

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
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Tel: (330)497-9396

Laboratory Job ID: 240-130760-1
Client Project/Site: Ford LTP Off-Site

For:
ARCADIS U.S., Inc.
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Attn: Kristoffer Hinskey



Authorized for release by:
6/8/2020 11:04:58 AM

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

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



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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

Qualifiers

GC/MS VOA

| Qualifier | Qualifier Description |
|-----------|--|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| U | Indicates the analyte was analyzed for but not detected. |

Glossary

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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

Job ID: 240-130760-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Off-Site

Report Number: 240-130760-1

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

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

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

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

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

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

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

RECEIPT

The samples were received on 5/22/2020 9:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.0° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TRIP BLANK (240-130760-1), MW-140S_052020 (240-130760-2) and MW-141S_052020 (240-130760-3) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 06/02/2020.

No MS/MSD in batch 436349 due to an incorrect dilution: TRIP BLANK (240-130760-1), MW-140S_052020 (240-130760-2) and MW-141S_052020 (240-130760-3).

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

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-140S_052020 (240-130760-2) and MW-141S_052020 (240-130760-3) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 05/30/2020.

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

| Method | Method Description | Protocol | Laboratory |
|-----------|------------------------------------|----------|------------|
| 8260B | Volatile Organic Compounds (GC/MS) | SW846 | TAL CAN |
| 8260B SIM | Volatile Organic Compounds (GC/MS) | SW846 | TAL CAN |
| 5030B | Purge and Trap | SW846 | TAL CAN |

Protocol References:

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

Laboratory References:

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



Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received | Asset ID |
|---------------|------------------|--------|----------------|----------------|----------|
| 240-130760-1 | TRIP BLANK | Water | 05/20/20 00:00 | 05/22/20 09:20 | |
| 240-130760-2 | MW-140S_052020 | Water | 05/20/20 10:33 | 05/22/20 09:20 | |
| 240-130760-3 | MW-141S_052020 | Water | 05/20/20 11:38 | 05/22/20 09:20 | |

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-130760-1

No Detections.

Client Sample ID: MW-140S_052020

Lab Sample ID: 240-130760-2

No Detections.

Client Sample ID: MW-141S_052020

Lab Sample ID: 240-130760-3

No Detections.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-130760-1

Date Collected: 05/20/20 00:00

Matrix: Water

Date Received: 05/22/20 09:20

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------|--------|-----------|-----|------|------|---|----------|----------------|---------|
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.19 | ug/L | | | 06/02/20 00:20 | 1 |
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.16 | ug/L | | | 06/02/20 00:20 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.15 | ug/L | | | 06/02/20 00:20 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.19 | ug/L | | | 06/02/20 00:20 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.10 | ug/L | | | 06/02/20 00:20 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.20 | ug/L | | | 06/02/20 00:20 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 115 | | 75 - 130 | | 06/02/20 00:20 | 1 |
| 4-Bromofluorobenzene (Surr) | 72 | | 47 - 134 | | 06/02/20 00:20 | 1 |
| Toluene-d8 (Surr) | 90 | | 69 - 122 | | 06/02/20 00:20 | 1 |
| Dibromofluoromethane (Surr) | 123 | | 78 - 129 | | 06/02/20 00:20 | 1 |

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

Client Sample ID: MW-140S_052020

Lab Sample ID: 240-130760-2

Date Collected: 05/20/20 10:33

Matrix: Water

Date Received: 05/22/20 09:20

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------|--------|-----------|-----|------|------|---|----------|----------------|---------|
| 1,4-Dioxane | 2.0 | U | 2.0 | 0.86 | ug/L | - | | 05/30/20 12:41 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 98 | | 70 - 133 | | 05/30/20 12:41 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------|--------|-----------|-----|------|------|---|----------|----------------|---------|
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.19 | ug/L | - | | 06/02/20 00:42 | 1 |
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.16 | ug/L | - | | 06/02/20 00:42 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.15 | ug/L | - | | 06/02/20 00:42 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.19 | ug/L | - | | 06/02/20 00:42 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.10 | ug/L | - | | 06/02/20 00:42 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.20 | ug/L | - | | 06/02/20 00:42 | 1 |

| Surrogate | %Recovery | Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 118 | | 75 - 130 | | 06/02/20 00:42 | 1 |
| 4-Bromofluorobenzene (Surr) | 70 | | 47 - 134 | | 06/02/20 00:42 | 1 |
| Toluene-d8 (Surr) | 92 | | 69 - 122 | | 06/02/20 00:42 | 1 |
| Dibromofluoromethane (Surr) | 123 | | 78 - 129 | | 06/02/20 00:42 | 1 |

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

Client Sample ID: MW-141S_052020

Lab Sample ID: 240-130760-3

Date Collected: 05/20/20 11:38

Matrix: Water

Date Received: 05/22/20 09:20

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane | 2.0 | U | 2.0 | 0.86 | ug/L | - | | 05/30/20 13:06 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 99 | | 70 - 133 | | | | | 05/30/20 13:06 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.19 | ug/L | - | | 06/02/20 01:03 | 1 |
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.16 | ug/L | - | | 06/02/20 01:03 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.15 | ug/L | - | | 06/02/20 01:03 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.19 | ug/L | - | | 06/02/20 01:03 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.10 | ug/L | - | | 06/02/20 01:03 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.20 | ug/L | - | | 06/02/20 01:03 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 117 | | 75 - 130 | | | | | 06/02/20 01:03 | 1 |
| 4-Bromofluorobenzene (Surr) | 67 | | 47 - 134 | | | | | 06/02/20 01:03 | 1 |
| Toluene-d8 (Surr) | 91 | | 69 - 122 | | | | | 06/02/20 01:03 | 1 |
| Dibromofluoromethane (Surr) | 125 | | 78 - 129 | | | | | 06/02/20 01:03 | 1 |

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID | DCA (75-130) | BFB (47-134) | TOL (69-122) | DBFM (78-129) |
|------------------|--------------------|-----------------|-----------------|-----------------|------------------|
| 240-130760-1 | TRIP BLANK | 115 | 72 | 90 | 123 |
| 240-130760-2 | MW-140S_052020 | 118 | 70 | 92 | 123 |
| 240-130760-3 | MW-141S_052020 | 117 | 67 | 91 | 125 |
| LCS 240-436349/4 | Lab Control Sample | 94 | 100 | 102 | 102 |
| MB 240-436349/7 | Method Blank | 111 | 74 | 93 | 115 |

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
TOL = Toluene-d8 (Surr)
DBFM = Dibromofluoromethane (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID | DCA (70-133) |
|--------------------|------------------------|-----------------|
| 240-130724-B-4 MS | Matrix Spike | 95 |
| 240-130724-B-4 MSD | Matrix Spike Duplicate | 96 |
| 240-130760-2 | MW-140S_052020 | 98 |
| 240-130760-3 | MW-141S_052020 | 99 |
| LCS 240-436242/4 | Lab Control Sample | 95 |
| MB 240-436242/5 | Method Blank | 96 |

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID | DCA (10-150) |
|------------------|--------------------|-----------------|
| MRL 240-436242/6 | Lab Control Sample | 96 |

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

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

Lab Sample ID: MB 240-436349/7
Matrix: Water
Analysis Batch: 436349

Client Sample ID: Method Blank
Prep Type: Total/NA

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------|-----------|--------------|-----|------|------|---|----------|----------------|---------|
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.19 | ug/L | | | 06/01/20 19:21 | 1 |
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.16 | ug/L | | | 06/01/20 19:21 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.15 | ug/L | | | 06/01/20 19:21 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.19 | ug/L | | | 06/01/20 19:21 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.10 | ug/L | | | 06/01/20 19:21 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.20 | ug/L | | | 06/01/20 19:21 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|--------------|--------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 111 | | 75 - 130 | | 06/01/20 19:21 | 1 |
| 4-Bromofluorobenzene (Surr) | 74 | | 47 - 134 | | 06/01/20 19:21 | 1 |
| Toluene-d8 (Surr) | 93 | | 69 - 122 | | 06/01/20 19:21 | 1 |
| Dibromofluoromethane (Surr) | 115 | | 78 - 129 | | 06/01/20 19:21 | 1 |

Lab Sample ID: LCS 240-436349/4
Matrix: Water
Analysis Batch: 436349

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|--------------------------|-------------|------------|---------------|------|---|------|--------------|
| 1,1-Dichloroethene | 10.0 | 11.0 | | ug/L | | 110 | 73 - 129 |
| cis-1,2-Dichloroethene | 10.0 | 10.4 | | ug/L | | 104 | 75 - 124 |
| Tetrachloroethene | 10.0 | 10.6 | | ug/L | | 106 | 70 - 125 |
| trans-1,2-Dichloroethene | 10.0 | 10.4 | | ug/L | | 104 | 74 - 130 |
| Trichloroethene | 10.0 | 10.1 | | ug/L | | 101 | 71 - 121 |
| Vinyl chloride | 10.0 | 8.88 | | ug/L | | 89 | 61 - 134 |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|------------------------------|---------------|---------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 94 | | 75 - 130 |
| 4-Bromofluorobenzene (Surr) | 100 | | 47 - 134 |
| Toluene-d8 (Surr) | 102 | | 69 - 122 |
| Dibromofluoromethane (Surr) | 102 | | 78 - 129 |

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

Lab Sample ID: MB 240-436242/5
Matrix: Water
Analysis Batch: 436242

Client Sample ID: Method Blank
Prep Type: Total/NA

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------|-----------|--------------|-----|------|------|---|----------|----------------|---------|
| 1,4-Dioxane | 2.0 | U | 2.0 | 0.86 | ug/L | | | 05/30/20 06:10 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|--------------|--------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 96 | | 70 - 133 | | 05/30/20 06:10 | 1 |

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

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

Lab Sample ID: LCS 240-436242/4
Matrix: Water
Analysis Batch: 436242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------------|------------------|----------------------|---------------|------|---|------|--------------|
| 1,4-Dioxane | 10.0 | 8.98 | | ug/L | | 90 | 80 - 135 |
| Surrogate | %Recovery | LCS Qualifier | Limits | | | | |
| 1,2-Dichloroethane-d4 (Surr) | 95 | | 70 - 133 | | | | |

Lab Sample ID: MRL 240-436242/6
Matrix: Water
Analysis Batch: 436242

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

| Analyte | Spike Added | MRL Result | MRL Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------------|------------------|----------------------|---------------|-------|---|------|--------------|
| 1,4-Dioxane | 0.00100 | 0.00141 | J | ng/uL | | 141 | 10 - 150 |
| Surrogate | %Recovery | MRL Qualifier | Limits | | | | |
| 1,2-Dichloroethane-d4 (Surr) | 96 | | 10 - 150 | | | | |

Lab Sample ID: 240-130724-B-4 MS
Matrix: Water
Analysis Batch: 436242

Client Sample ID: Matrix Spike
Prep Type: Total/NA

| Analyte | Sample Result | Sample Qualifier | Spike Added | MS Result | MS Qualifier | Unit | D | %Rec | %Rec. Limits |
|------------------------------|------------------|---------------------|---------------|-----------|--------------|------|---|------|--------------|
| 1,4-Dioxane | 2.0 | U | 10.0 | 10.7 | | ug/L | | 107 | 46 - 170 |
| Surrogate | %Recovery | MS Qualifier | Limits | | | | | | |
| 1,2-Dichloroethane-d4 (Surr) | 95 | | 70 - 133 | | | | | | |

Lab Sample ID: 240-130724-B-4 MSD
Matrix: Water
Analysis Batch: 436242

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | Limit |
|------------------------------|------------------|----------------------|---------------|------------|---------------|------|---|------|--------------|-----|-------|
| 1,4-Dioxane | 2.0 | U | 10.0 | 9.79 | | ug/L | | 98 | 46 - 170 | 9 | 26 |
| Surrogate | %Recovery | MSD Qualifier | Limits | | | | | | | | |
| 1,2-Dichloroethane-d4 (Surr) | 96 | | 70 - 133 | | | | | | | | |

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

GC/MS VOA

Analysis Batch: 436242

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|-----------|------------|
| 240-130760-2 | MW-140S_052020 | Total/NA | Water | 8260B SIM | |
| 240-130760-3 | MW-141S_052020 | Total/NA | Water | 8260B SIM | |
| MB 240-436242/5 | Method Blank | Total/NA | Water | 8260B SIM | |
| LCS 240-436242/4 | Lab Control Sample | Total/NA | Water | 8260B SIM | |
| MRL 240-436242/6 | Lab Control Sample | Total/NA | Water | 8260B SIM | |
| 240-130724-B-4 MS | Matrix Spike | Total/NA | Water | 8260B SIM | |
| 240-130724-B-4 MSD | Matrix Spike Duplicate | Total/NA | Water | 8260B SIM | |

Analysis Batch: 436349

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 240-130760-1 | TRIP BLANK | Total/NA | Water | 8260B | |
| 240-130760-2 | MW-140S_052020 | Total/NA | Water | 8260B | |
| 240-130760-3 | MW-141S_052020 | Total/NA | Water | 8260B | |
| MB 240-436349/7 | Method Blank | Total/NA | Water | 8260B | |
| LCS 240-436349/4 | Lab Control Sample | Total/NA | Water | 8260B | |

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-130760-1

Date Collected: 05/20/20 00:00

Matrix: Water

Date Received: 05/22/20 09:20

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 436349 | 06/02/20 00:20 | LEE | TAL CAN |

Client Sample ID: MW-140S_052020

Lab Sample ID: 240-130760-2

Date Collected: 05/20/20 10:33

Matrix: Water

Date Received: 05/22/20 09:20

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 436349 | 06/02/20 00:42 | LEE | TAL CAN |
| Total/NA | Analysis | 8260B SIM | | 1 | 436242 | 05/30/20 12:41 | TJL2 | TAL CAN |

Client Sample ID: MW-141S_052020

Lab Sample ID: 240-130760-3

Date Collected: 05/20/20 11:38

Matrix: Water

Date Received: 05/22/20 09:20

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 436349 | 06/02/20 01:03 | LEE | TAL CAN |
| Total/NA | Analysis | 8260B SIM | | 1 | 436242 | 05/30/20 13:06 | TJL2 | TAL CAN |

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Ford LTP Off-Site

Job ID: 240-130760-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

| Authority | Program | Identification Number | Expiration Date |
|-----------------------|---------------------|-----------------------|-----------------|
| California | State | 2927 | 02-23-21 |
| Connecticut | State | PH-0590 | 12-31-21 |
| Florida | NELAP | E87225 | 06-30-20 |
| Georgia | State | 4062 | 02-23-21 |
| Illinois | NELAP | 004498 | 07-31-20 |
| Iowa | State | 421 | 06-01-21 |
| Kansas | NELAP | E-10336 | 04-30-21 |
| Kentucky (UST) | State | 112225 | 02-23-21 |
| Kentucky (WW) | State | KY98016 | 12-31-20 |
| Minnesota | NELAP | OH00048 | 12-31-20 |
| Minnesota (Petrofund) | State | 3506 | 08-01-21 |
| New Jersey | NELAP | OH001 | 06-30-20 |
| New York | NELAP | 10975 | 03-31-21 |
| Ohio VAP | State | CL0024 | 06-05-21 |
| Oregon | NELAP | 4062 | 02-24-21 |
| Pennsylvania | NELAP | 68-00340 | 08-31-20 |
| Texas | NELAP | T104704517-18-10 | 08-31-20 |
| USDA | US Federal Programs | P330-18-00281 | 09-17-21 |
| Virginia | NELAP | 010101 | 09-14-20 |
| Washington | State | C971 | 01-12-21 |
| West Virginia DEP | State | 210 | 12-31-20 |

Chain of Custody Record

MICHIGAN
190

TestAmerica Laboratory location: Brighton --- 10448 Citation Drive, Suite 200 / Brighton, MI 48116 / 810-229-2763

1320

| | | | | | | | | | |
|---|--|---|--|---|--|--|--|--|--|
| Client Contact Company Name: Arcadis Address: 28850 Cabot Drive, Suite 500 City/State/Zip: Novi, MI, 48377 Phone: 248-994-2240 | | Regulatory program: <input type="checkbox"/> DW <input type="checkbox"/> NPDES <input type="checkbox"/> RCRA <input type="checkbox"/> Other | | Site Contact: Julia McClafferty Telephone: 734-644-5131 | | Lab Contact: Mike DelMonico Telephone: 330-497-9396 | | TestAmerica Laboratories, Inc. COC No: _____ of _____ COCs | |
| Client Project Manager: Kris Hinskey Telephone: 248-994-2240 Email: kris@hinskey.com | | Analysis Turnaround Time TAT if different from below: 10 day <input checked="" type="checkbox"/> 3 weeks 1 week <input type="checkbox"/> 2 weeks 2 days <input type="checkbox"/> 1 day | | Analyses 1,1-DCE 8260B Cis-1,2-DCE 8260B Trans-1,2-DCE 8260B PCE 8260B TCE 8260B Vinyl Chloride 8260B 1,4-Dioxane 8260B SIM | | Walk-in client Lab sampling Job/SDG No: | | Sample Specific Notes / Special Instructions: | |
| Sampler Name: RACHEL BIEVAL | | Containers & Preservatives HCl <input type="checkbox"/> ZnAc <input type="checkbox"/> NaOH <input type="checkbox"/> Other: | | Matrix Air <input type="checkbox"/> Solid <input type="checkbox"/> Sediment <input type="checkbox"/> Aqueous <input type="checkbox"/> Other: | | Filtered Sample (Y/N) | | Sample Specific Notes / Special Instructions: | |
| Method of Shipment/Carrier: | | Shipping/Tracking No: | | Composite C / Grab G | | 1,1-DCE 8260B Cis-1,2-DCE 8260B Trans-1,2-DCE 8260B PCE 8260B TCE 8260B Vinyl Chloride 8260B 1,4-Dioxane 8260B SIM | | Sample Specific Notes / Special Instructions: | |
| Sample Date | | Sample Time | | HZSO4 HNO3 HCl NaOH ZnAc NaOH Other: | | Filtered Sample (Y/N) | | Sample Specific Notes / Special Instructions: | |
| TRIP BLANK | | 5/20/20 1033 | | 6 | | N G | | 1 TRIP BLANK 3VMS for 8260B 3VMS for 8260BSIM | |
| MW-1405-052020 | | 5/20/20 1138 | | 6 | | N G | | + | |
| MW-1415-052020 | | 5/20/20 1138 | | 6 | | N G | | + | |
| Sample Identification | | Sample Date | | Sample Time | | Matrix | | Containers & Preservatives | |
| TRIP BLANK | | 5/20/20 1033 | | 6 | | HCl NaOH ZnAc NaOH Other: | | Filtered Sample (Y/N) | |
| MW-1405-052020 | | 5/20/20 1138 | | 6 | | HNO3 HCl NaOH ZnAc NaOH Other: | | Composite C / Grab G | |
| MW-1415-052020 | | 5/20/20 1138 | | 6 | | HZSO4 HNO3 HCl NaOH ZnAc NaOH Other: | | 1,1-DCE 8260B Cis-1,2-DCE 8260B Trans-1,2-DCE 8260B PCE 8260B TCE 8260B Vinyl Chloride 8260B 1,4-Dioxane 8260B SIM | |
| Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Irritable <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown | | Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months | | Special Instructions/QC Requirements & Comments: Submit all results through Cardena at jtomalia@cademaco.com. Cadena #E203631 Level IV Reporting requested. | | Received by: RACHEL BIEVAL and Julia DelMonico Date/Time: 5/20/20 1620 | | Company: Arcadis | |
| Retinquished by: RACHEL BIEVAL and Julia DelMonico Date/Time: 5/21/20 0845 | | Retinquished by: Adam Gemoff Date/Time: 5/21/20 8:56 | | Retinquished by: Adam Gemoff Date/Time: 5/21/20 8:56 | | Company: Arcadis | | Company: Arcadis | |
| Retinquished by: RACHEL BIEVAL and Julia DelMonico Date/Time: 5/21/20 0845 | | Retinquished by: Adam Gemoff Date/Time: 5/21/20 8:56 | | Retinquished by: Adam Gemoff Date/Time: 5/21/20 8:56 | | Company: Arcadis | | Company: Arcadis | |



240-130760

Eurofins TestAmerica Canton Sample Receipt Form/Narrative Login # : _____

Canton Facility

Client Arcadis Site Name _____ Cooler unpacked by: Adam Jensen

Cooler Received on 5-22-20 Opened on 5-22-20

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ **Storage Location** _____

TestAmerica Cooler # 78 Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7°C) Observed Cooler Temp. 13 °C Corrected Cooler Temp. 20 °C
 IR GUN #IR-11 (CF +0.9°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
 12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC902937
 13. Were VOAs on the COC? Yes No
 14. Were air bubbles >6 mm in any VOA vials? Yes NA Larger than this.
 15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 0417701E Yes No
 16. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: _____

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container.
 Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

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