Cloudy 43°F Sampling Time: Begin 1557 End 1610

Evacuation Data

Measuring Point Top of PVC Casing
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 18.77
 Depth to Water (ft bmp) 8.01
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) NA
 Casing Diameter/Type 2' PVC
 Gallons in Well NA
 Gallons Pumped/Bailed Prior to Sampling ~ 1.5
 Sample Pump Intake Setting (ft bmp) NA
 Purge Time begin 1513 end 1610
 Pumping Rate (ml/min) 300 ml/min 150 ml/min
 Evacuation Method peristaltic pump

Field Parameters

Temperature (°C) 15.08
 SpC (mS/cm) 2377
 CND (mS/cm) 1927
 Dissolved Oxygen (%) 12.2
 Dissolved Oxygen (mg/L) 1.21
 pH (s.u.) 7.10
 ORP (mV) 217
 Turbidity (NTU) 9.8
 Color clear
 Odor none
 Appearance NA
 Sampling Method Grab
 Remarks ms/msd collected

Constituents Sampled	Container Description	Number	Preservative
VOC (8260B)	Glass VOA	x3	HCl
<u>1,4 d</u>	<u>40mL VOA</u>	<u>3</u>	<u>HCl</u>

Sampling Personnel Divya Camath and Severin Presswood ARL

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

LOC: Ford LTP, Livonia, MI

[illegible]

ARCADIS

Water Sampling Log

Project FORD LTP
~~UNIVAR~~ Farr St. Project No. M1001373.0001.00002
~~M1009010.2017.00700~~ Page 1 of 1
 Site Location 6468 Farr St., Detroit, Michigan Date 9/14/2017 11/13/17
 Site/Well No. MW-66 Replicate No. NA Code No. NA
 Weather Sunny 43°F Sampling Time: Begin 1431 End 1448

Evacuation Data

Measuring Point Top of PVC Casing
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.16
 Depth to Water (ft bmp) 7.44
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.72
 Casing Diameter/Type 2' PVC
 Gallons in Well 1.875
 Gallons Pumped/Bailed Prior to Sampling ~3.0 gal
 Sample Pump Intake Setting (ft bmp) NA
 Purge Time begin 1325 end 1448
 Pumping Rate (ml/min) 300 ml/min 150ml
 Evacuation Method peristaltic pump

Field Parameters

Temperature (°C) 14.96
 SpC (mS/cm) 3.580
 CND (mS/cm) 2.869
 Dissolved Oxygen (%) 10.9
 Dissolved Oxygen (mg/L) 1.09
 pH (s.u.) 7.65
 ORP (mV) -111.7
 Turbidity (NTU) 58.2
 Color clear
 Odor none
 Appearance _____
 Sampling Method Grab
 Remarks ms/msd collected

Constituents Sampled	Container Description	Number	Preservative
VOC (8260B)	Glass VOA	x3	HCl
<u>1,4 dioxane</u>	<u>40mL VOA</u>	<u>3</u>	<u>HCl</u>

Sampling Personnel Divya Camath and Severin Presswood A. Reibel

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units

YSI/LOW FLOW SAMPLING LOG

WELL: MW-666

DATE: 11/13/17

[illegible]

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/14/17
 Site/Well No. MW-18 Replicate No. _____ Code No. _____
 Weather Sunny 29°F Sampling Time: Begin 1607 End 1610

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 17.80
 Depth to Water (ft bmp) 8.23
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 9.57
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.53
 Gallons Pumped/Bailed Prior to Sampling ~10
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1520 end 1610
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) _____
 SpC (mS/cm) _____
 CND (mS/cm) _____
 Dissolved Oxygen (%) _____
 Dissolved Oxygen (mg/L) _____
 pH (s.u.) _____
 ORP (mV) _____
 Turbidity (NTU) _____
 Color _____
 Odor _____
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel _____

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/17
 Site/Well No. MW-07 Replicate No. _____ Code No. _____
 Weather Sunny 23°F Sampling Time: Begin 1452 End 1455

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) _____
 Depth to Water (ft bmp) 5 20
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) _____
 Casing Diameter/Type 2" PVC
 Gallons in Well _____
 Gallons Pumped/Bailed Prior to Sampling ~1.5
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 1410 end 1455
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.37
 SpC (mS/cm) 7.529
 CND (mS/cm) 5.846
 Dissolved Oxygen (%) 14.2
 Dissolved Oxygen (mg/L) 1.47
 pH (s.u.) 7.59
 ORP (mV) -125.8
 Turbidity (NTU) 1.26
 Color clear
 Odor none
 Appearance —
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/17
 Site/Well No. MW-01 Replicate No. _____ Code No. _____
 Weather Sunny 23°F Sampling Time: Begin 1352 End 1355

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 18.67
 Depth to Water (ft bmp) 3.91
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 14.76
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.36
 Gallons Pumped/Bailed Prior to Sampling ~15
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1305 end 1355
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 12.27
 SpC (mS/cm) 42.79
 CND (mS/cm) 32-39
 Dissolved Oxygen (%) 7.4
 Dissolved Oxygen (mg/L) 0.67
 pH (s.u.) 7.41
 ORP (mV) -128.2
 Turbidity (NTU) 2.01
 Color Clear
 Odor None
 Appearance _____

Sampling Method Low Flow

Remarks Water had black tint @ first 6 and would produce suds in purge bucket.

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel _____

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-01

PROJ #: MI001373.0001.00002

DATE: 11/10/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/17
 Site/Well No. MW-09 Replicate No. _____ Code No. _____
 Weather Sunny 23°F Sampling Time: Begin 1122 End 1125

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 25.25 24.25
 Depth to Water (ft bmp) 16.31
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 17.94
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.87
 Gallons Pumped/Bailed Prior to Sampling ~2.0 gal
 Sample Pump Intake Setting (ft bmp) 150
 Purge Time begin 1040 end 1125
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.40
 SpC (mS/cm) 5.881
 CND (mS/cm) 4.577
 Dissolved Oxygen (%) 7.7
 Dissolved Oxygen (mg/L) 0.79
 pH (s.u.) 7.47
 ORP (mV) -120.1
 Turbidity (NTU) 9.88
 Color clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel _____

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-09

PROJ #: MI001373.0001.00002

DATE : 11/10/17

LOC: Ford LTP, Livonia, MI

[illegible]

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/13
 Site/Well No. MW-20 Replicate No. _____ Code No. _____
 Weather Sunny 23°F Sampling Time: Begin 902 End 905

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 17.80
 Depth to Water (ft bmp) 7.49
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.31
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.65
 Gallons Pumped/Bailed Prior to Sampling ~15
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 902 end 905
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.86
 SpC (mS/cm) 2652
 CND (mS/cm) 2088
 Dissolved Oxygen (%) 32.4
 Dissolved Oxygen (mg/L) 3.26
 pH (s.u.) 7.54
 ORP (mV) -507
 Turbidity (NTU) 8.10
 Color clear
 Odor none
 Appearance -
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/17
 Site/Well No. MW-14 Replicate No. _____ Code No. _____
 Weather Sunny 23°F Sampling Time: Begin 1012 End 1015

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.52
 Depth to Water (ft bmp) 16.94
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.58
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.012
 Gallons Pumped/Bailed Prior to Sampling ~ 1.5
 Sample Pump Intake Setting (ft bmp) ✓
 Purge Time begin 0930 end 1015
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.34
 SpC (mS/cm) 5.651
 CND (mS/cm) 3.791
 Dissolved Oxygen (%) 9.60
 Dissolved Oxygen (mg/L) 0.94
 pH (s.u.) 7.31
 ORP (mV) -91.1
 Turbidity (NTU) 1.23
 Color clear
 Odor none
 Appearance —
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-51 Replicate No. _____ Code No. _____
 Weather Cloudy 46°F Sampling Time: Begin 1602 End 1605

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 18.90
 Depth to Water (ft bmp) 7.53
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.37
 Casing Diameter/Type 2" PVC
 Gallons in Well 182
 Gallons Pumped/Bailed Prior to Sampling ~ 1.5
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 1525 end 1605
 Pumping Rate (ml/min) _____
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 12.87
 SpC (mS/cm) 1.111
 CND (mS/cm) 0.854
 Dissolved Oxygen (%) 25.9
 Dissolved Oxygen (mg/L) 2.73
 pH (s.u.) 7.81
 ORP (mV) -141
 Turbidity (NTU) 5.26
 Color clear
 Odor none
 Appearance —
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel _____

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-51

PROJ #: MI001373.0001.00002

DATE: 11/9/17

LOC: Ford LTP, Livonia, MI

[illegible]

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-10 Replicate No. _____ Code No. _____
 Weather inside Sampling Time: Begin 1452 End 1455

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.84
 Depth to Water (ft bmp) 8.90
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.94
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.91
 Gallons Pumped/Bailed Prior to Sampling ~ 1.5
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 1452 end 1455
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 21.44
 SpC (mS/cm) 10.69
 CND (mS/cm) 9.965
 Dissolved Oxygen (%) 10.0
 Dissolved Oxygen (mg/L) 0.91
 pH (s.u.) 7.08
 ORP (mV) -63.4
 Turbidity (NTU) 9.20
 Color Clear
 Odor none
 Appearance —
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

YSI/LOW FLOW SAMPLING LOG

WELL: MW-10

DATE: 11/9/17

LOC: Ford LTP, Livonia, MI

ENFM005-YSIlog.xls

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-04 Replicate No. _____ Code No. _____
 Weather inside Sampling Time: Begin 1347 End 1350

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.05
 Depth to Water (ft bmp) 7.93
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.12
 Casing Diameter/Type 2" PVC
 Gallons in Well 194
 Gallons Pumped/Bailed Prior to Sampling ~1.5
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 1300 end 1350
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 21.50
 SpC (mS/cm) 13.73
 CND (mS/cm) 12.81
 Dissolved Oxygen (%) 18.2
 Dissolved Oxygen (mg/L) 1.54
 pH (s.u.) 7.29
 ORP (mV) -112.5
 Turbidity (NTU) 2.89
 Color clear
 Odor none
 Appearance —
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-04

PROJ #: MI001373.0001.00002

DATE: 11/9/17

LOC: Ford LTP, Livonia, MI

[illegible]

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

[illegible]

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-03 Replicate No. _____ Code No. _____
 Weather inside Sampling Time: Begin 1137 End 1140

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 18.80
 Depth to Water (ft bmp) 7.61
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.19
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.79
 Gallons Pumped/Bailed Prior to Sampling ~1.0
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1055 end 1140
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 21.22
 SpC (mS/cm) 116.89
 CND (mS/cm) 15.67
 Dissolved Oxygen (%) 21.7
 Dissolved Oxygen (mg/L) 1.82
 pH (s.u.) 7.49
 ORP (mV) -108.1
 Turbidity (NTU) 9.77
 Color clear
 Odor none
 Appearance -
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel _____

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-02 Replicate No. _____ Code No. _____
 Weather Inside Sampling Time: Begin 1027 End 1030

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 1950
 Depth to Water (ft bmp) 719
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.31
 Casing Diameter/Type 2" PVC
 Gallons in Well 196
 Gallons Pumped/Bailed Prior to Sampling ~1.0
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 0943 end 1030
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 21.14
 SpC (mS/cm) 15.59
 CND (mS/cm) 14.44
 Dissolved Oxygen (%) 34.4
 Dissolved Oxygen (mg/L) 3.44
 pH (s.u.) 7.42
 ORP (mV) -123.8
 Turbidity (NTU) 0.84
 Color clear
 Odor none
 Appearance —
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel _____

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

PAGE 2 OF 2

PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

ENFM005-YSIlog.xls

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/01/17
 Site/Well No. TW-16-04 Replicate No. _____ Code No. _____
 Weather Sunny 46°F Sampling Time: Begin 1557 End 1600

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 18.94
 Depth to Water (ft bmp) 6.31
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.63
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.02
 Gallons Pumped/Bailed Prior to Sampling 1.5
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 1500 end 1600
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.20
 SpC (mS/cm) 1600
 CND (mS/cm) 1.239
 Dissolved Oxygen (%) 240
 Dissolved Oxygen (mg/L) 2.51
 pH (s.u.) 7.11
 ORP (mV) -67.9
 Turbidity (NTU) 2.41
 Color Clear
 Odor none
 Appearance —
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel _____

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: TW-16-04

PROJ #: MI001373.0001.00002

DATE: 11/8/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date _____
 Site/Well No. _____ Replicate No. _____ Code No. _____
 Weather PW-16-02 Sampling Time: Begin 1437 End 1440

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 23.74
 Depth to Water (ft bmp) 16.51
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 25.32
 Casing Diameter/Type 2" PVC
 Gallons in Well _____
 Gallons Pumped/Bailed Prior to Sampling ~15
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1350 end 1440
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.21
 SpC (mS/cm) 1.296
 CND (mS/cm) 1.029
 Dissolved Oxygen (%) 24.1
 Dissolved Oxygen (mg/L) 2.41
 pH (s.u.) 6.87
 ORP (mV) 30.7
 Turbidity (NTU) 2.96
 Color clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel _____

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

YSI/LOW FLOW SAMPLING LOG

WELL: PW-16-02

DATE: 11/01/17

LOC: Ford LTP, Livonia, MI

ENFM005-YSIlog.xls

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/8/17
 Site/Well No. TW-16-03 Replicate No. _____ Code No. _____
 Weather Sunny 46°F Sampling Time: Begin 1337 End 1340

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 18.79
 Depth to Water (ft bmp) 5.94
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.85
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.056
 Gallons Pumped/Bailed Prior to Sampling ~1.5
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 1250 end 1340
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.07
 SpC (mS/cm) 1.311
 CND (mS/cm) 1.063
 Dissolved Oxygen (%) 22.4
 Dissolved Oxygen (mg/L) 2.24
 pH (s.u.) 7.06
 ORP (mV) -67.2
 Turbidity (NTU) 2.87
 Color clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel _____

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

Total Depth of Well:

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/8/17
 Site/Well No. MW-28 Replicate No. _____ Code No. _____
 Weather Sunny 35°F Sampling Time: Begin 1122 End 1136

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 11.47
 Depth to Water (ft bmp) 4.72
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 6.95
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.12
 Gallons Pumped/Bailed Prior to Sampling 1.5
 Sample Pump Intake Setting (ft bmp) ~
 Purge Time begin 1040 end 1136
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.44
 SpC (mS/cm) 16.424
 CND (mS/cm) 5.279
 Dissolved Oxygen (%) 26.1
 Dissolved Oxygen (mg/L) 2.54
 pH (s.u.) 5.38 AR 7.38 7.46
 ORP (mV) 225
 Turbidity (NTU) 5.38
 Color clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks msl/msd collected

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

YSI/LOW FLOW SAMPLING LOG

WELL: MW-28

PROJ #: MI001373.0001.00002

DATE: 11/8/17

LOC: Ford LTP, Livonia, MI

Total Depth of Well: 11.61

Depth To Water Before Purging: 4.72

Depth To Water After Purging:

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/8/17
 Site/Well No. MW-58 Replicate No. _____ Code No. _____
 Weather Bunny 35°F Sampling Time: Begin 1017 End 1020

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 1941
 Depth to Water (ft bmp) 570
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 1371
 Casing Diameter/Type 2" PVC
 Gallons in Well 219
 Gallons Pumped/Bailed Prior to Sampling ~ 2.0
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 0935 end 1020
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.08
 SpC (mS/cm) 10.42
 CND (mS/cm) 8.83
 Dissolved Oxygen (%) 18.0
 Dissolved Oxygen (mg/L) 1.68
 pH (s.u.) 7.04
 ORP (mV) -88.1
 Turbidity (NTU) 6.21
 Color clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel _____

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

PAGE 2 OF 2

PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

Document #ENFM005, Revision 03

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/8/17
 Site/Well No. MW-65 Replicate No. _____ Code No. _____
 Weather Sunny 32°F Sampling Time: Begin 902 End 912

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 16.38
 Depth to Water (ft bmp) 9.53
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 6.85
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.09
 Gallons Pumped/Bailed Prior to Sampling ~20
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 815 end 912
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.89
 SpC (mS/cm) 4248
 CND (mS/cm) 3.340
 Dissolved Oxygen (%) 21.8
 Dissolved Oxygen (mg/L) 2.24
 pH (s.u.) 7.55
 ORP (mV) -127.0
 Turbidity (NTU) 1.44
 Color Clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks DUP-01 collected

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-65

PROJ #: MI001373.0001.00002

DATE: 11/8/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. MW-44 Replicate No. Code No.
 Weather Sunny 39°F Sampling Time: Begin 1702 End 1705

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.74
 Depth to Water (ft bmp) 8.49
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.25
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.96
 Gallons Pumped/Bailed Prior to Sampling ~ 2.0
 Sample Pump Intake Setting (ft bmp)
 Purge Time begin 1415 end 1705
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.40
 SpC (mS/cm) 8.029
 CND (mS/cm) 16.847
 Dissolved Oxygen (%) 19.1
 Dissolved Oxygen (mg/L) 1.82
 pH (s.u.) 7.53
 ORP (mV) -143.2
 Turbidity (NTU) 1.36
 Color Clear
 Odor none
 Appearance
 Sampling Method Low Flow
 Remarks

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. MW-22 Replicate No. _____ Code No. _____
 Weather Sunny 39°F Sampling Time: Begin 1602 End 1605

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 70.49
 Depth to Water (ft bmp) 7.46
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 13.03
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.08
 Gallons Pumped/Bailed Prior to Sampling ~1.5
 Sample Pump Intake Setting (ft bmp) —
 Purge Time begin 1525 end 1605
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.74
 SpC (mS/cm) 9515
 CND (mS/cm) 7.906
 Dissolved Oxygen (%) 14.7
 Dissolved Oxygen (mg/L) 1.42
 pH (s.u.) 7.57
 ORP (mV) -122.4
 Turbidity (NTU) 3.29
 Color clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel _____

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

YSI/LOW FLOW SAMPLING LOG

WELL: MW-22

DATE: 11/7/77

LOC: Ford LTP, Livonia, MI

ENFM005-YSIlog.xls

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. MW-23 Replicate No. _____ Code No. _____
 Weather Sunny 39°F Sampling Time: Begin 1502 End 1505

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.70
 Depth to Water (ft bmp) 6.50
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 13.20
 Casing Diameter/Type 2" PVC
 Gallons in Well 211
 Gallons Pumped/Bailed Prior to Sampling ~ 20
 Sample Pump Intake Setting (ft bmp) _____
 Purge Time begin 1425 end 1505
 Pumping Rate (ml/min) _____
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 16.64
 SpC (mS/cm) 9.025
 CND (mS/cm) 7.581
 Dissolved Oxygen (%) 16.4
 Dissolved Oxygen (mg/L) 1.55
 pH (s.u.) 7.18
 ORP (mV) -82.7
 Turbidity (NTU) 5.54
 Color clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel _____

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

YSI/LOW FLOW SAMPLING LOG

WELL: MW-23

DATE: 11/7/17

LOC: Ford LTP, Livonia, MI

ENFM005-YSIlog.xls

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. TW-116-02 Replicate No. _____ Code No. _____
 Weather Sunny 39 Sampling Time: Begin 1402 End 1405

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 17.19
 Depth to Water (ft bmp) 7.45
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 9.74
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.55
 Gallons Pumped/Bailed Prior to Sampling ~25
 Sample Pump Intake Setting (ft bmp) _____
 Purge Time begin 1317 end 1405
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.08
 SpC (mS/cm) 3.833
 CND (mS/cm) 3.251
 Dissolved Oxygen (%) 15.8
 Dissolved Oxygen (mg/L) 1.49
 pH (s.u.) 7.47
 ORP (mV) -115.0
 Turbidity (NTU) 1.52
 Color Clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

ENFM005-YSIlog.xls

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. PW-16-01 Replicate No. _____ Code No. _____
 Weather Sunny 39°F Sampling Time: Begin 1227 End 1230

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 22.50
 Depth to Water (ft bmp) 8.36
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 14.14
 Casing Diameter/Type 2" PVC 6"
 Gallons in Well 10.21
 Gallons Pumped/Bailed Prior to Sampling ~20
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1150 end 1230
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.26
 SpC (mS/cm) 6989
 CND (mS/cm) 5.688
 Dissolved Oxygen (%) 26.7
 Dissolved Oxygen (mg/L) 2.61
 pH (s.u.) 7.32
 ORP (mV) -100.1
 Turbidity (NTU) 2.08
 Color clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

ENFM005-YSIlog.xls

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. TW-116-01 Replicate No. _____ Code No. _____
 Weather Sunny 39°F Sampling Time: Begin 1132 End 1135

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 116.65
 Depth to Water (ft bmp) 7.59
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 9.06
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.44
 Gallons Pumped/Bailed Prior to Sampling ~ 2 gall
 Sample Pump Intake Setting (ft bmp) _____
 Purge Time begin 1055 end 1135
 Pumping Rate (ml/min) 150
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 16.16
 SpC (mS/cm) 5.251
 CND (mS/cm) 4.364
 Dissolved Oxygen (%) 21.6
 Dissolved Oxygen (mg/L) 2.06
 pH (s.u.) 7.23
 ORP (mV) -85.1
 Turbidity (NTU) 3.02
 Color Clear
 Odor none
 Appearance _____
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

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WELL :

PROJ #: MI001373.0001.00002

DATE :

LOC: Ford LTP, Livonia, MI

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. MW-57 Replicate No. - Code No. -
 Weather CLEAR, 47°F Sampling Time: Begin 1705 End 1710

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 21.83
 Depth to Water (ft bmp) 7.98
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 13.85
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.216
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 19.83
 Purge Time begin 1630 end 1700
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 16.78
 SpC (mS/cm) 3.785
 CND (mS/cm) 3.192
 Dissolved Oxygen (%) 10.1
 Dissolved Oxygen (mg/L) 0.98
 pH (s.u.) 5.89
 ORP (mV) -139.8
 Turbidity (NTU) 3.56
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

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WELL : MW-57

PROJ #: MI001373.0001.00002

DATE : 11/7/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. MW-64 Replicate No. - Code No. -
 Weather SUNNY, 46°F Sampling Time: Begin 1420 End 1425

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.36
 Depth to Water (ft bmp) 10.15
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.21
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.6336
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 18.36
 Purge Time begin 1340 end 1415
 Pumping Rate (ml/min) _____
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 16.79
 SpC (mS/cm) 3.786
 CND (mS/cm) 3.192
 Dissolved Oxygen (%) 16.4
 Dissolved Oxygen (mg/L) 1.58
 pH (s.u.) 5.55
 ORP (mV) -69.7
 Turbidity (NTU) 0.92
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

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WELL: MW-64

PROJ #: MI001373.0001.00002

DATE: 11/7/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. MW-35 Replicate No. - Code No. -
 Weather SUNNY, 46°F Sampling Time: Begin 1550 End 15:55

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 24.45
 Depth to Water (ft bmp) 9.08
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 15.37
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.45
 Gallons Pumped/Bailed Prior to Sampling ~2.
 Sample Pump Intake Setting (ft bmp) 22.45
 Purge Time begin 1455 end 1550
 Pumping Rate (ml/min) 220
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.56
 SpC (mS/cm) 2131
 CND (mS/cm) 1747
 Dissolved Oxygen (%) 11.7
 Dissolved Oxygen (mg/L) 1.15
 pH (s.u.) 5.96
 ORP (mV) -155.5
 Turbidity (NTU) 23.9
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

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WELL: MW-35

PROJ #: MI001373.0001.00002

DATE: 11/7/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/7/17
 Site/Well No. MW-32 Replicate No. - Code No. -
 Weather SUNNY, 39°F Sampling Time: Begin 1110 End 1120

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 23.03
 Depth to Water (ft bmp) 10.15
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.88
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.06
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 21.03
 Purge Time begin 1010 end 1120
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.52
 SpC (mS/cm) 3.251
 CND (mS/cm) 2.601
 Dissolved Oxygen (%) 30.8
 Dissolved Oxygen (mg/L) 3.11
 pH (s.u.) 5.81
 ORP (mV) 721.1
 Turbidity (NTU) 13.0
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

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WELL : MW-32

PROJ #: MI001373.0001.00002

DATE: 11/7/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/1/17
 Site/Well No. MUO-39 Replicate No. - Code No. -
 Weather SUNNY, 39°F Sampling Time: Begin 1220 End 1225

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 24.36
 Depth to Water (ft bmp) 11.60
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.76
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.046
 Gallons Pumped/Bailed Prior to Sampling 2.00
 Sample Pump Intake Setting (ft bmp) 22.36
 Purge Time begin 1145 end 1215
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.00
 SpC (mS/cm) 4.422
 CND (mS/cm) 3.747
 Dissolved Oxygen (%) 25.4
 Dissolved Oxygen (mg/L) 2.42
 pH (s.u.) 5.48
 ORP (mV) 26.4
 Turbidity (NTU) 2.56
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride (VOCs)</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel D KAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

YSI/LOW FLOW SAMPLING LOG

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PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/8/17
 Site/Well No. MW-54 Replicate No. - Code No. -
 Weather SUNNY, 29F Sampling Time: Begin 0905 End 0910

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.71
 Depth to Water (ft bmp) 8.18
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.53
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.0048
 Gallons Pumped/Bailed Prior to Sampling ~ 2
 Sample Pump Intake Setting (ft bmp) 18.71
 Purge Time begin 0830 end 0900
 Pumping Rate (ml/min) 250
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.50
 SpC (mS/cm) 6.439
 CND (mS/cm) 5.025
 Dissolved Oxygen (%) 12.2
 Dissolved Oxygen (mg/L) 1.24
 pH (s.u.) 6.05
 ORP (mV) -144.1
 Turbidity (NTU) 2.74
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-54

PROJ #: MI001373.0001.00002

DATE: 11/8/17

LOC: Ford LTP, Livonia, MI

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/8/17
 Site/Well No. MW-53 Replicate No. DUP-02 Code No. -
 Weather SUNNY, 29°F Sampling Time: Begin 10:10 End 10:15

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 21.08
 Depth to Water (ft bmp) 8.28
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.80
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.048
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 19.08
 Purge Time begin 0935 end 1005
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.79
 SpC (mS/cm) 2.569
 CND (mS/cm) 2.070
 Dissolved Oxygen (%) 8.2
 Dissolved Oxygen (mg/L) 0.83
 pH (s.u.) 6.45
 ORP (mV) -19.6
 Turbidity (NTU) 2.75
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks DUP-02

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

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WELL: MW-53

PROJ #: MI001373.0001.00002

DATE : 11/8/17

LOC: Ford LTP, Livonia, MI

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 4/8/17
 Site/Well No. MW-55 Replicate No. - Code No.
 Weather SUNNY, 32°F Sampling Time: Begin 1135 End 1140

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.03
 Depth to Water (ft bmp) 8.86
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.17
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.7872
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 18.03
 Purge Time begin 1100 end 1130
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 16.81
 SpC (mS/cm) 5.770
 CND (mS/cm) 4.870
 Dissolved Oxygen (%) 8.6
 Dissolved Oxygen (mg/L) 0.82
 pH (s.u.) 6.13
 ORP (mV) -107.8
 Turbidity (NTU) 1.72
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

YSI/LOW FLOW SAMPLING LOG

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WELL : MW-55

PROJ #: MI001373.0001.00002

DATE: 11/8/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/8/17
 Site/Well No. MW-56 Replicate No. - Code No. -
 Weather SUNNY, 30° Sampling Time: Begin 1340 End 1345

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.76
 Depth to Water (ft bmp) 8.21
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 12.55
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.008
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 18.76
 Purge Time begin 1250 end 1330
 Pumping Rate (ml/min) ~2
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.89
 SpC (mS/cm) 7.927
 CND (mS/cm) 6.549
 Dissolved Oxygen (%) 8.0
 Dissolved Oxygen (mg/L) 0.77
 pH (s.u.) 6.45
 ORP (mV) -117.0
 Turbidity (NTU) 12.5
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-56

PROJ #: MI001373.0001.00002

DATE : 11/8/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/8/17
 Site/Well No. MW-38 Replicate No. - Code No. -
 Weather SUNNY, 40s Sampling Time: Begin 1505 End 1510

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.75
 Depth to Water (ft bmp) 8.43
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.32
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.8112
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 17.75
 Purge Time begin 1430 end 1500
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.70
 SpC (mS/cm) 2.545
 CND (mS/cm) 2.045
 Dissolved Oxygen (%) 16.3
 Dissolved Oxygen (mg/L) 1.64
 pH (s.u.) 5.56
 ORP (mV) -113.4
 Turbidity (NTU) 9.45
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/8/17
 Site/Well No. MU-33 Replicate No. - Code No. -
 Weather SUNNY, 30s Sampling Time: Begin 1640 End 1645

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.08
 Depth to Water (ft bmp) 8.55
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) OK 1.6848 10.53
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.6848
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 17.08
 Purge Time begin 1545 end 1640
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.53
 SpC (mS/cm) 4.936
 CND (mS/cm) 3.949
 Dissolved Oxygen (%) 11.9
 Dissolved Oxygen (mg/L) 1.19
 pH (s.u.) 5.10
 ORP (mV) -58.6
 Turbidity (NTU) 9.65
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

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WELL : MW-33

PROJ #: MI001373.0001.00002

DATE: 11/8/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-43 Replicate No. - Code No. -
 Weather Clear, 37°F Sampling Time: Begin 1045 End 1115

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 21.98
 Depth to Water (ft bmp) 8.76
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 13.22
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.1152
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 19.98
 Purge Time begin 10:00 end 1045
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.35
 SpC (mS/cm) 4.798
 CND (mS/cm) 3.909
 Dissolved Oxygen (%) 12.1
 Dissolved Oxygen (mg/L) 1.20
 pH (s.u.) 5.98
 ORP (mV) -136.6
 Turbidity (NTU) 10.5
 Color NONE
 Odor NONE
 Appearance Clear
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>MEE (RSK.175)</u>	<u>40 mL VOA</u>	<u>3</u>	<u>HCL</u>
<u>TOTAL FE, MN (6020)</u>	<u>500ml PLASTIC (ALTERED)</u>	<u>1</u>	<u>HNO₃</u>
<u>DISSOLVED FE, MN (6020)</u>	<u>500mL PLASTIC (ALTERED)</u>	<u>1</u>	<u>HNO₃</u>
<u>TOC + DOC (5310 C)</u>	<u>40 mL VOA (Altered for DOC sample)</u>	<u>4</u>	<u>H₂SO₄</u>
<u>NO₃ + SULFATE (9050A)</u>	<u>500mL PLASTIC</u>	<u>1</u>	<u>NONE</u>
Sampling Personnel <u>DIAMATH</u>			

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

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WELL: MW-43

PROJ #: MI001373.0001.00002

DATE : 11/9/17

LOC: Ford LTP, Livonia, MI

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ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-30 Replicate No. - Code No. -
 Weather CLEAR, WINDY, 30s Sampling Time: Begin 1240 End 18:15

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 24.84
 Depth to Water (ft bmp) 10.55
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 14.29
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.2864
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 22.84
 Purge Time begin 1800 end 1835
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.73
 SpC (mS/cm) 3.701
 CND (mS/cm) 2.974
 Dissolved Oxygen (%) 12.4
 Dissolved Oxygen (mg/L) 1.25
 pH (s.u.) 5.12
 ORP (mV) -143.3
 Turbidity (NTU) 1.28
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>MEE (RSK-175)</u>	<u>u</u>	<u>3</u>	<u>u</u>
<u>TOTAL PE, MN + DISSOLVED PHA</u>	<u>500mL PLASTIC</u>	<u>2 (1 FILTERED)</u>	<u>HNO3</u>
<u>TOC + DOC (S310C)</u>	<u>40 mL VOA (2 FILTERED)</u>	<u>4</u>	<u>H2SO4</u>
<u>NO3 + SULFATE (9056A)</u>	<u>500 ML PLASTIC</u>	<u>1</u>	<u>NONE</u>

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL : MW-30

PROJ #: MI001373.0001.00002

DATE: 11/9/17

LOC: Ford LTP, Livonia, MI

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ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-41 Replicate No. _____ Code No. _____
 Weather SUNNY, WINDY, 30s Sampling Time: Begin 1450 End 1500

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 21.25
 Depth to Water (ft bmp) 9.92
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.33
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.8128
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 19.25
 Purge Time begin 1350 end 1450
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.13
 SpC (mS/cm) 11.79
 CND (mS/cm) 9.568
 Dissolved Oxygen (%) 11.3
 Dissolved Oxygen (mg/L) 1.09
 pH (s.u.) 4.63
 ORP (mV) -96.0
 Turbidity (NTU) 2.74
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-34 Replicate No. - Code No. -
 Weather SUNNY & WINDY, 30° Sampling Time: Begin 15:55 End 16:00

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 21.65
 Depth to Water (ft bmp) 9.96
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.69
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.8704
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 19.65
 Purge Time begin 1520 end 1550
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.91
 SpC (mS/cm) 8.083
 CND (mS/cm) 6.510
 Dissolved Oxygen (%) 12.2
 Dissolved Oxygen (mg/L) 1.21
 pH (s.u.) 4.32
 ORP (mV) -109.9
 Turbidity (NTU) 0.62
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DICAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-34

PROJ #: MI001373.0001.00002

DATE: 11/9/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/9/17
 Site/Well No. MW-42 Replicate No. - Code No. -
 Weather SUNNY & WINDY, 30° Sampling Time: Begin 1650 End 1655

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.77
 Depth to Water (ft bmp) 9.76
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.01
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.7616
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 18.77
 Purge Time begin 1615 end 1650
 Pumping Rate (ml/min) 220
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.70
 SpC (mS/cm) 3.748
 CND (mS/cm) 3.011
 Dissolved Oxygen (%) 13.0
 Dissolved Oxygen (mg/L) 1.30
 pH (s.u.) 3.24
 ORP (mV) -128.5
 Turbidity (NTU) 4.83
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DICAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/17
 Site/Well No. MW-69 Replicate No. - Code No. -
 Weather SUNNY, WINDY, 29°F Sampling Time: Begin 09:10 End 09:15

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.98
 Depth to Water (ft bmp) 9.88
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.10
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.616
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 17.98
 Purge Time begin 8:35 end 9:05
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.88
 SpC (mS/cm) 4.766
 CND (mS/cm) 3.756
 Dissolved Oxygen (%) 10.8
 Dissolved Oxygen (mg/L) 1.09
 pH (s.u.) 5.96
 ORP (mV) -87.3
 Turbidity (NTU) 2.52
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

PAGE 2 OF 2

WELL: MW-69

PROJ #: MI001373.0001.00002

DATE : 11/10/17

LOC: Ford LTP, Livonia, MI

[illegible]

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/17
 Site/Well No. MW-31 Replicate No. - Code No. -
 Weather SUNNY, WINDY 29°F Sampling Time: Begin 10:15 End 10:20

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 21.92
 Depth to Water (ft bmp) 10.65
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.27
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.8032
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 19.92
 Purge Time begin 9:40 end 10:10
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 11.69*
 SpC (mS/cm) 15.26
 CND (mS/cm) 11.38
 Dissolved Oxygen (%) 11.2
 Dissolved Oxygen (mg/L) 1.19
 pH (s.u.) - *
 ORP (mV) -66.2
 Turbidity (NTU) 2.16
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks *SEE YSI SAMPLING LOG FOR REMARKS
ON ABNORMAL #'s

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

NOT TO TAKE DOWN ANY PH READINGS FOR THIS WELL AND RECALIBRATE YSI
FOR NEXT WELL. WILL CHECK IF SHE CAN GET ANOTHER YSI.

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PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

Document #ENFM005, Revision 03

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/16/17
 Site/Well No. MU-52 Replicate No. - Code No. -
 Weather SUNNY & WINDY, 25°F Sampling Time: Begin 1215 End 1220

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.83
 Depth to Water (ft bmp) 8.86
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.97
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.7552
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 17.83
 Purge Time begin 1140 end 1215
 Pumping Rate (ml/min) _____
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.02
 SpC (mS/cm) 5.829
 CND (mS/cm) 4.607
 Dissolved Oxygen (%) 4.7
 Dissolved Oxygen (mg/L) 0.48
 pH (s.u.) 5.25
 ORP (mV) -98.2
 Turbidity (NTU) 3.31
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/17
 Site/Well No. MW-37 Replicate No. _____ Code No. _____
 Weather SUNNY, 26°F Sampling Time: Begin 1330 End 1345

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 23.18
 Depth to Water (ft bmp) 8.18
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 15
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.4
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 21.18
 Purge Time begin 1250 end 1325
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.35
 SpC (mS/cm) 2.372
 CND (mS/cm) 1.845
 Dissolved Oxygen (%) 13.2
 Dissolved Oxygen (mg/L) 1.37
 pH (s.u.) 4.86
 ORP (mV) -90.8
 Turbidity (NTU) 6.51
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks DUP-03

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel D KAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/17
 Site/Well No. MMNAA MW-47 Replicate No. - Code No. -
 Weather SUNNY, 27°F Sampling Time: Begin 1515 End 1520

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.98
 Depth to Water (ft bmp) 9.87
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.11
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.6176
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 17.98
 Purge Time begin 1440 end 1515
 Pumping Rate (ml/min) 220
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.62
 SpC (mS/cm) 4.780
 CND (mS/cm) 3.923
 Dissolved Oxygen (%) 8.6
 Dissolved Oxygen (mg/L) 0.85
 pH (s.u.) 4.77
 ORP (mV) -91.6
 Turbidity (NTU) 3.04
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

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WELL : MW-47

PROJ #: MI001373.0001.00002

DATE : 11/10/17

LOC: Ford LTP, Livonia, MI

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ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/10/17
 Site/Well No. MW-68 Replicate No. - Code No. -
 Weather SUNNY, WINDY, 27°F Sampling Time: Begin 1615 End 1620

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.85
 Depth to Water (ft bmp) 9.46
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.39
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.6624
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 17.85
 Purge Time begin 1540 end 1610
 Pumping Rate (ml/min) 220
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.56
 SpC (mS/cm) 9.560
 CND (mS/cm) 7.836
 Dissolved Oxygen (%) 9.1
 Dissolved Oxygen (mg/L) 0.88
 pH (s.u.) 4.85
 ORP (mV) -18.6
 Turbidity (NTU) 1.80
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel BKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/13/17
 Site/Well No. MW-71 Replicate No. - Code No. -
 Weather OVERCAST/CLOUDY, 39°F Sampling Time: Begin 1135 End 1140

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.21
 Depth to Water (ft bmp) 11.07
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 9.14
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.4624
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 18.21
 Purge Time begin 1100 end 1130
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.01
 SpC (mS/cm) 11.66
 CND (mS/cm) 9.878
 Dissolved Oxygen (%) 9.0
 Dissolved Oxygen (mg/L) 0.84
 pH (s.u.) 7.29
 ORP (mV) -70.1
 Turbidity (NTU) 7.94
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL : MW-71

PROJ #: MI001373.0001.00002

DATE: 11/13/17

LOC: Ford LTP, Livonia, MI

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ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/13/17
 Site/Well No. MW-46 Replicate No. - Code No. -
 Weather OVERCAST, 39°F Sampling Time: Begin 12:55 End 13:00

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.81
 Depth to Water (ft bmp) 9.85
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 9.96
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.5936
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 17.81
 Purge Time begin 12:15 end 12:50
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.39
 SpC (mS/cm) 7.435
 CND (mS/cm) 6.355
 Dissolved Oxygen (%) 6.0
 Dissolved Oxygen (mg/L) 0.56
 pH (s.u.) 7.28
 ORP (mV) 106.0
 Turbidity (NTU) 0.73
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow

Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/13/17
 Site/Well No. MW-70 Replicate No. - Code No. -
 Weather OVERCAST, 39°F Sampling Time: Begin 14:00 End 14:05

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.15
 Depth to Water (ft bmp) 10.53
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 9.62
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.5392
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 18.15
 Purge Time begin 1325 end 1355
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.42
 SpC (mS/cm) 5.450
 CND (mS/cm) 4.662
 Dissolved Oxygen (%) 5.4
 Dissolved Oxygen (mg/L) 0.50
 pH (s.u.) 7.66
 ORP (mV) -67.6
 Turbidity (NTU) 0.75
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

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WELL: NW 70

PROJ #: MI001373.0001.00002

DATE : 11/13/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/13/17
 Site/Well No. MUO-45 Replicate No. - Code No. -
 Weather OVERCAST, 39°F Sampling Time: Begin 1500 End 1505

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.75
 Depth to Water (ft bmp) 10.08
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 9.67
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.5472
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 17.75
 Purge Time begin 1420 end 1450
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 16.46
 SpC (mS/cm) 0.881
 CND (mS/cm) 0737
 Dissolved Oxygen (%) 7.3
 Dissolved Oxygen (mg/L) 0.71
 pH (s.u.) 7.65
 ORP (mV) 24.8
 Turbidity (NTU) 8.09
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow

Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-45

PROJ #: MI001373.0001.00002

DATE : 11/13/17

LOC: Ford LTP, Livonia, MI

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ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/13/17
 Site/Well No. MW-62 Replicate No. _____ Code No. _____
 Weather OVERCAST, 39°F Sampling Time: Begin 1605 End 1616

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 21.19
 Depth to Water (ft bmp) 9.27
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.92
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.9072
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 19.19
 Purge Time begin 1530 end 1600
 Pumping Rate (ml/min) 220
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.16
 SpC (mS/cm) 4.791
 CND (mS/cm) 4.073
 Dissolved Oxygen (%) 8.1
 Dissolved Oxygen (mg/L) 0.77
 pH (s.u.) 7.31
 ORP (mV) -95.4
 Turbidity (NTU) 1.00
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

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WELL: MLW-67

PROJ #: MI001373.0001.00002

DATE: 11/13/17

LOC: Ford LTP, Livonia, MI

[illegible]

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/13/17
 Site/Well No. MW-63 Replicate No. - Code No. -
 Weather OVERCAST, 30c Sampling Time: Begin 1710 End 1715

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 11.80
 Depth to Water (ft bmp) 8.14
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 3.66
 Casing Diameter/Type 2" PVC
 Gallons in Well 0.5856
 Gallons Pumped/Bailed Prior to Sampling ~1.5
 Sample Pump Intake Setting (ft bmp) 9.80
 Purge Time begin 1635 end 1710
 Pumping Rate (ml/min) _____
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.65
 SpC (mS/cm) 2.431
 CND (mS/cm) 1.997
 Dissolved Oxygen (%) 6.3
 Dissolved Oxygen (mg/L) 0.63
 pH (s.u.) 7.40
 ORP (mV) -14.1
 Turbidity (NTU) 1.05
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

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WELL : MW-63

PROJ #: MI001373.0001.00002

DATE : 11/13/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/14/17
 Site/Well No. MW-29 Replicate No. - Code No. -
 Weather SUNNY, 40°F Sampling Time: Begin 1030 End 1040

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 15.81
 Depth to Water (ft bmp) 5.53
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.28
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.6448
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 13.81
 Purge Time begin 0940 end 1025
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.36
 SpC (mS/cm) 6.423
 CND (mS/cm) 5.241
 Dissolved Oxygen (%) 0.9
 Dissolved Oxygen (mg/L) 0.09
 pH (s.u.) 7.42
 ORP (mV) -74.7
 Turbidity (NTU) 3.40
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/14/17
 Site/Well No. MW-19 Replicate No. - Code No. -
 Weather SUNNY, 40°F Sampling Time: Begin 1140 End 1145

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.85
 Depth to Water (ft bmp) 5.98
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 13.87
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.2192
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 17.85
 Purge Time begin 11:00 end 11:35
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.49
 SpC (mS/cm) 7970
 CND (mS/cm) 6.524
 Dissolved Oxygen (%) 4.0
 Dissolved Oxygen (mg/L) 0.39
 pH (s.u.) 6.81
 ORP (mV) -32.0
 Turbidity (NTU) 3.29
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DIAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

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WELL: MW-19

PROJ #: MI001373.0001.00002

DATE: 11/14/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/14/17
 Site/Well No. MW 26 Replicate No. - Code No. -
 Weather SUNNY, 40°F Sampling Time: Begin 1255 End 1300

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 14.10
 Depth to Water (ft bmp) 6.04
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 8.06
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.9896
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 12.10
 Purge Time begin 12:10 end 12:55
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.44
 SpC (mS/cm) 4.699
 CND (mS/cm) 3.841
 Dissolved Oxygen (%) 3.5
 Dissolved Oxygen (mg/L) 0.34
 pH (s.u.) 7.30
 ORP (mV) 49.1
 Turbidity (NTU) 14.0
 Color NONE
 Odor NONE
 Appearance BLACK-COLORED SUSPENDED PARTICLES (PICTURE TAKEN)
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

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WELL : MW26

PROJ #: MI001373.0001.00002

DATE : W/14/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/14/17
 Site/Well No. MW-25 Replicate No. - Code No. -
 Weather SUNNY, 47°F Sampling Time: Begin 1420 End 1430

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.38
 Depth to Water (ft bmp) 6.58
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 13.8
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.208
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 18.38
 Purge Time begin 1345 end 1415
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.49
 SpC (mS/cm) 5.462
 CND (mS/cm) 4.679
 Dissolved Oxygen (%) 4.9
 Dissolved Oxygen (mg/L) 0.46
 pH (s.u.) 7.87
 ORP (mV) -115.8
 Turbidity (NTU) 3.93
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/14/17
 Site/Well No. MW-48 Replicate No. - Code No. -
 Weather SUNNY, 40s Sampling Time: Begin 1535 End 1540

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 20.34
 Depth to Water (ft bmp) 9.31
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 11.03
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.7648
 Gallons Pumped/Bailed Prior to Sampling ~2
 Sample Pump Intake Setting (ft bmp) 18.34
 Purge Time begin 1500 end 1530
 Pumping Rate (ml/min) 220
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 16.97
 SpC (mS/cm) 1.474
 CND (mS/cm) 1.249
 Dissolved Oxygen (%) 3.6
 Dissolved Oxygen (mg/L) 0.35
 pH (s.u.) 7.89
 ORP (mV) -78.0
 Turbidity (NTU) 5.62
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow

Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

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WELL : MW-48

PROJ #: MI001373.0001.00002

DATE: 11/14/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/14/17
 Site/Well No. MW-67 Replicate No. - Code No. -
 Weather SUNNY, 40s Sampling Time: Begin 1640 End 1645

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 14.05
 Depth to Water (ft bmp) 9.63
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 4.42
 Casing Diameter/Type 2" PVC
 Gallons in Well 0.7072
 Gallons Pumped/Bailed Prior to Sampling 21.5
 Sample Pump Intake Setting (ft bmp) 12.05
 Purge Time begin 1600 end 1635
 Pumping Rate (ml/min) 200
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.69 14.60
 SpC (mS/cm) 5.261
 CND (mS/cm) 4.219
 Dissolved Oxygen (%) 14.9
 Dissolved Oxygen (mg/L) 1.49
 pH (s.u.) 6.71
 ORP (mV) 30.6
 Turbidity (NTU) 3.40
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

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WELL : MUC-67

PROJ #: MI001373.0001.00002

DATE : 11/14/17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/15/17
 Site/Well No. MW-40 Replicate No. - Code No. -
 Weather OVERCAST, 43°F Sampling Time: Begin 0820 End 0830

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.75
 Depth to Water (ft bmp) 10.47
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 9.28
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.4848
 Gallons Pumped/Bailed Prior to Sampling ~ 2
 Sample Pump Intake Setting (ft bmp) 17.75
 Purge Time begin 0745 end 0820
 Pumping Rate (ml/min) 240
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.29
 SpC (mS/cm) 16.47
 CND (mS/cm) 12.78
 Dissolved Oxygen (%) 11.8
 Dissolved Oxygen (mg/L) 1.16
 pH (s.u.) 7.18
 ORP (mV) -49.7
 Turbidity (NTU) 9.30
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/15/17
 Site/Well No. MW-15-60D Replicate No. - Code No. -
 Weather OVERCAST, 43°F Sampling Time: Begin 1035 End 1045

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 99.92
 Depth to Water (ft bmp) 20.18
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 79.74
 Casing Diameter/Type 2" PVC
 Gallons in Well 12.75
 Gallons Pumped/Bailed Prior to Sampling ~6
 Sample Pump Intake Setting (ft bmp) 99.2' - 4' = 95.2'
 Purge Time begin 0930 end 1030
 Pumping Rate (ml/min) 300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 13.07
 SpC (mS/cm) 0.500
 CND (mS/cm) 0.386
 Dissolved Oxygen (%) 1.1
 Dissolved Oxygen (mg/L) 0.12
 pH (s.u.) 9.03
 ORP (mV) -152.4
 Turbidity (NTU) 40.2
 Color NONE
 Odor NONE
 Appearance CLEAR, BUT TURBID
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/15/17
 Site/Well No. MW1559D Replicate No. - Code No. -
 Weather OVERCAST, 40L Sampling Time: Begin 1205 End 1315

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 100.65
 Depth to Water (ft bmp) 24.48
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 76.17
 Casing Diameter/Type 2" PVC
 Gallons in Well 12.18
 Gallons Pumped/Bailed Prior to Sampling ~10
 Sample Pump Intake Setting (ft bmp) 100.65' - 4' = 96.65'
 Purge Time begin 1205 end 1305
 Pumping Rate (ml/min) _____
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 11.82
 SpC (mS/cm) 0.410
 CND (mS/cm) 0.306
 Dissolved Oxygen (%) 2.4
 Dissolved Oxygen (mg/L) 0.25
 pH (s.u.) 9.25
 ORP (mV) -66.5
 Turbidity (NTU) 2.65
 Color NONE
 Odor NONE
 Appearance DK SUSPENDED CLOUDED
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DIAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

PAGE 2 OF 2

PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

ENFM005-YSIlog.xls

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11/15/17
 Site/Well No. 1561D Replicate No. - Code No. -
 Weather RAINING, 40s Sampling Time: Begin 1605 End 1615

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 94.72
 Depth to Water (ft bmp) 26.58
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 68.14
 Casing Diameter/Type 2" PVC
 Gallons in Well 10.90
 Gallons Pumped/Bailed Prior to Sampling ~8
 Sample Pump Intake Setting (ft bmp) 90.72
 Purge Time begin 1505 end 1605
 Pumping Rate (ml/min) 300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 12.43
 SpC (mS/cm) 0.862
 CND (mS/cm) 0.655
 Dissolved Oxygen (%) 7.9
 Dissolved Oxygen (mg/L) 0.83
 pH (s.u.) 8.80
 ORP (mV) -84.0
 Turbidity (NTU) 16.2
 Color NONE
 Odor NONE
 Appearance CLEAR
 Sampling Method Low Flow
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Sampling Personnel DKAMATH

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

PAGE 2 OF 2

PROJ #: MI001373.0001.00002

LOC: Ford LTP, Livonia, MI

Document #ENFM005, Revision 03

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-10-17
 Site/Well No. MW-36 Replicate No. - Code No. -
 Weather Sunny 20F Sampling Time: Begin 1530 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 24.71
 Depth to Water (ft bmp) 9.76
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 14.95
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.39
 Gallons Pumped/Bailed Prior to Sampling 3.87
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1435 end 1525
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.30
 SpC (mS/cm) 9.509
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.5
 Dissolved Oxygen (mg/L) 0.15
 pH (s.u.) -
 ORP (mV) -
 Turbidity (NTU) 3.09
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks No pH or ORP readings due to faulty probe on YSI - erratic readings

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel Kevin Raul

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-10-17
 Site/Well No. MW-24 Replicate No. - Code No. -
 Weather Sunny 20°F Sampling Time: Begin 1640 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 23.86
 Depth to Water (ft bmp) 10.29
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 13.57
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.17
 Gallons Pumped/Bailed Prior to Sampling 3.87
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1545 end 1635
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.41
 SpC (mS/cm) 2.620
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.3
 Dissolved Oxygen (mg/L) 0.13
 pH (s.u.) -
 ORP (mV) -
 Turbidity (NTU) 3.69
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks pH + ORP not recorded
due to faulty probe
on YSI - erratic numbers

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel Lower Pressat

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

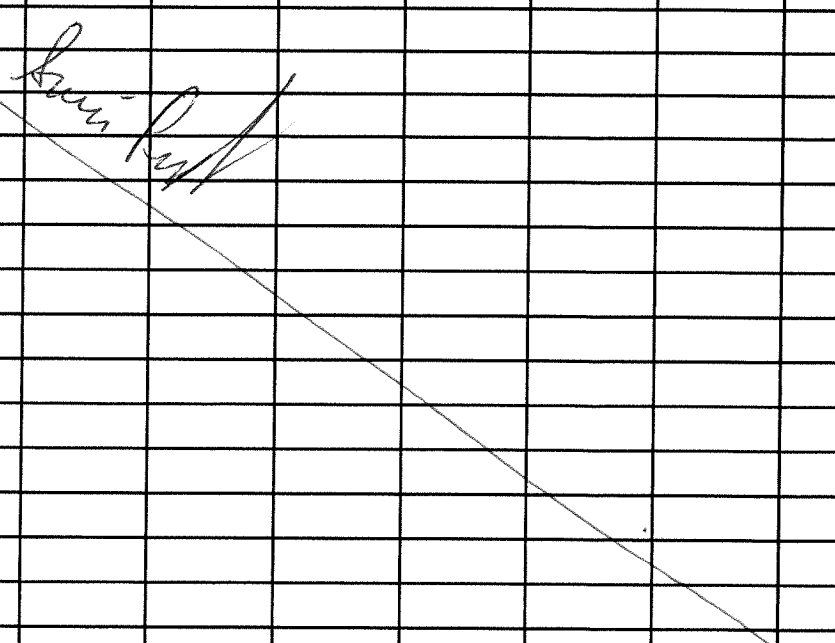
PAGE 2 OF 2

WELL : MW-24

PROJ #: MI001373.0001.00002

DATE: 11-10-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
1550	14.03	2.892	-	17.5	1.75	-	-	~300	10.8	10.29
1555	14.21	2.719	-	10.1	1.00	-	-		9.91	10.64
1600	14.32	2.635	-	3.3	0.32	-	-		8.96	10.66
1605	14.29	2.634	-	2.7	0.27	-	-		6.91	10.66
1610	14.27	2.633	-	2.3	0.23	-	-		6.10	10.66
1615	14.30	2.630	-	2.0	0.20	-	-		5.86	10.66
1620	14.33	2.627	-	1.7	0.16	-	-		4.99	
1625	14.37	2.624	-	1.5	0.15	-	-		4.19	
1630	14.42	2.622	-	1.4	0.14	-	-		3.71	
1635	14.41	2.620	-	1.3	0.13	-	-		3.69	
										
Total Depth of Well:		23.36								
Depth To Water Before Purging:		10.29								
Depth To Water After Purging:		10.66								

APPENDIX B

Off-Site Groundwater Field Sampling Logs



ARCADIS
Water-Level Measurement Form

Project No.: MI001373.0001.00002
Site Location: LIVONIA, MI
Instrument Model Terra Est.

Field Personnel: Severin Presswood
Date: 11-06-17
Instrument Serial No.: 9020886 (pine)

[illegible]

W.L.
TD
DTW
DTP

Water Level
Total Depth
Depth To Water
Depth To Product

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-7-17
 Site/Well No. MW-72 Replicate No. - Code No. -
 Weather Sunny 40F Sampling Time: Begin 940 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.54
 Depth to Water (ft bmp) 9.20
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.34
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.65
 Gallons Pumped/Bailed Prior to Sampling 5.15
 Sample Pump Intake Setting (ft bmp) ~300 ml/min
 Purge Time begin 830 end 935
 Pumping Rate (ml/min) ~300 ml/min
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.22
 SpC (mS/cm) 5.064
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.1
 Dissolved Oxygen (mg/L) 0.11
 pH (s.u.) 7.14
 ORP (mV) -0.2
 Turbidity (NTU) 4.53
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number ^{MS/MSD}	Preservative
Vinyl Chloride	40mL voa	3 + 6	HCL
1,4-dioxane	40mL voa	3 + 6 ^{MS/MSD}	HCL

Sampling Personnel Severin Presswood John Paul

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

ARCADIS
YSI/LOW FLOW SAMPLING LOG

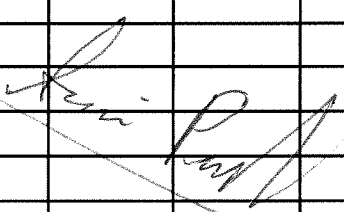
PAGE 2 OF 2

WELL : MW-72

PROJ # : MI001373.0001.00002

DATE : 11-07-17

LOC : Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
830	16.63	5236	-	9.9	0.97	7.01	99.2	~300	173	9.20
835	16.69	5236	-	5.9	0.56	6.94	77.2		101	9.20
840	16.93	5250	-	3.9	0.37	6.98	59.9		41.9	9.20
845	16.94	5287	-	2.7	0.26	7.03	46.2		36.8	9.20
850	17.03	5292	-	2.5	0.24	7.06	38.1		31.6	9.20
855	17.04	5290	-	2.2	0.20	7.09	33.6		28.9	9.20
900	17.08	5285	-	2.0	0.19	7.11	30.2		23.7	9.20
905	17.11	5279	-	1.8	0.17	7.13	25.1		16.1	9.20
910	17.18	5253	-	1.7	0.16	7.13	19.1		11.7	9.20
915	17.14	5227	-	1.3	0.12	7.11	14.2		8.31	9.20
920	17.22	5207	-	1.2	0.12	7.12	10.8		6.33	9.20
925	17.18	5189	-	1.4	0.13	7.12	8.2		5.17	9.20
930	17.20	5083	-	1.2	0.12	7.14	1.1		4.83	9.20
935	17.22	5064	-	1.1	0.11	7.14	-0.2		4.53	9.20
										
Total Depth of Well:		19.54								
Depth To Water Before Purging:		9.20								
Depth To Water After Purging:		9.20								

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-7-17
 Site/Well No. MW-735 Replicate No. - Code No. -
 Weather Sunny 40F Sampling Time: Begin 1200 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 11.42
 Depth to Water (ft bmp) 6.94
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 4.48
 Casing Diameter/Type 2" PVC
 Gallons in Well 0.72
 Gallons Pumped/Bailed Prior to Sampling 5.42
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1045 end 1155
 Pumping Rate (ml/min) ~300 ml/min
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 18.53
 SpC (mS/cm) 3904
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.4
 Dissolved Oxygen (mg/L) 0.13
 pH (s.u.) 6.52
 ORP (mV) -14.2
 Turbidity (NTU) 4.01
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative	
Vinyl Chloride	40mL voa	3	HCL	+ Nitrate +
1,4-dioxane	40mL voa	3	HCL	Sulfate
^{SMP - 11-7-17} ME TOC	40ml sulfuric	2	Sulfuric	500ml plastic
DOC	40ml voa	2	Sulfuric	1 container
Fe, Mn	500ml plastic	2	HNO3	
ME	40ml voa	3	HCL	None (pres)

Sampling Personnel Luci Pineda

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-735

PROJ #: MI001373.0001.00002

DATE : 11-07-17

LOC: Ford LTP, Livonia, MI

[illegible]

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-7-17
 Site/Well No. MW-73D Replicate No. - Code No. -
 Weather Sunny 45F Sampling Time: Begin 1330 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 17.38
 Depth to Water (ft bmp) 7.22
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.16
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.61
 Gallons Pumped/Bailed Prior to Sampling 4.65
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1230 end 1330
 Pumping Rate (ml/min) ~300ml/min
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 18.27
 SpC (mS/cm) 3.725
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.1
 Dissolved Oxygen (mg/L) 0.10
 pH (s.u.) 6.95
 ORP (mV) -28.6
 Turbidity (NTU) 6.41
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks DOP-1 taken for VOCs + 1,4-dioxane

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel Kevin Pressard

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-7-17
 Site/Well No. MW-74 Replicate No. - Code No. -
 Weather Sunny 45°F Sampling Time: Begin 1510 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 18.76
 Depth to Water (ft bmp) 8.12
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.64
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.70
 Gallons Pumped/Bailed Prior to Sampling 4.65
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1410 end 1510
 Pumping Rate (ml/min) ~300 ml/min
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.51
 SpC (mS/cm) 4.465
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.2
 Dissolved Oxygen (mg/L) 0.11
 pH (s.u.) 6.97
 ORP (mV) 0.9
 Turbidity (NTU) 4.72
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
Vinyl Chloride	40mL voa	3	HCL
1,4-dioxane	40mL voa	3	HCL

Sampling Personnel Jeani Pied

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-74

PROJ #: MI001373.0001.00002

DATE: 11-07-17

LOC: Ford LTP, Livonia, MI

[illegible]

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-7-17
 Site/Well No. MW-85 Replicate No. - Code No. -
 Weather Cloudy 41°F Sampling Time: Begin 1625 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 12.70
 Depth to Water (ft bmp) 6.34
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 6.36
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.01
 Gallons Pumped/Bailed Prior to Sampling 426
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1530 end 1625
 Pumping Rate (ml/min) ~300ml
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.93
 SpC (mS/cm) 3293
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.5
 Dissolved Oxygen (mg/L) 0.14
 pH (s.u.) 6.73
 ORP (mV) -42.7
 Turbidity (NTU) 2.97
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

Sampling Personnel Keri Prosser

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL : MW - 85

PROJ #: MI001373.0001.00002

DATE : 11-7-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
1535	16.20	3.400	N/A	5.0	0.48	7.11	-7.9	~300	18.7	6.34
1540	16.10	3.381	-	3.7	0.36	7.00	-11.9		15.3	6.34
1545	16.05	3.369	-	2.5	0.25	6.87	-18.0		12.1	6.34
1550	16.05	3.358	-	2.4	0.24	6.84	-22.1		9.81	6.34
1555	16.07	3.343	-	2.2	0.22	6.79	-26.5		6.16	6.34
1600	16.00	3.333	-	2.3	0.23	6.77	-30.1		4.73	6.34
1605	15.94	3.320	-	2.3	0.23	6.75	-34.8		3.24	6.34
1610	15.91	3.312	-	1.8	0.18	6.74	-38.7		3.13	6.34
1615	15.90	3.300	-	1.6	0.15	6.73	-41.5		2.99	6.34
1620	15.90	3.293	-	1.5	0.14	6.73	-42.7	+	2.97	6.34
<i>Ravi Puri</i>										
Total Depth of Well:	12.70									
Depth To Water Before Purging:		6.34								
Depth To Water After Purging:		6.34								

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-8-17
 Site/Well No. MW-755 Replicate No. - Code No. -
 Weather Sunny 35F Sampling Time: Begin 915 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 9.43
 Depth to Water (ft bmp) 9.43 6.83
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 2.60
 Casing Diameter/Type 2" PVC
 Gallons in Well 0.42
 Gallons Pumped/Bailed Prior to Sampling 3.48
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 825 end 910
 Pumping Rate (ml/min) ~300 ml/min
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.03
 SpC (mS/cm) 3.587
 CND (mS/cm) -
 Dissolved Oxygen (%) 3.1
 Dissolved Oxygen (mg/L) 0.3
 pH (s.u.) -
 ORP (mV) -
 Turbidity (NTU) 3.89
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks electrical short on YSI
preventing pH + ORP readings

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>MEE</u>	<u>40ml voa</u>	<u>3</u>	<u>HCL</u>
<u>total dissolved Fe, Mn</u>	<u>500ml plastic</u>	<u>2</u>	<u>Nitric</u>
<u>Nitrate + Sulfate</u>	<u>500ml plastic</u>	<u>2</u>	<u>None</u>
<u>TOC + DOC</u>	<u>40ml VOC</u>	<u>4</u>	<u>Sulfuric</u>

Sampling Personnel _____

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-75 S

PROJ #: MI001373.0001.00002

DATE: 11-8-17

LOC: Ford LTP, Livonia, MI

[illegible]

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-8-17
 Site/Well No. MW-750 Replicate No. - Code No. -
 Weather Sunny 40F Sampling Time: Begin 1045 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 17.80
 Depth to Water (ft bmp) 6.81
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 10.99
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.72
 Gallons Pumped/Bailed Prior to Sampling 4.65
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 945 end 1045
 Pumping Rate (ml/min) 300ml/min
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.23
 SpC (mS/cm) 5.743
 CND (mS/cm) -
 Dissolved Oxygen (%) 0.9
 Dissolved Oxygen (mg/L) 0.09
 pH (s.u.) 7.25
 ORP (mV) 104.1
 Turbidity (NTU) -
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

Sampling Personnel Jean Presnell

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-75D

PROJ #: MI001373.0001.00002

DATE: 11-8-17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-8-17
 Site/Well No. MW-76 Replicate No. - Code No. -
 Weather Sunny 40F Sampling Time: Begin 1145 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 19.66
 Depth to Water (ft bmp) 10.73
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 8.93
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.43
 Gallons Pumped/Bailed Prior to Sampling 3.48
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1100 end 1145
 Pumping Rate (ml/min) ~300 ml/min
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 17.82
 SpC (mS/cm) 7.560
 CND (mS/cm) -
 Dissolved Oxygen (%) 14
 Dissolved Oxygen (mg/L) 0.14
 pH (s.u.) 7.10
 ORP (mV) 82.9
 Turbidity (NTU) 9.9
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>MEE</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>Sulfate + Nitrate</u>	<u>500ml plastic</u>	<u>1</u>	<u>Sulfuric</u> ^{SAP 11-8-17} <u>None</u>
<u>total dissolved Fe, Mn</u>	<u>500ml plastic</u>	<u>2</u>	<u>Nitric</u>
<u>DOC+TOC</u>	<u>40mL voa</u>	<u>4</u>	<u>Sulfuric</u>

Sampling Personnel Jeani Paul

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS
YSI/LOW FLOW SAMPLING LOG

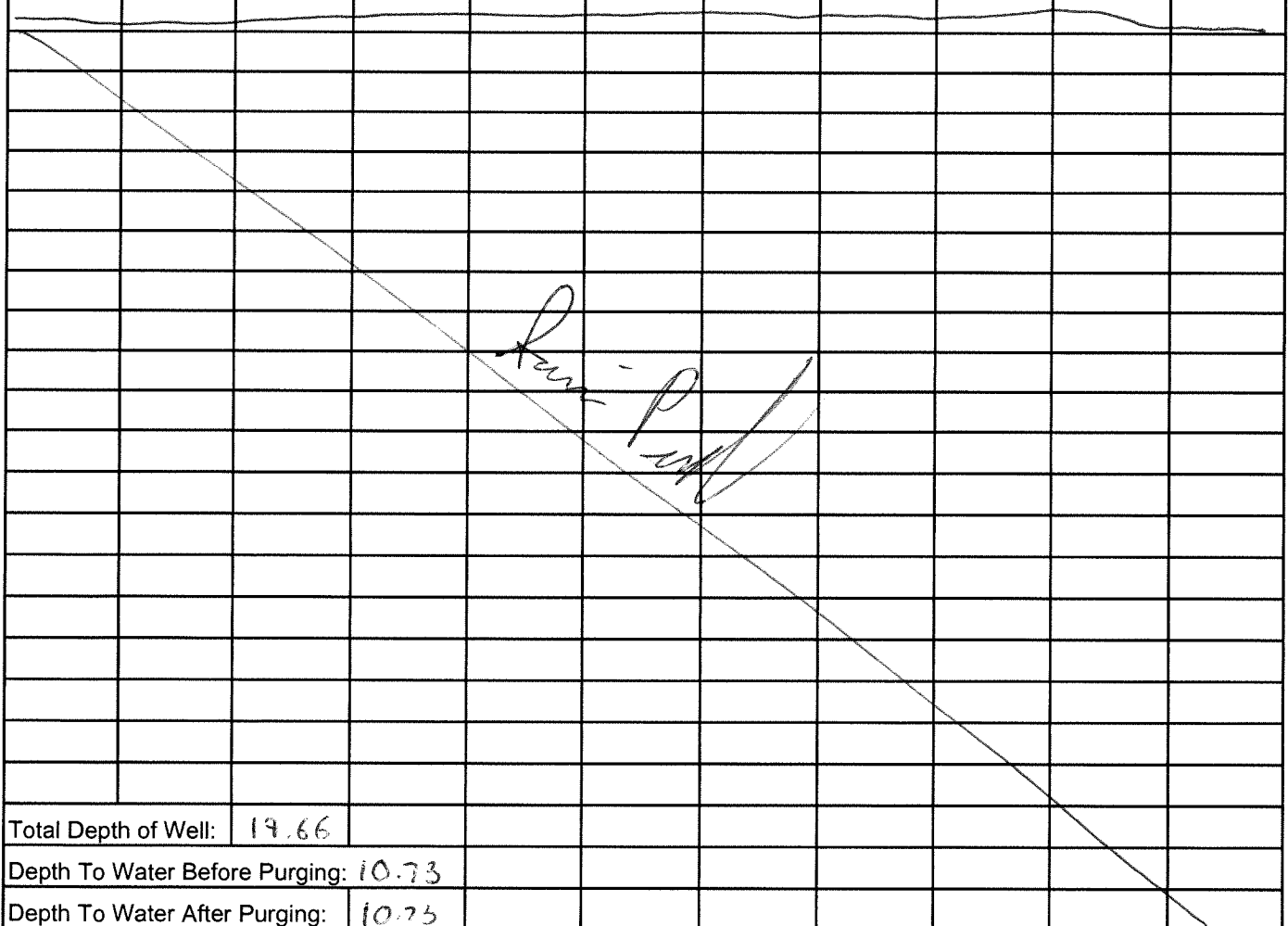
PAGE 2 OF 2

WELL : MW-76

PROJ #: MI001373.0001.00002

DATE : 11-08-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
1105	17.27	9.979	-	10.9	1.08	7.25	106.1	~300	31.7	10.73
1110	17.42	9.023	-	5.7	0.56	7.23	100.1		25.6	10.73
1115	17.68	8.001	-	2.2	0.21	7.18	92.0		20.8	10.73
1120	17.73	7.781	-	1.9	0.19	7.15	89.3		17.8	10.73
1125	17.82	7.544	-	1.7	0.17	7.12	86.4		14.3	10.73
1130	17.82	7.550	-	1.6	0.16	7.11	83.9		12.9	10.73
1135	17.82	7.555	-	1.5	0.15	7.10	83.1		11.4	10.73
1140	17.82	7.560	-	1.4	0.14	7.10	82.9		9.9	10.73
										
Total Depth of Well:		19.66								
Depth To Water Before Purging:		10.73								
Depth To Water After Purging:		10.73								

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-8-17
 Site/Well No. Replicate No. - Code No. -
 Weather MW-80S Sampling Time: Begin 1355 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 11.53
 Depth to Water (ft bmp) 3.41
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 8.12
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.30
 Gallons Pumped/Bailed Prior to Sampling 4.65
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1255 end 1355
 Pumping Rate (ml/min) ~300 ml/min
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 16.38
 SpC (mS/cm) 2.676
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.7
 Dissolved Oxygen (mg/L) 0.16
 pH (s.u.) 7.10
 ORP (mV) 18.3
 Turbidity (NTU) 8.71
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>TOC + DOC</u>	<u>40mL voa</u>	<u>4</u>	<u>Sulfuric</u>
<u>total dissolved Fe, Mn</u>	<u>500mL plastic</u>	<u>2</u>	<u>nitric</u>
<u>MEE</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>nitrate + sulfate</u>	<u>500mL plastic</u>	<u>1</u>	<u>None</u>

Sampling Personnel Steven Pressel

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

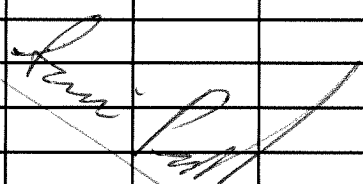
PAGE 2 OF 2

WELL : MW-80S

PROJ #: MI001373.0001.00002

DATE: 11-08-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
1255	16.40	2.735	-	12.4	1.23	7.50	52.4	~300	41.7	3.41
1300	16.32	2.618	-	10.1	1.00	7.42	43.8		33.3	3.41
1305	16.27	2.584	-	5.7	0.55	7.33	39.1		28.6	3.41
1310	16.20	2.593	-	4.2	0.41	7.24	35.3		22.7	3.41
1315	16.16	2.594	-	3.1	0.30	7.19	31.3		19.1	3.41
1320	16.14	2.611	-	5.8	0.57	7.18	30.0		17.2	3.41
1325	16.12	2.629	-	9.9	0.98	7.15	28.0		15.6	3.41
1330	16.25	2.638	-	2.0	0.19	7.14	25.7		14.0	3.41
1335	16.37	2.659	-	2.0	0.19	7.12	23.8		12.7	3.41
1340	16.22	2.681	-	1.7	0.16	7.11	21.1		10.01	3.41
1345	16.36	2.677	-	1.6	0.15	7.11	19.2		8.89	3.41
1350	16.38	2.676	-	1.7	0.16	7.10	18.3		8.71	3.41
										
Total Depth of Well: 11.53										
Depth To Water Before Purging: 3.41										
Depth To Water After Purging: 3.41										

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-8-17
 Site/Well No. MW-825 Replicate No. - Code No. -
 Weather Sunny 45F Sampling Time: Begin - End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 13.34
 Depth to Water (ft bmp) 9.08
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 4.26
 Casing Diameter/Type 2" PVC
 Gallons in Well 0.68
 Gallons Pumped/Bailed Prior to Sampling 4.25
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1435 end 1525
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 12.62
 SpC (mS/cm) 1.069
 CND (mS/cm) -
 Dissolved Oxygen (%) 4.1
 Dissolved Oxygen (mg/L) 0.41
 pH (s.u.) 6.71
 ORP (mV) -2.1
 Turbidity (NTU) 7.79
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinly Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>TOC + DOC</u>	<u>40ml voa</u>	<u>4</u>	<u>sulfuric</u>
<u>MEE</u>	<u>40ml voa</u>	<u>3</u>	<u>HCL</u>
<u>sulfate + nitrate</u>	<u>500ml plastic</u>	<u>1</u>	<u>None</u>
<u>total + dissolved Fe, Mn</u>	<u>500ml plastic</u>	<u>2</u>	<u>nitric</u>

Sampling Personnel Renee Rind

Well Casing Volumes					
Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS
YSI/LOW FLOW SAMPLING LOG

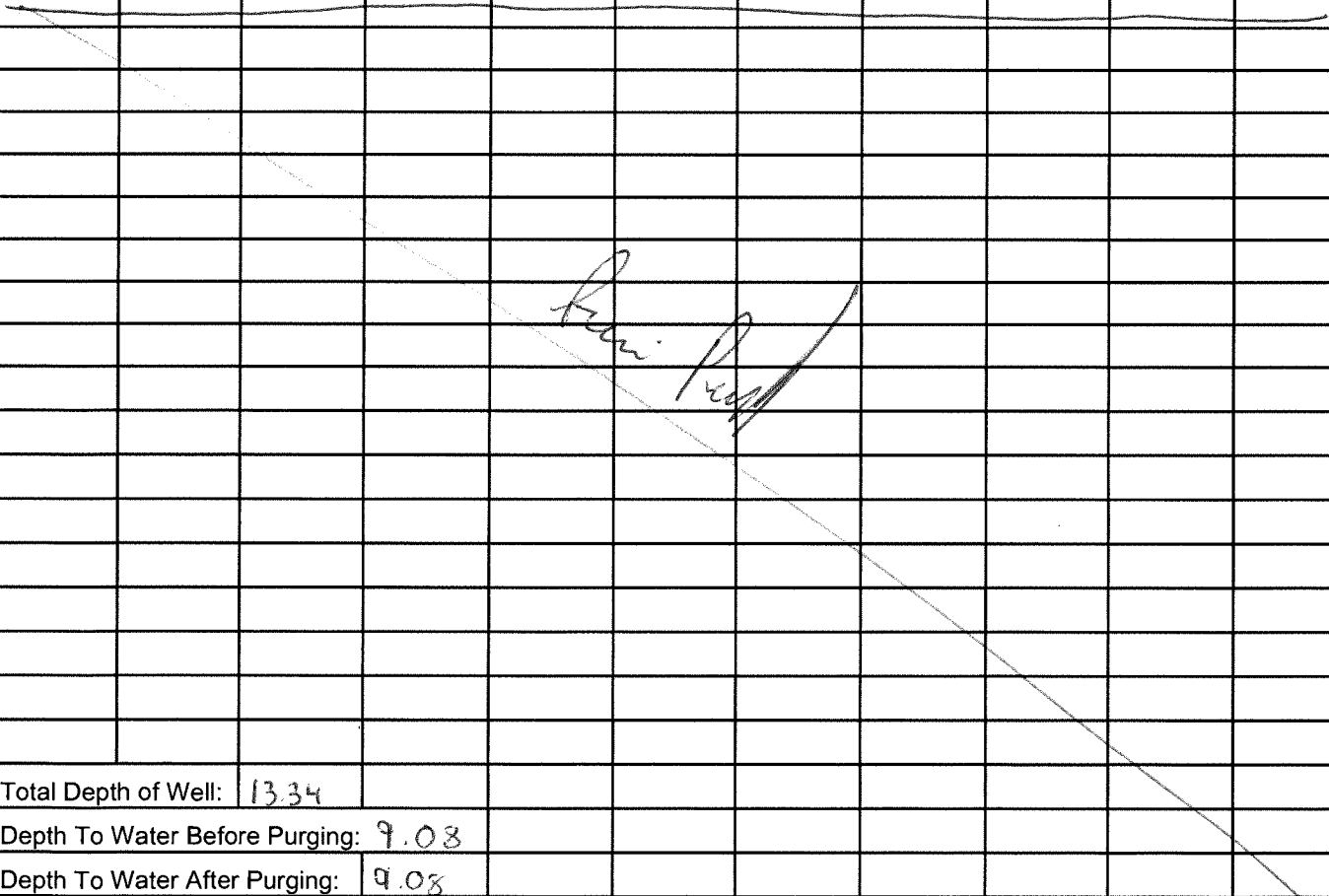
PAGE 2 OF 2

WELL: MW-825

PROJ #: MI001373.0001.00002

DATE: 11-08-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
1440	17.40	1.020	-	9.1	0.90	7.04	3.5	~300	17.1	9.08
1445	17.44	1.017	-	8.0	0.79	6.98	2.0		14.6	9.08
1450	17.48	1.015	-	6.0	0.59	6.90	1.6		12.8	9.08
1455	17.50	1.027	-	5.0	0.49	6.85	0.9		12.0	
1500	17.56	1.043	-	3.1	0.30	6.79	0.0		11.3	
1505	17.59	1.050	-	3.8	0.37	6.75	-0.5		10.2	
1510	17.62	1.058	-	3.9	0.38	6.73	-1.2		9.87	
1515	17.61	1.062	-	4.0	0.40	6.72	-1.8		8.11	
1520	17.61	1.066	-	4.1	0.41	6.72	-2.0		7.83	
1525	17.62	1.069	-	4.1	0.41	6.71	-2.1		7.79	
										
Total Depth of Well:		13.34								
Depth To Water Before Purging:		9.08								
Depth To Water After Purging:		9.08								

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-8-17
 Site/Well No. MW-820 Replicate No. - Code No. -
 Weather Sunny 40F Sampling Time: Begin - End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 22.72
 Depth to Water (ft bmp) 9.41
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 13.31
 Casing Diameter/Type 2" PVC
 Gallons in Well 2.13
 Gallons Pumped/Bailed Prior to Sampling 3.10
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1545 end 1625
 Pumping Rate (ml/min) ~300 ml/min
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.89
 SpC (mS/cm) 1483
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.2
 Dissolved Oxygen (mg/L) 0.12
 pH (s.u.) 6.94
 ORP (mV) 15.9
 Turbidity (NTU) 6.55
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
Vinyl Chloride	40mL voa	3	HCL
1,4-dioxane	40mL voa	3	HCL

Sampling Personnel Kevin Reed

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-82D

PROJ #: MI001373.0001.00002

DATE: 11-8-17

LOC: Ford LTP, Livonia, MI

[illegible]

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-9-17
 Site/Well No. MW-745 Replicate No. - Code No. -
 Weather Cloudy 35F Sampling Time: Begin 900 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 9.71
 Depth to Water (ft bmp) 6.56
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 3.15
 Casing Diameter/Type 2" PVC
 Gallons in Well 0.50
 Gallons Pumped/Bailed Prior to Sampling 3.87
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 810 end 900
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.12
 SpC (mS/cm) 2.333
 CND (mS/cm) -
 Dissolved Oxygen (%) 3.1
 Dissolved Oxygen (mg/L) 0.30
 pH (s.u.) 7.02
 ORP (mV) -66.2
 Turbidity (NTU) 3.02
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>TOC + DOC</u>	<u>40mL voa</u>	<u>4</u>	<u>Sulfuric</u>
<u>total + dissolved Fe, Mn</u>	<u>500mL plastic</u>	<u>2</u>	<u>Nitric</u>
<u>sulfate + nitrate</u>	<u>500mL plastic</u>	<u>1</u>	<u>None</u>
<u>MEE</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel Kevin Pund

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

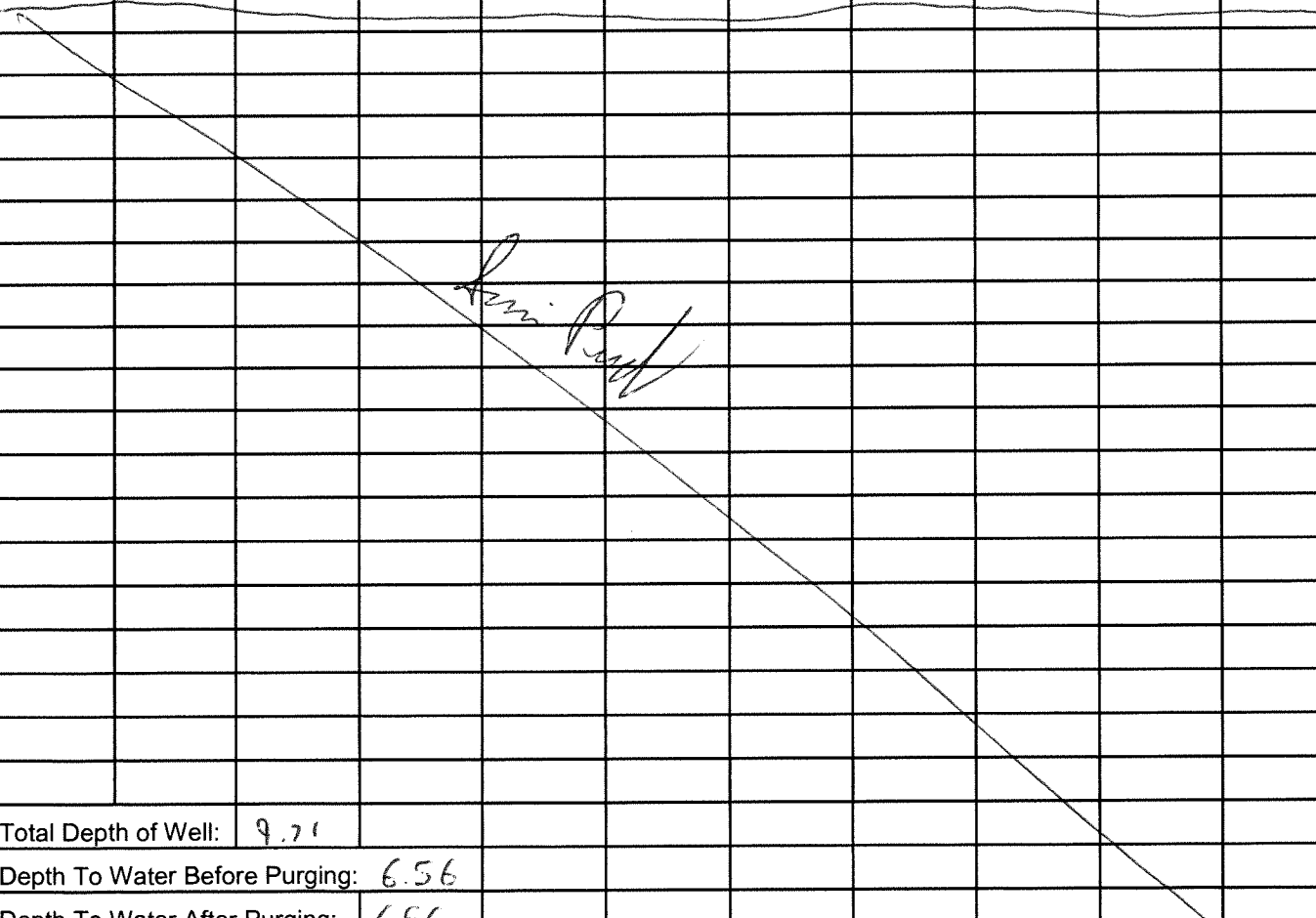
PAGE 2 OF 2

WELL: MW-795

PROJ #: MI001373.0001.00002

DATE: 11-09-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
815	14.18	2.523	-	7.7	0.76	7.79	-16.5	~300	12.9	6.56
820	14.39	2.412	-	6.1	0.60	7.58	-38.1		10.3	6.56
825	14.96	2.341	-	4.0	0.39	7.24	-54.0		7.58	6.56
830	15.01	2.335	-	3.4	0.33	7.16	-60.2		5.18	6.56
835	15.03	2.330	-	3.2	0.31	7.09	-65.3		4.73	6.56
840	15.07	2.345	-	3.2	0.31	7.07	-66.0		4.12	6.56
845	15.11	2.359	-	3.2	0.31	7.05	-66.7		3.20	6.56
850	15.12	2.339	-	3.1	0.30	7.02	-66.5		3.11	6.56
855	15.12	2.333	-	3.1	0.30	7.02	-66.2		3.02	6.56
										
Total Depth of Well:		9.71								
Depth To Water Before Purging:		6.56								
Depth To Water After Purging:		6.56								

ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-9-17
 Site/Well No. MW-790 Replicate No. - Code No. -
 Weather Cloudy 35F Sampling Time: Begin 1000 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 14.60
 Depth to Water (ft bmp) 6.62
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 7.98
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.28
 Gallons Pumped/Bailed Prior to Sampling 3.10
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 920 end 1000
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.01
 SpC (mS/cm) 3.300
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.0
 Dissolved Oxygen (mg/L) 0.10
 pH (s.u.) 7.02
 ORP (mV) 5.4V -35 -37.5
 Turbidity (NTU) 3.17
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel Kevin P. Russell

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-790

PROJ #: MI001373.0001.00002

DATE: 11-09-17

LOC: Ford LTP, Livonia, MI

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ARCADIS

Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-9-17
 Site/Well No. MW-81 Replicate No. - Code No. -
 Weather Cloudy 38F Sampling Time: Begin 1205 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 12.63
 Depth to Water (ft bmp) 8.27
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 4.36
 Casing Diameter/Type 2" PVC
 Gallons in Well 0.70
 Gallons Pumped/Bailed Prior to Sampling 2.73
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1055 end 1205
 Pumping Rate (ml/min) ~300 - ~100
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.58
 SpC (mS/cm) 1.635
 CND (mS/cm) -
 Dissolved Oxygen (%) 2.7
 Dissolved Oxygen (mg/L) 0.27
 pH (s.u.) 7.00
 ORP (mV) -27.3
 Turbidity (NTU) 9.9
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel Kevin Rusk

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

ARCADIS
YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL : MW-81

PROJ #: MI001373.0001.00002

DATE : 11-09-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
1100	16.42	1.792	-	7.3	0.71	7.40	-15.2	~300	37.3	8.27
1105	16.30	1.757	-	19.8	1.99	7.31	-16.3	~300	33.2	10.61
1110	16.06	1.745	-	31.7	3.09	7.03	-17.7	~100	81.1	12.50
1115	16.01	1.758	-	23.2	2.31	7.03	-18.7	~100	65.8	12.01
1120	15.89	1.770	-	16.9	1.68	6.90	-19.6	~100	53.7	11.51
1125	15.88	1.768	-	8.1	0.81	6.92	-20.1	~100	37.1	11.51
1130	15.87	1.763	-	3.7	0.37	6.95	-21.6	~100	24.9	11.51
1135	15.82	1.750	-	3.7	0.37	6.95	-22.3	~100	21.3	11.51
1140	15.77	1.738	-	3.9	0.39	6.98	-24.4	~100	18.9	11.51
1145	15.73	1.726	-	3.3	0.33	6.98	-25.1	~100	16.3	11.51
1150	15.69	1.717	-	2.7	0.27	6.99	-26.2	~100	12.1	11.51
1155	15.61	1.689	-	2.7	0.27	7.00	-26.9	~100	10.1	11.51
1200	15.58	1.685	-	2.7	0.27	7.00	-27.3	~100	9.9	11.51
<i>Kevin Reed</i>										
Total Depth of Well:		12.03								
Depth To Water Before Purging:		8.27								
Depth To Water After Purging:		11.51								

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-9-12
 Site/Well No. NW-83 Replicate No. - Code No. -
 Weather Sunny 43F Sampling Time: Begin - End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 12.46
 Depth to Water (ft bmp) 8.03
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 4.38
 Casing Diameter/Type 2" PVC
 Gallons in Well 0.71
 Gallons Pumped/Bailed Prior to Sampling 4.26
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1315 end 1410
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.66
 SpC (mS/cm) 3459
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.5
 Dissolved Oxygen (mg/L) 0.15
 pH (s.u.) 7.20
 ORP (mV) 67
 Turbidity (NTU) 4.90
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>
<u> </u>	<u> </u>	<u> </u>	<u> </u>

Sampling Personnel Louis Brand

Well Casing Volumes

Gal./Ft.	0.5" = 0.01	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1" = 0.04	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47
bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS
YSI/LOW FLOW SAMPLING LOG

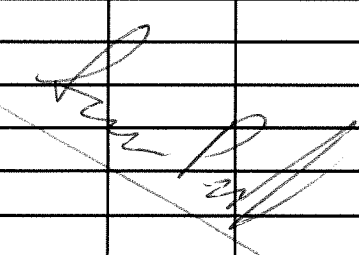
PAGE 2 OF 2

WELL : MW-83

PROJ #: MI001373.0001.00002

DATE : 11-9-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
1320	16.29	3.578	-	4.0	0.40	7.26	32.1	~300	18.6	8.08
1325	16.27	3.576	-	3.6	0.36	7.24	28.7		10.11	
1330	16.23	3.574	-	2.8	0.28	7.21	22.9		7.74	
1335	16.32	3.561	-	2.5	0.25	7.21	20.1		6.99	
1340	16.40	3.550	-	2.3	0.23	7.20	18.3		6.28	
1345	16.36	3.538	-	2.0	0.20	7.19	17.1		5.93	
1350	16.32	3.529	-	1.6	0.16	7.19	13.6		5.60	
1355	16.12	3.511	-	1.5	0.15	7.20	10.6		5.34	
1400	15.99	3.498	-	1.3	0.13	7.23	7.3		5.13	
1405	15.68	3.471	-	1.5	0.15	7.20	6.9		4.97	
1410	15.66	3.459	-	1.5	0.15	7.20	6.7		4.90	
										
Total Depth of Well:		12.46								
Depth To Water Before Purging:		8.08								
Depth To Water After Purging:		8.08								

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-9-17
 Site/Well No. MW-78 Replicate No. - Code No. -
 Weather Cloudy 43F Sampling Time: Begin - End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 11.72
 Depth to Water (ft bmp) 3.50
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 8.22
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.32
 Gallons Pumped/Bailed Prior to Sampling 3.48
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1440 end 1525
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.20
 SpC (mS/cm) 3.338
 CND (mS/cm) -
 Dissolved Oxygen (%) 2.0
 Dissolved Oxygen (mg/L) 0.20
 pH (s.u.) 7.49
 ORP (mV) 2.9
 Turbidity (NTU) 3.47
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel *Lauri Reed*

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp Below measuring point mL Milliliter NTU Nephelometric turbidity units
 °C Degrees Celsius mS/cm Millisiemens per centimeter PVC Polyvinyl chloride
 ft Feet msl Mean sea level s.u. Standard units
 gpm Gallons per minute N/A Not applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not recorded VOC Volatile organic compounds

ARCADIS
YSI/LOW FLOW SAMPLING LOG

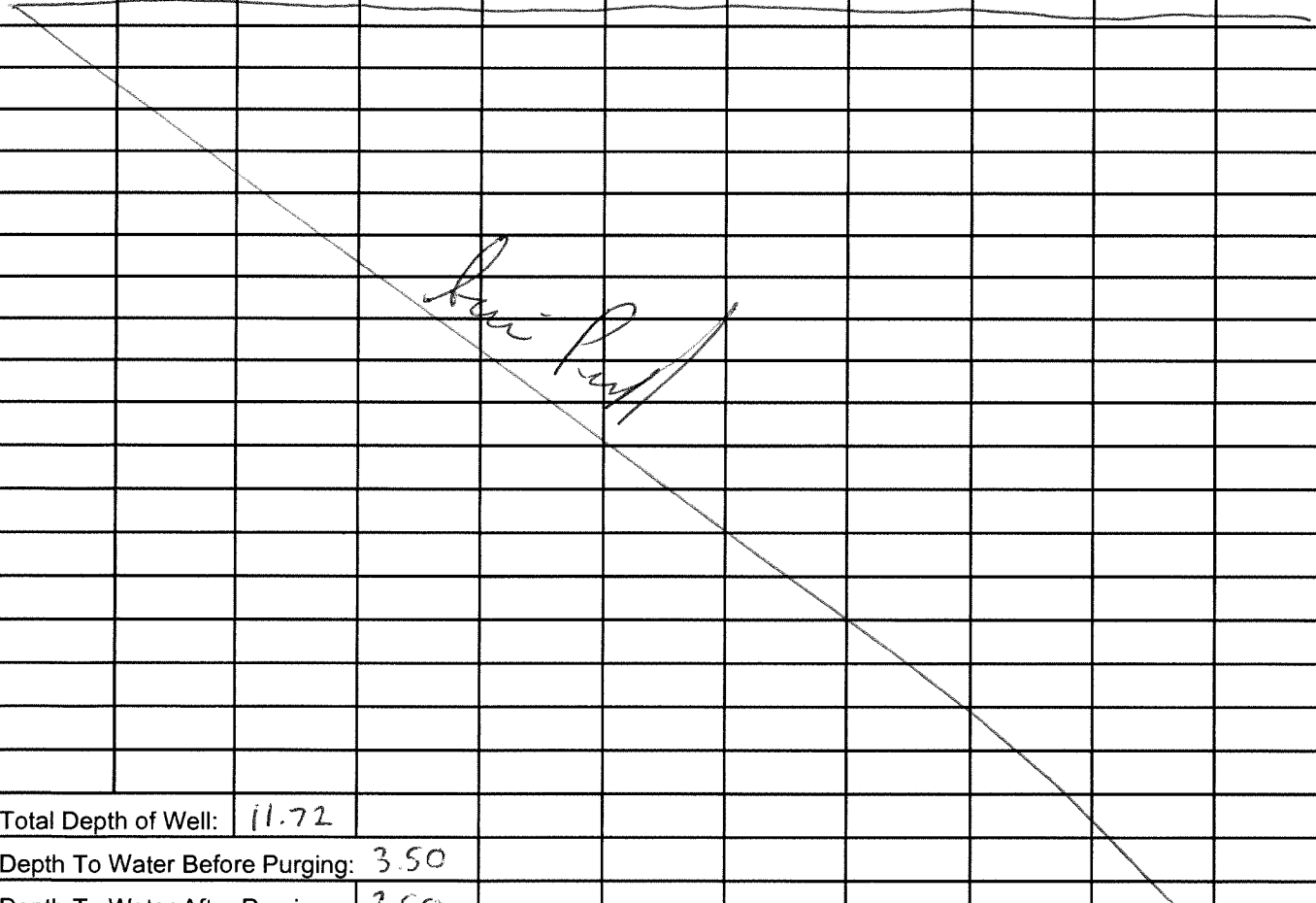
PAGE 2 OF 2

WELL : MW-78

PROJ #: MI001373.0001.00002

DATE : 11-9-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
1445	14.36	4.761	-	7.6	0.76	7.65	23.9	~300	9.37	3.50
1450	14.34	4.217	-	5.3	0.53	7.61	18.1		6.81	
1455	14.34	3.594	-	2.4	0.24	7.58	12.6		3.70	
1500	14.28	3.501	-	2.1	0.21	7.55	10.3		3.63	
1505	14.22	3.393	-	1.9	0.19	7.52	8.0		3.59	
1510	14.22	3.371	-	2.0	0.20	7.51	6.4		3.54	
1515	14.22	3.355	-	2.1	0.21	7.50	5.0		3.52	
1520	14.21	3.343	-	2.0	0.20	7.50	3.1		3.49	
1525	14.20	3.338	-	2.0	0.20	7.49	2.9		3.47	
										
Total Depth of Well:		11.72								
Depth To Water Before Purging:		3.50								
Depth To Water After Purging:		3.50								

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-9-17
 Site/Well No. MW-84 Replicate No. - Code No. -
 Weather Cloudy 42F Sampling Time: Begin 1630 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 12.52
 Depth to Water (ft bmp) 12.52 5.54
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 6.98
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.12
 Gallons Pumped/Bailed Prior to Sampling 3.48
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1540 end 1625
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 15.63
 SpC (mS/cm) 3.003
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.9
 Dissolved Oxygen (mg/L) 0.19
 pH (s.u.) 7.26
 ORP (mV) -9.4
 Turbidity (NTU) 9.9
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel Jeani Paul

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-84

PROJ #: MI001373.0001.00002

DATE: 11-9-17

LOC: Ford LTP, Livonia, MI

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-10-17
 Site/Well No. MW-77 Replicate No. - Code No. -
 Weather Sunny 19°F Sampling Time: Begin 920 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 13.67
 Depth to Water (ft bmp) 6.30
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 7.37
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.18
 Gallons Pumped/Bailed Prior to Sampling 4.26
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 820 end 915
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 16.32
 SpC (mS/cm) 1.538
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.5
 Dissolved Oxygen (mg/L) 0.15
 pH (s.u.) 7.55
 ORP (mV) -63.7
 Turbidity (NTU) 3.76
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow
 Remarks -

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel *Kevin P. Smith*

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL : MW-77

PROJ #: MI001373.0001.00002

DATE : 11-10-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
825	15.89	2.343	-	15.0	1.49	7.76	-18.4	~300	10.2	6.30
830	15.93	2.010	-	9.8	0.97	7.71	-33.7		7.87	
835	15.95	1.750	-	3.6	0.36	7.66	-55.1		4.13	
840	15.86	1.637	-	3.1	0.31	7.64	-57.3		4.09	
845	15.75	1.581	-	2.7	0.27	7.69	-60.6		3.97	
850	15.77	1.563	-	2.5	0.25	7.64	-71.3		3.91	
855	15.79	1.549	-	2.3	0.23	7.60	-80.8		3.83	
900	16.01	1.537	-	2.1	0.21	7.59	-73.2		3.82	
905	16.43	1.529	-	1.8	0.18	7.57	-60.7		3.81	
910	16.38	1.536	-	1.6	0.16	7.56	-63.2		3.79	
915	16.32	1.538	-	1.5	0.15	7.55	-63.7		3.76	
<i>Run End</i>										
Total Depth of Well:		13.67								
Depth To Water Before Purging:		6.30								
Depth To Water After Purging:										

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-10-17
 Site/Well No. MW-87 Replicate No. - Code No. -
 Weather Sunny 19°F Sampling Time: Begin 1040 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 18.79
 Depth to Water (ft bmp) 11.42
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 7.37
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.18
 Gallons Pumped/Bailed Prior to Sampling 3.87
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 945 end 1035
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.74
 SpC (mS/cm) 1.022
 CND (mS/cm) -
 Dissolved Oxygen (%) 1.1
 Dissolved Oxygen (mg/L) 0.11
 pH (s.u.) -
 ORP (mV) -
 Turbidity (NTU) 3.26
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow

Remarks YSI pH + ORP readings not recorded due to damaged probe - erratic readings

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel Louis Reed

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-¼" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-½" = 0.09 2-½" = 0.26 3-½" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

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YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-87

PROJ #: MI001373.0001.00002

DATE: 11-10-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
950	14.79	1.193	-	3.5	0.35	-	-	~300	9.81	11.42
955	14.83	1.012	-	1.9	0.19	-	-		7.77	
1000	14.87	0.969	-	1.8	0.18	-	-		5.16	
1005	14.81	0.978	-	1.7	0.17	-	-		5.00	
1010	14.76	0.996	-	1.5	0.15	-	-		4.63	
1015	14.76	1.001	-	1.4	0.14	-	-		4.11	
1020	14.76	1.008	-	1.4	0.14	-	-		3.86	
1025	14.75	1.018	-	1.3	0.13	-	-		3.51	
1030	14.74	1.020	-	1.1	0.11	-	-		3.29	
1035	14.74	1.022	-	1.1	0.11	-	-		3.26	
Ravi Patel										
Total Depth of Well:		11.42	18.79							
Depth To Water Before Purging:		18.79	11.42							
Depth To Water After Purging:			11.42							

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Water Sampling Log

Project Ford LTP Project No. MI001373.0001.00002 Page 1 of 2
 Location Livonia, MI Date 11-10-17
 Site/Well No. MW-86 Replicate No. - Code No. -
 Weather Sunny 20°F Sampling Time: Begin 1145 End -

Evacuation Data

Measuring Point TOC
 MP Elevation (ft) NA
 Land Surface Elevation (ft) NA
 Sounded Well Depth (ft bmp) 16.58
 Depth to Water (ft bmp) 8.70
 Water-Level Elevation (ft) NA
 Water Column in Well (ft) 7.88
 Casing Diameter/Type 2" PVC
 Gallons in Well 1.26
 Gallons Pumped/Bailed Prior to Sampling 3.48
 Sample Pump Intake Setting (ft bmp) -
 Purge Time begin 1055 end 1140
 Pumping Rate (ml/min) ~300
 Evacuation Method Peristaltic Pump

Field Parameters

Temperature (°C) 14.78
 SpC (mS/cm) 2.561
 CND (mS/cm) -
 Dissolved Oxygen (%) 2.3
 Dissolved Oxygen (mg/L) 0.23
 pH (s.u.) -
 ORP (mV) -
 Turbidity (NTU) 2.81
 Color clear
 Odor none
 Appearance normal
 Sampling Method Low Flow

Remarks pH + ORP not recorded
due to faulty probe on
YSI - erratic readings

Constituents Sampled	Container Description	Number	Preservative
<u>Vinyl Chloride</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>
<u>1,4-dioxane</u>	<u>40mL voa</u>	<u>3</u>	<u>HCL</u>

Sampling Personnel Lorin Pressed

Well Casing Volumes

Gal./Ft. 0.5" = 0.01 1-1/4" = 0.06 2" = 0.16 3" = 0.37 4" = 0.65
 1" = 0.04 1-1/2" = 0.09 2-1/2" = 0.26 3-1/2" = 0.50 6" = 1.47

bmp	Below measuring point	mL	Milliliter	NTU	Nephelometric turbidity units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	Feet	msl	Mean sea level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not applicable	umhos/cm	Micromhos per centimeter
mg/L	Milligrams per liter	NR	Not recorded	VOC	Volatile organic compounds

ARCADIS

YSI/LOW FLOW SAMPLING LOG

PAGE 2 OF 2

WELL: MW-86

PROJ #: MI001373.0001.00002

DATE: 11-10-17

LOC: Ford LTP, Livonia, MI

Time	Temp Degree C	SpC mS/cm	CND mS/cm	DO%	DO mg/L	pH	ORP mV	Flow Rate mL/min	Turbidity NTU	DTW
1100	14.53	3.670	-	3.7	0.37	-	-	~300	11.9	8.70
1105	14.76	3.197	-	2.8	0.28	-	-		6.72	
1110	14.93	2.842	-	1.6	0.16	-	-		4.35	
1115	14.90	2.711	-	1.6	0.16	-	-		4.04	
1120	14.84	2.643	-	1.7	0.17	-	-		3.91	
1125	14.89	2.622	-	2.0	0.20	-	-		3.63	
1130	14.94	2.605	-	2.2	0.22	-	-		3.17	
1135	14.80	2.568	-	2.2	0.22	-	-		3.01	
1140	14.78	2.561	-	2.3	0.23	-	-		2.81	
Luni Pond										
Total Depth of Well:		16.58								
Depth To Water Before Purging:		8.70								
Depth To Water After Purging:		8.70								

APPENDIX C

Off-Site Soil Vapor Field Sampling Logs



Sample ID	Location	Date	Lab	Canister					Flow Controller			Purging		Tedlar Bag		Leak/Tracer Test			Shut In Test Passed?	Sample Start Time	Sample End Time
				No.	Size	Type	Pressure (in Hg)		No.	Type	Flow Rate (±5%)	Purge Rate	Purge Volume	Size	Fill Rate	Initial Reading	Shroud Reading	End Reading			
SVMP-22-3(11/17/17)	Rosati	11/17/17	ATL	1L2741	1L	Summa	-27	-5	21274	BB	40	50	1L			30.3	0	0	Y	1056	1124
SVMP-23-3(11/17/17)	Rosati	11/17/17	ATL	1L1642	1L	Summa	-29	-5	21157	BB	40	50	1L			0	30.2	0	Y	1155	1218
SVMP-24-4(11/17/17)	Rosati	11/17/17	ATL	1L2972	1L	Summa	-30	-5	21658	BB	40	50	1L			800ppm	30.6	0	Y	1310	1337
SVMP-19-3(11/17/17)	34401 Capitol	11/17/17	ATL	1L2457	1L	Summa	-28	-5	23252	BB	40	50	1L			0	30.1	0	Y	1438	1503
SVMP-18-3(11/17/17)	34367 Capitol	11/17/17	ATL	1L3049	1L	Summa	-28	-5	23170	BB	40	50	1L			0	31.5	0	Y	1532	1600
			ATL																		
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Meteorological Data								Notes
Date	Time	Temp. (°F)		Humidity	Wind (mph)	Barometric Press. (in.)	Precip. (in.)	
11/17/17	1056	—	37°F	73%	9 ESE	30.24	—	
11/17/17	1401	—	38°F	80%	11SE	30.10	0.00	

Air Parameters					
Location ID	CH4 % before	CH4 % after	CO2 %	O2 %	LEL %
SVMP-22-3	—	0.0	1.3	20.2	0
SVMP-23-3	—	0.0	1.1	20.6	0
SVMP-24-4	—	0.0	2.6	19.5	0
SVMP-19-3	—	0.0	7.6	15.0	0
SVMP-18-3	—	0.0	4.3	17.6	0

Sample ID	Location	Date	Lab	Canister				Flow Controller			Purging		Tedlar Bag		Leak/Tracer Test			Shut In Test Passed?	Sample Start Time	Sample End Time	
				No.	Size	Type	Pressure (in Hg)		No.	Type	Flow Rate (±5%)	Purge Rate	Purge Volume	Size	Fill Rate	Initial Reading	Shroud Reading				End Reading
							Initial	Final													
SVMP-1S-3.5	34965 Stand.	11/17/17	ATL	2985	1L	SUMA	-30	-5	23290	20 min	40ml/min	100ml	225			0.0	30.2	0.0	Y	0945	1015
SVMP-1D-7	34965 Stand.	11/17/17	ATL	2976	1L	SUMA	-27	-5	21995	20 min	40ml	100ml	330			0.0	36.8	0.0	Y	1055	1115
SVMP-2S-4.5	34963 Stand.	11/17/17	ATL	1708	1L	SUMA	-30	-5	23805	20 min	40ml	100ml	270			0.0	34.5	0.0	Y	1145	1210
SVMP-2D-8.5	34963 Stand	11/17/17	ATL	2415	1L	SUMA	-30	-5	21267	20 min	40ml	100ml	760			0.0	31.5	0.0	Y	1245	1310
SVMP-3S-3.5	34851 Stand	11/17/17	ATL	2610	1L	SUMA	-30	-1	21606	20 min	40ml	100ml	210			0.0	30.1	0.0	Y	1510	1550
SVMP-3D-7	34851 Stand	11/17/17	ATL	2904	1L	SUMA	-27	-5.5	23118	20 min	40ml	100ml	360			0.0	31.3	0.0	Y	1615	1640
			ATL																		
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Meteorological Data								Notes
Date	Time	Temp. (°F)		Humidity	Wind (mph)	Barometric Press. (in.)	Precip. (in.)	
		Indoor	Outdoor					
11/17/17	0830	NA	36	78 %	1 (ESE)	30.25	0.0	overcast
11/17/17	1700	NA	41	82 %	6 (ESE)	29.99	0.0	overcast

Air Parameters					
Location ID	CH4 % before	CH4 % after	CO2 %	O2 %	%
SVMP-1S		0.0	1.7	21.1	76.9
SVMP-1D		0.0	2.4	20.0	77.3
SVMP-2S		0.0	9.3	7.7	83.1
SVMP-2D		0.0	10.5	5.4	83.8
SVMP-3S		0.0	0.7	21.4	77.8
SVMP-3D		0.0	0.9	21.1	77.9

Sample ID	Location	Date	Lab	Canister			Pressure (in Hg)		Flow Controller		Purging		Tedlar Bag		Leak/Tracer Test			Shut In Test Passed?	Sample Start Time	Sample End Time
				No.	Size	Type	Initial	Final	No.	Type	Flow Rate (±5%)	Purge Rate	Purge Volume	Size	Fill Rate	Initial Reading	Shroud Reading	End Reading		
SVMP-20-3	12008 Capitol	11/20/17	ATL	1161	1L	Summa	-28	-5	21175	BB	40	100ml/min	1L			0	40.2	0	Y	
SVMP-21-2	Capitol+Beacon	11/20/17	ATL	1161	1L	Summa	-28	-5	21175	BB	40	100ml/min	1L			0	31.6	0	Y	1112
SVMP-17-2	34424 Beacon	11/20/17	ATL	1L1701	1L	Summa	-30	-25	21570	BB	40	100ml/min	1L			0	41.8	—	Y	1247
SVMP-16-2	34550 Beacon	11/20/17	ATL	1L1537	1L	Summa	-25	-5	20660	BB	40	100ml/min	1L			0	37.6	0	Y	1341
SVMP-15-2	34591 Beacon	11/20/17	ATL	1L2556	1L	Summa	-28	-5	2311	BB	40	100ml/min	1L			0	30.1	0	Y	1441
			ATL																	
			ATL																	
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Meteorological Data								Notes	
Date	Time	Temp. (°F)		Humidity	Wind (mph)	Barometric Press. (in.)	Precip. (in.)		
		Indoor	Outdoor						
11/20/17	1006	—	36°F	67%	SW5	30.01	0.00	SVMP-20 Saturated, water came out during purging.	
11/20/17	1227	—	53°F	55%	W18	29.94	0.01	SVMP-17 Saturated	

Air Parameters					
Location ID	CH4 % before	CH4 % after	CO2 %	O2 %	%
SVMP-21-2	—	0.0	0.8	19.9	001%
SVMP-17-2	—	—	—	—	—
SVMP-16-2	—	0.0	0.3	20.5	001%
SVMP-15-2	—	0.0	0.1	20.1	001%

Sample ID	Location	Date	Lab	Canister				Flow Controller			Purging		Tedlar Bag		Leak/Tracer Test			Shut In Test Passed?	Sample Start Time	Sample End Time
				No.	Size	Type	Pressure (in Hg) Initial Final	No.	Type	Flow Rate (±5%)	Purge Rate	Purge Volume	Size	Fill Rate	Initial Reading	Shroud Reading	End Reading			
SVMP-14-2(11/21/17)	34169 Beacon	11/21/17	ATL	1L2426	1L	Summa	-30 -5	23326	BB	40	100ml/min	1L			0	32.3	0	Y	0829	0902
SVMP-13-2(11/21/17)	Beacon + Boston Pass	11/21/17	ATL	1L2875	1L	Summa	-27 -5	23154	BB	40	100ml/min	1L			0	30.6	0	Y	0956	1030
SVMP-10-3(11/21/17)	34851 Beacon	11/21/17	ATL	1L2509	1L	Summa	-26.5 -4.5	23355	BB	40	100ml/min	1L			0	31.2	0	Y	1120	1145
SVMP-12-3.5(11/21/17)	12100 Boston Pass	11/21/17	ATL	1L1735	1L	Summa	-28 -5	22758	BB	40	100ml/min	1L			0	32.6	0	Y	1310	1334
			ATL																	
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Meteorological Data								Notes
Date	Time	Temp. (°F)		Humidity	Wind (mph)	Barometric Press. (in.)	Precip. (in.)	
		Indoor	Outdoor					
11/21/17	0830	—	41°F	63%	4SW	29.72	0.00	
11/21/17	1315	—	48°F	57%	8W	29.74	0.00	

Air Parameters					
Location ID	CH4 % before	CH4 % after	CO2 %	O2 %	%
SVMP-14-2	-	0.0	1.4	19.1	001
SVMP-13-2	-	0.0	2.6	11.8	001
SVMP-10-3	-	0.0	0.5	19.5	000
SVMP-12-3.5	-	0.0	1.0	19.1	000

Sample ID	Location	Date	Lab	Canister					Flow Controller			Purging		Tedlar Bag		Leak/Tracer Test			Shut In Test Passed?	Sample Start Time	Sample End Time
				No.	Size	Type	Pressure (in Hg)		No.	Type	Flow Rate (±5%)	Purge Rate	Purge Volume	Size	Fill Rate	Initial Reading	Shroud Reading	End Reading			
SVMP-4-3.5	11850 Boston Post	11/20/17	ATL	2978	1L	Suma	-30	-5	21508	20min	40mL	100mL	210			0.0	32.5	0.0	✓	10:30	10:55
SVMP-5-4.5	34851 Wedgworth	11/20/17	ATL	1819	1L	Suma	-30	-5	21080	20min	40mL	100mL	270			0.0	31.9	0.0	✓	11:30	11:55
SVMP-6-4.5	34935 Wadsworth	11/20/17	ATL	2977	1L	Suma	-30	-5.5	23179	20min	40mL	100mL	270			0.0	30.0	0.0	✓	12:25	13:05
SVMP-7-3.5	34965 Wadsworth	11/20/17	ATL	1780	1L	Suma	-30	-6	21109	20min	40mL	100mL	180			0.0	32.1	0.0	✓	13:55	14:20
SVMP-8-3.5	34969 Beacon	11/20/17	ATL	1530	1L	Suma	-30	-6	22719	20min	40mL	100mL	180			0.0	31.2	0.0	✓	14:45	15:20
SVMP-9-4	34921 Beacon	11/20/17	ATL	2406	1L	Suma	-29	-5.5	23211	20min	40mL	100mL	210			0.0	30.2	0.0	✓	15:45	16:10
SVMP-255-3	12555 Belden	11/21/17	ATL	2942	1L	Suma	-29	-5	21295	20min	40mL	100mL	180			0.0	30.9	0.0	✓	8:25	8:55
SVMP-25D-6	12555 Belden	11/21/17	ATL	3014	1L	Suma	-26	-5	21072	20min	40mL	100mL	270			0.0	31.2	0.0	✓	9:25	9:50
SVMP-26-4	11895 Belden	11/21/17	ATL	2609	1L	Suma	-26	-5	23115	20min	40mL	100mL	210			0.0	33.2	0.0	✓	11:15	11:40
SVMP-27-4.5	11873 Belden	11/21/17	ATL	1544	1L	Suma	-28	-5	23140	20min	40mL	100mL	225			0.0	35.8	0.0	✓	12:25	13:00
SVMP-28-3	11771 Belden	11/21/17	ATL	1042	1L	Suma	-26.5	-5	22811	20min	40mL	100mL	180			0.0	33.0	0.0	✓	13:35	14:55
			ATL																		
			ATL																		
			ATL																		
			ATL																		

Meteorological Data								Notes
Date	Time	Temp. (°F)		Humidity	Wind (mph)	Barometric Press. (in.)	Precip. (in.)	
11/20/17	830	NA	29	78	SW(12)	30.05	0	Sunny
11/20/17	1630	NA	48	46	SW(20)	29.91	0	Sunny
11/21/17	830	NA	39	65	SW(11)	29.73	0	Partly Sunny
11/21/17	1400	NA	46	57	SW(12)	29.76	0	Cloudy

Air Parameters						LEL %
Location ID	CH4 % before	CH4 % after	CO2 %	O2 %		
SVMP-4		0.0	0.8	19.1		80.0
SVMP-5		0.0	0.5	20.9		78.5
SVMP-6		0.0	0.7	21.0		78.1
SVMP-7		0.0	1.3	19.7		79.1
SVMP-8		0.0	0.9	21.6		77.5
SVMP-9		0.0	0.7	21.6		77.5
SVMP-255-3		0.0	4.0	18.0		77.9
SVMP-25D-6		0.0	4.6	17.4		77.9
SVMP-26-4		0.0	12.0	5.6		82.4
SVMP-27-4.5		0.0	1.5	20.4		78.1
SVMP-28-4		0.0	2.3	16.2		81.3

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A decorative graphic consisting of three thin orange lines. One line is horizontal, extending from the left edge of the page towards the right. Two other lines are diagonal, starting from the bottom left and extending towards the top right, intersecting the horizontal line.