

## ANALYTICAL REPORT

Eurofins Canton  
180 S. Van Buren Avenue  
Barberton, OH 44203  
Tel: (330)497-9396

Laboratory Job ID: 240-162944-1  
Client Project/Site: Ford LTP - Off-Site

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

Attn: Kristoffer Hinskey



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Authorized for release by:  
2/28/2022 1:36:17 PM

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*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: 240-162944-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| 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.                                 |
|----------------|---|
| α              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery  |
| CFL            | Contains Free Liquid  |
| CFU            | Colony Forming Unit   |
| 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)   |
| MCL            | EPA recommended "Maximum Contaminant Level"   |
| MDA            | Minimum Detectable Activity (Radiochemistry)  |
| MDC            | Minimum Detectable Concentration (Radiochemistry)   |
| MDL            | Method Detection Limit  |
| ML             | Minimum Level (Dioxin)  |
| MPN            | Most Probable Number  |
| MQL            | Method Quantitation Limit   |
| NC             | Not Calculated  |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)  |
| NEG            | Negative / Absent   |
| POS            | Positive / Present  |
| PQL            | Practical Quantitation Limit  |
| PRES           | Presumptive   |
| 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)   |
| TNTC           | Too Numerous To Count   |

# Case Narrative

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

Job ID: 240-162944-1

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**Job ID: 240-162944-1**

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**Laboratory: Eurofins Canton**

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**Narrative**

**Job Narrative**  
**240-162944-1**

**Comments**

No additional comments.

**Receipt**

The samples were received on 2/23/2022 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.4° C and 4.1° C.

**GC/MS VOA**

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

**VOA Prep**

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



# Method Summary

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

Job ID: 240-162944-1

| 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 Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

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

# Sample Summary

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

Job ID: 240-162944-1

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 240-162944-1  | TRIP BLANK_18    | Water  | 02/16/22 00:00 | 02/23/22 08:00 |
| 240-162944-2  | MW-84S_021622    | Water  | 02/16/22 09:15 | 02/23/22 08:00 |
| 240-162944-3  | MW-84_021622     | Water  | 02/16/22 10:00 | 02/23/22 08:00 |
| 240-162944-4  | MW-139S_021622   | Water  | 02/16/22 11:30 | 02/23/22 08:00 |
| 240-162944-5  | MW-98S_021622    | Water  | 02/16/22 13:50 | 02/23/22 08:00 |

- 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: 240-162944-1

**Client Sample ID: TRIP BLANK\_18**

**Lab Sample ID: 240-162944-1**

No Detections.

**Client Sample ID: MW-84S\_021622**

**Lab Sample ID: 240-162944-2**

No Detections.

**Client Sample ID: MW-84\_021622**

**Lab Sample ID: 240-162944-3**

No Detections.

**Client Sample ID: MW-139S\_021622**

**Lab Sample ID: 240-162944-4**

No Detections.

**Client Sample ID: MW-98S\_021622**

**Lab Sample ID: 240-162944-5**

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 Canton

# Client Sample Results

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

Job ID: 240-162944-1

**Client Sample ID: TRIP BLANK\_18**

**Lab Sample ID: 240-162944-1**

Date Collected: 02/16/22 00:00

Matrix: Water

Date Received: 02/23/22 08:00

**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 | 0.49 | ug/L |   |          | 02/24/22 11:54 | 1       |
| cis-1,2-Dichloroethene   | 1.0    | U         | 1.0 | 0.46 | ug/L |   |          | 02/24/22 11:54 | 1       |
| Tetrachloroethene        | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 02/24/22 11:54 | 1       |
| trans-1,2-Dichloroethene | 1.0    | U         | 1.0 | 0.51 | ug/L |   |          | 02/24/22 11:54 | 1       |
| Trichloroethene          | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 02/24/22 11:54 | 1       |
| Vinyl chloride           | 1.0    | U         | 1.0 | 0.45 | ug/L |   |          | 02/24/22 11:54 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 78        |           | 62 - 137 |          | 02/24/22 11:54 | 1       |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 56 - 136 |          | 02/24/22 11:54 | 1       |
| Toluene-d8 (Surr)            | 80        |           | 78 - 122 |          | 02/24/22 11:54 | 1       |
| Dibromofluoromethane (Surr)  | 78        |           | 73 - 120 |          | 02/24/22 11:54 | 1       |



# Client Sample Results

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

Job ID: 240-162944-1

**Client Sample ID: MW-84S\_021622**

**Lab Sample ID: 240-162944-2**

Date Collected: 02/16/22 09:15

Matrix: Water

Date Received: 02/23/22 08:00

**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 |   |          | 02/23/22 20:31 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 78        |           | 66 - 120 |      |      |   |          | 02/23/22 20:31 | 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      | 0.49 | ug/L |   |          | 02/24/22 12:16 | 1       |
| cis-1,2-Dichloroethene       | 1.0       | U         | 1.0      | 0.46 | ug/L |   |          | 02/24/22 12:16 | 1       |
| Tetrachloroethene            | 1.0       | U         | 1.0      | 0.44 | ug/L |   |          | 02/24/22 12:16 | 1       |
| trans-1,2-Dichloroethene     | 1.0       | U         | 1.0      | 0.51 | ug/L |   |          | 02/24/22 12:16 | 1       |
| Trichloroethene              | 1.0       | U         | 1.0      | 0.44 | ug/L |   |          | 02/24/22 12:16 | 1       |
| Vinyl chloride               | 1.0       | U         | 1.0      | 0.45 | ug/L |   |          | 02/24/22 12:16 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 85        |           | 62 - 137 |      |      |   |          | 02/24/22 12:16 | 1       |
| 4-Bromofluorobenzene (Surr)  | 105       |           | 56 - 136 |      |      |   |          | 02/24/22 12:16 | 1       |
| Toluene-d8 (Surr)            | 85        |           | 78 - 122 |      |      |   |          | 02/24/22 12:16 | 1       |
| Dibromofluoromethane (Surr)  | 82        |           | 73 - 120 |      |      |   |          | 02/24/22 12:16 | 1       |

# Client Sample Results

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

Job ID: 240-162944-1

**Client Sample ID: MW-84\_021622**

**Lab Sample ID: 240-162944-3**

Date Collected: 02/16/22 10:00

Matrix: Water

Date Received: 02/23/22 08:00

**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 |   |          | 02/23/22 20:57 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 77        |           | 66 - 120 |      |      |   |          | 02/23/22 20:57 | 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      | 0.49 | ug/L |   |          | 02/24/22 12:38 | 1       |
| cis-1,2-Dichloroethene       | 1.0       | U         | 1.0      | 0.46 | ug/L |   |          | 02/24/22 12:38 | 1       |
| Tetrachloroethene            | 1.0       | U         | 1.0      | 0.44 | ug/L |   |          | 02/24/22 12:38 | 1       |
| trans-1,2-Dichloroethene     | 1.0       | U         | 1.0      | 0.51 | ug/L |   |          | 02/24/22 12:38 | 1       |
| Trichloroethene              | 1.0       | U         | 1.0      | 0.44 | ug/L |   |          | 02/24/22 12:38 | 1       |
| Vinyl chloride               | 1.0       | U         | 1.0      | 0.45 | ug/L |   |          | 02/24/22 12:38 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 83        |           | 62 - 137 |      |      |   |          | 02/24/22 12:38 | 1       |
| 4-Bromofluorobenzene (Surr)  | 102       |           | 56 - 136 |      |      |   |          | 02/24/22 12:38 | 1       |
| Toluene-d8 (Surr)            | 83        |           | 78 - 122 |      |      |   |          | 02/24/22 12:38 | 1       |
| Dibromofluoromethane (Surr)  | 79        |           | 73 - 120 |      |      |   |          | 02/24/22 12:38 | 1       |

# Client Sample Results

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

Job ID: 240-162944-1

**Client Sample ID: MW-139S\_021622**

**Lab Sample ID: 240-162944-4**

Date Collected: 02/16/22 11:30

Matrix: Water

Date Received: 02/23/22 08:00

**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 |   |          | 02/23/22 21:22 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 77        |           | 66 - 120 |      |      |   |          | 02/23/22 21:22 | 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      | 0.49 | ug/L |   |          | 02/24/22 13:00 | 1       |
| cis-1,2-Dichloroethene       | 1.0       | U         | 1.0      | 0.46 | ug/L |   |          | 02/24/22 13:00 | 1       |
| Tetrachloroethene            | 1.0       | U         | 1.0      | 0.44 | ug/L |   |          | 02/24/22 13:00 | 1       |
| trans-1,2-Dichloroethene     | 1.0       | U         | 1.0      | 0.51 | ug/L |   |          | 02/24/22 13:00 | 1       |
| Trichloroethene              | 1.0       | U         | 1.0      | 0.44 | ug/L |   |          | 02/24/22 13:00 | 1       |
| Vinyl chloride               | 1.0       | U         | 1.0      | 0.45 | ug/L |   |          | 02/24/22 13:00 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 88        |           | 62 - 137 |      |      |   |          | 02/24/22 13:00 | 1       |
| 4-Bromofluorobenzene (Surr)  | 108       |           | 56 - 136 |      |      |   |          | 02/24/22 13:00 | 1       |
| Toluene-d8 (Surr)            | 86        |           | 78 - 122 |      |      |   |          | 02/24/22 13:00 | 1       |
| Dibromofluoromethane (Surr)  | 87        |           | 73 - 120 |      |      |   |          | 02/24/22 13:00 | 1       |

# Client Sample Results

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

Job ID: 240-162944-1

**Client Sample ID: MW-98S\_021622**

**Lab Sample ID: 240-162944-5**

Date Collected: 02/16/22 13:50

Matrix: Water

Date Received: 02/23/22 08:00

**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 |   |          | 02/23/22 21:47 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 78        |           | 66 - 120 |      |      |   |          | 02/23/22 21:47 | 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      | 0.49 | ug/L |   |          | 02/24/22 13:22 | 1       |
| cis-1,2-Dichloroethene       | 1.0       | U         | 1.0      | 0.46 | ug/L |   |          | 02/24/22 13:22 | 1       |
| Tetrachloroethene            | 1.0       | U         | 1.0      | 0.44 | ug/L |   |          | 02/24/22 13:22 | 1       |
| trans-1,2-Dichloroethene     | 1.0       | U         | 1.0      | 0.51 | ug/L |   |          | 02/24/22 13:22 | 1       |
| Trichloroethene              | 1.0       | U         | 1.0      | 0.44 | ug/L |   |          | 02/24/22 13:22 | 1       |
| Vinyl chloride               | 1.0       | U         | 1.0      | 0.45 | ug/L |   |          | 02/24/22 13:22 | 1       |
| Surrogate                    | %Recovery | Qualifier | Limits   |      |      |   | Prepared | Analyzed       | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 78        |           | 62 - 137 |      |      |   |          | 02/24/22 13:22 | 1       |
| 4-Bromofluorobenzene (Surr)  | 93        |           | 56 - 136 |      |      |   |          | 02/24/22 13:22 | 1       |
| Toluene-d8 (Surr)            | 78        |           | 78 - 122 |      |      |   |          | 02/24/22 13:22 | 1       |
| Dibromofluoromethane (Surr)  | 77        |           | 73 - 120 |      |      |   |          | 02/24/22 13:22 | 1       |

# Surrogate Summary

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

Job ID: 240-162944-1

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

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID    | Client Sample ID   | Percent Surrogate Recovery (Acceptance Limits) |                 |                 |                  |
|------------------|--------------------|--|-----------------|-----------------|------------------|
|                  |                    | DCA<br>(62-137)                                | BFB<br>(56-136) | TOL<br>(78-122) | DBFM<br>(73-120) |
| 240-162944-1     | TRIP BLANK_18      | 78   | 97              | 80              | 78               |
| 240-162944-2     | MW-84S_021622      | 85   | 105             | 85              | 82               |
| 240-162944-2 MS  | MW-84S_021622      | 88   | 97              | 90              | 87               |
| 240-162944-2 MSD | MW-84S_021622      | 88   | 100             | 90              | 86               |
| 240-162944-3     | MW-84_021622       | 83   | 102             | 83              | 79               |
| 240-162944-4     | MW-139S_021622     | 88   | 108             | 86              | 87               |
| 240-162944-5     | MW-98S_021622      | 78   | 93              | 78              | 77               |
| LCS 240-518641/5 | Lab Control Sample | 79   | 105             | 85              | 82               |
| MB 240-518641/8  | Method Blank       | 79   | 95              | 80              | 79               |

### 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

| Lab Sample ID      | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |
|--------------------|------------------------|--|
|                    |                        | DCA<br>(66-120)                                |
| 240-162944-2       | MW-84S_021622          | 78   |
| 240-162944-3       | MW-84_021622           | 77   |
| 240-162944-4       | MW-139S_021622         | 77   |
| 240-162944-5       | MW-98S_021622          | 78   |
| 240-162970-G-3 MS  | Matrix Spike           | 81   |
| 240-162970-M-3 MSD | Matrix Spike Duplicate | 80   |
| LCS 240-518602/3   | Lab Control Sample     | 79   |
| MB 240-518602/4    | Method Blank           | 79   |

### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-162944-1

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

Lab Sample ID: MB 240-518641/8

Matrix: Water

Analysis Batch: 518641

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                  | MB     | MB        | RL  | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------------------|--------|-----------|-----|------|------|---|----------|----------------|---------|
|                          | Result | Qualifier |     |      |      |   |          |                |         |
| 1,1-Dichloroethene       | 1.0    | U         | 1.0 | 0.49 | ug/L |   |          | 02/24/22 11:31 | 1       |
| cis-1,2-Dichloroethene   | 1.0    | U         | 1.0 | 0.46 | ug/L |   |          | 02/24/22 11:31 | 1       |
| Tetrachloroethene        | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 02/24/22 11:31 | 1       |
| trans-1,2-Dichloroethene | 1.0    | U         | 1.0 | 0.51 | ug/L |   |          | 02/24/22 11:31 | 1       |
| Trichloroethene          | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 02/24/22 11:31 | 1       |
| Vinyl chloride           | 1.0    | U         | 1.0 | 0.45 | ug/L |   |          | 02/24/22 11:31 | 1       |

| Surrogate                    | MB        | MB        | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
|                              | %Recovery | Qualifier |          |          |                |         |
| 1,2-Dichloroethane-d4 (Surr) | 79        |           | 62 - 137 |          | 02/24/22 11:31 | 1       |
| 4-Bromofluorobenzene (Surr)  | 95        |           | 56 - 136 |          | 02/24/22 11:31 | 1       |
| Toluene-d8 (Surr)            | 80        |           | 78 - 122 |          | 02/24/22 11:31 | 1       |
| Dibromofluoromethane (Surr)  | 79        |           | 73 - 120 |          | 02/24/22 11:31 | 1       |

Lab Sample ID: LCS 240-518641/5

Matrix: Water

Analysis Batch: 518641

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                  | Spike Added | LCS    | LCS       | Unit | D | %Rec | %Rec. Limits |
|--------------------------|-------------|--------|-----------|------|---|------|--------------|
|                          |             | Result | Qualifier |      |   |      |              |
| 1,1-Dichloroethene       | 20.0        | 19.5   |           | ug/L |   | 97   | 63 - 134     |
| cis-1,2-Dichloroethene   | 20.0        | 18.7   |           | ug/L |   | 94   | 77 - 123     |
| Tetrachloroethene        | 20.0        | 18.7   |           | ug/L |   | 93   | 76 - 123     |
| trans-1,2-Dichloroethene | 20.0        | 19.2   |           | ug/L |   | 96   | 75 - 124     |
| Trichloroethene          | 20.0        | 18.0   |           | ug/L |   | 90   | 70 - 122     |
| Vinyl chloride           | 20.0        | 18.7   |           | ug/L |   | 93   | 60 - 144     |

| Surrogate                    | LCS       | LCS       | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 79        |           | 62 - 137 |
| 4-Bromofluorobenzene (Surr)  | 105       |           | 56 - 136 |
| Toluene-d8 (Surr)            | 85        |           | 78 - 122 |
| Dibromofluoromethane (Surr)  | 82        |           | 73 - 120 |

Lab Sample ID: 240-162944-2 MS

Matrix: Water

Analysis Batch: 518641

Client Sample ID: MW-84S\_021622

Prep Type: Total/NA

| Analyte                  | Sample | Sample    | Spike Added | MS     | MS        | Unit | D | %Rec | %Rec. Limits |
|--------------------------|--------|-----------|-------------|--------|-----------|------|---|------|--------------|
|                          | Result | Qualifier |             | Result | Qualifier |      |   |      |              |
| 1,1-Dichloroethene       | 1.0    | U         | 20.0        | 19.0   |           | ug/L |   | 95   | 56 - 135     |
| cis-1,2-Dichloroethene   | 1.0    | U         | 20.0        | 18.6   |           | ug/L |   | 93   | 66 - 128     |
| Tetrachloroethene        | 1.0    | U         | 20.0        | 18.3   |           | ug/L |   | 92   | 62 - 131     |
| trans-1,2-Dichloroethene | 1.0    | U         | 20.0        | 18.6   |           | ug/L |   | 93   | 56 - 136     |
| Trichloroethene          | 1.0    | U         | 20.0        | 17.5   |           | ug/L |   | 87   | 61 - 124     |
| Vinyl chloride           | 1.0    | U         | 20.0        | 18.6   |           | ug/L |   | 93   | 43 - 157     |

| Surrogate                    | MS        | MS        | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 88        |           | 62 - 137 |
| 4-Bromofluorobenzene (Surr)  | 97        |           | 56 - 136 |
| Toluene-d8 (Surr)            | 90        |           | 78 - 122 |

# QC Sample Results

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

Job ID: 240-162944-1

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

Lab Sample ID: 240-162944-2 MS  
Matrix: Water  
Analysis Batch: 518641

Client Sample ID: MW-84S\_021622  
Prep Type: Total/NA

| Surrogate                   | MS<br>%Recovery | MS<br>Qualifier | Limits   |
|-----------------------------|-----------------|-----------------|----------|
| Dibromofluoromethane (Surr) | 87              |                 | 73 - 120 |

Lab Sample ID: 240-162944-2 MSD  
Matrix: Water  
Analysis Batch: 518641

Client Sample ID: MW-84S\_021622  
Prep Type: Total/NA

| Analyte                  | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MSD<br>Result | MSD<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits | RPD | RPD<br>Limit |
|--------------------------|------------------|---------------------|----------------|---------------|------------------|------|---|------|-----------------|-----|--------------|
| 1,1-Dichloroethene       | 1.0              | U                   | 20.0           | 18.8          |                  | ug/L |   | 94   | 56 - 135        | 1   | 26           |
| cis-1,2-Dichloroethene   | 1.0              | U                   | 20.0           | 18.4          |                  | ug/L |   | 92   | 66 - 128        | 1   | 14           |
| Tetrachloroethene        | 1.0              | U                   | 20.0           | 18.7          |                  | ug/L |   | 94   | 62 - 131        | 2   | 20           |
| trans-1,2-Dichloroethene | 1.0              | U                   | 20.0           | 18.9          |                  | ug/L |   | 94   | 56 - 136        | 1   | 15           |
| Trichloroethene          | 1.0              | U                   | 20.0           | 17.6          |                  | ug/L |   | 88   | 61 - 124        | 1   | 15           |
| Vinyl chloride           | 1.0              | U                   | 20.0           | 18.9          |                  | ug/L |   | 95   | 43 - 157        | 2   | 24           |

| Surrogate                    | MSD<br>%Recovery | MSD<br>Qualifier | Limits   |
|------------------------------|------------------|------------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 88               |                  | 62 - 137 |
| 4-Bromofluorobenzene (Surr)  | 100              |                  | 56 - 136 |
| Toluene-d8 (Surr)            | 90               |                  | 78 - 122 |
| Dibromofluoromethane (Surr)  | 86               |                  | 73 - 120 |

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

Lab Sample ID: MB 240-518602/4  
Matrix: Water  
Analysis Batch: 518602

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

| Analyte     | MB<br>Result | MB<br>Qualifier | RL  | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|-------------|--------------|-----------------|-----|------|------|---|----------|----------------|---------|
| 1,4-Dioxane | 2.0          | U               | 2.0 | 0.86 | ug/L |   |          | 02/23/22 19:41 | 1       |

| Surrogate                    | MB<br>%Recovery | MB<br>Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------------|-----------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 79              |                 | 66 - 120 |          | 02/23/22 19:41 | 1       |

Lab Sample ID: LCS 240-518602/3  
Matrix: Water  
Analysis Batch: 518602

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

| Analyte     | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|-------------|----------------|---------------|------------------|------|---|------|-----------------|
| 1,4-Dioxane | 10.0           | 9.02          |                  | ug/L |   | 90   | 80 - 122        |

| Surrogate                    | LCS<br>%Recovery | LCS<br>Qualifier | Limits   |
|------------------------------|------------------|------------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 79               |                  | 66 - 120 |

Lab Sample ID: 240-162970-G-3 MS  
Matrix: Water  
Analysis Batch: 518602

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

| Analyte     | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec | %Rec.<br>Limits |
|-------------|------------------|---------------------|----------------|--------------|-----------------|------|---|------|-----------------|
| 1,4-Dioxane | 2.0              | U                   | 10.0           | 10.5         |                 | ug/L |   | 105  | 51 - 153        |

Eurofins Canton

# QC Sample Results

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

Job ID: 240-162944-1

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

| <i>Surrogate</i>             | <i>%Recovery</i> | <i>MS MS<br/>Qualifier</i> | <i>Limits</i> |
|------------------------------|------------------|----------------------------|---------------|
| 1,2-Dichloroethane-d4 (Surr) | 81               |                            | 66 - 120      |

**Lab Sample ID: 240-162970-M-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 518602**

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

| <i>Analyte</i> | <i>Sample<br/>Result</i> | <i>Sample<br/>Qualifier</i> | <i>Spike<br/>Added</i> | <i>MSD<br/>Result</i> | <i>MSD<br/>Qualifier</i> | <i>Unit</i> | <i>D</i> | <i>%Rec</i> | <i>%Rec.<br/>Limits</i> | <i>RPD</i> | <i>RPD<br/>Limit</i> |
|----------------|--------------------------|-----------------------------|------------------------|-----------------------|--------------------------|-------------|----------|-------------|-------------------------|------------|----------------------|
| 1,4-Dioxane    | 2.0                      | U                           | 10.0                   | 10.2                  |                          | ug/L        |          | 102         | 51 - 153                | 3          | 16                   |

| <i>Surrogate</i>             | <i>%Recovery</i> | <i>MSD MSD<br/>Qualifier</i> | <i>Limits</i> |
|------------------------------|------------------|------------------------------|---------------|
| 1,2-Dichloroethane-d4 (Surr) | 80               |                              | 66 - 120      |

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



# QC Association Summary

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

Job ID: 240-162944-1

## GC/MS VOA

### Analysis Batch: 518602

| Lab Sample ID      | Client Sample ID       | Prep Type | Matrix | Method    | Prep Batch |
|--------------------|------------------------|-----------|--------|-----------|------------|
| 240-162944-2       | MW-84S_021622          | Total/NA  | Water  | 8260B SIM |            |
| 240-162944-3       | MW-84_021622           | Total/NA  | Water  | 8260B SIM |            |
| 240-162944-4       | MW-139S_021622         | Total/NA  | Water  | 8260B SIM |            |
| 240-162944-5       | MW-98S_021622          | Total/NA  | Water  | 8260B SIM |            |
| MB 240-518602/4    | Method Blank           | Total/NA  | Water  | 8260B SIM |            |
| LCS 240-518602/3   | Lab Control Sample     | Total/NA  | Water  | 8260B SIM |            |
| 240-162970-G-3 MS  | Matrix Spike           | Total/NA  | Water  | 8260B SIM |            |
| 240-162970-M-3 MSD | Matrix Spike Duplicate | Total/NA  | Water  | 8260B SIM |            |

### Analysis Batch: 518641

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 240-162944-1     | TRIP BLANK_18      | Total/NA  | Water  | 8260B  |            |
| 240-162944-2     | MW-84S_021622      | Total/NA  | Water  | 8260B  |            |
| 240-162944-3     | MW-84_021622       | Total/NA  | Water  | 8260B  |            |
| 240-162944-4     | MW-139S_021622     | Total/NA  | Water  | 8260B  |            |
| 240-162944-5     | MW-98S_021622      | Total/NA  | Water  | 8260B  |            |
| MB 240-518641/8  | Method Blank       | Total/NA  | Water  | 8260B  |            |
| LCS 240-518641/5 | Lab Control Sample | Total/NA  | Water  | 8260B  |            |
| 240-162944-2 MS  | MW-84S_021622      | Total/NA  | Water  | 8260B  |            |
| 240-162944-2 MSD | MW-84S_021622      | Total/NA  | Water  | 8260B  |            |

# Lab Chronicle

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

Job ID: 240-162944-1

**Client Sample ID: TRIP BLANK\_18**

**Lab Sample ID: 240-162944-1**

Date Collected: 02/16/22 00:00

Matrix: Water

Date Received: 02/23/22 08:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1               | 518641       | 02/24/22 11:54       | TJL1    | TAL CAN |

**Client Sample ID: MW-84S\_021622**

**Lab Sample ID: 240-162944-2**

Date Collected: 02/16/22 09:15

Matrix: Water

Date Received: 02/23/22 08:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1               | 518641       | 02/24/22 12:16       | TJL1    | TAL CAN |
| Total/NA  | Analysis   | 8260B SIM    |     | 1               | 518602       | 02/23/22 20:31       | CS      | TAL CAN |

**Client Sample ID: MW-84\_021622**

**Lab Sample ID: 240-162944-3**

Date Collected: 02/16/22 10:00

Matrix: Water

Date Received: 02/23/22 08:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1               | 518641       | 02/24/22 12:38       | TJL1    | TAL CAN |
| Total/NA  | Analysis   | 8260B SIM    |     | 1               | 518602       | 02/23/22 20:57       | CS      | TAL CAN |

**Client Sample ID: MW-139S\_021622**

**Lab Sample ID: 240-162944-4**

Date Collected: 02/16/22 11:30

Matrix: Water

Date Received: 02/23/22 08:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1               | 518641       | 02/24/22 13:00       | TJL1    | TAL CAN |
| Total/NA  | Analysis   | 8260B SIM    |     | 1               | 518602       | 02/23/22 21:22       | CS      | TAL CAN |

**Client Sample ID: MW-98S\_021622**

**Lab Sample ID: 240-162944-5**

Date Collected: 02/16/22 13:50

Matrix: Water

Date Received: 02/23/22 08:00

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1               | 518641       | 02/24/22 13:22       | TJL1    | TAL CAN |
| Total/NA  | Analysis   | 8260B SIM    |     | 1               | 518602       | 02/23/22 21:47       | CS      | TAL CAN |

**Laboratory References:**

TAL CAN = Eurofins Canton, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

## Accreditation/Certification Summary

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

Job ID: 240-162944-1

### Laboratory: Eurofins 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                  | 02-23-22 *      |
| Connecticut           | State   | PH-0590               | 12-31-21 *      |
| Florida               | NELAP   | E87225                | 06-30-22        |
| Georgia               | State   | 4062                  | 02-23-22 *      |
| Illinois              | NELAP   | 200004                | 07-31-22        |
| Iowa                  | State   | 421                   | 06-01-23        |
| Kansas                | NELAP   | E-10336               | 04-30-22        |
| Kentucky (UST)        | State   | 112225                | 02-23-22 *      |
| Kentucky (WW)         | State   | KY98016               | 12-31-22        |
| Minnesota             | NELAP   | 039-999-348           | 12-31-22        |
| Minnesota (Petrofund) | State   | 3506                  | 08-01-23        |
| New Jersey            | NELAP   | OH001                 | 11-06-22        |
| New York              | NELAP   | 10975                 | 03-31-22        |
| Ohio                  | State   | 8303                  | 02-23-23        |
| Ohio VAP              | State   | CL0024                | 12-21-23        |
| Pennsylvania          | NELAP   | 68-00340              | 08-31-22        |
| Texas                 | NELAP   | T104704517-21-14      | 08-31-22        |
| Virginia              | NELAP   | 11570                 | 09-14-22        |
| Washington            | State   | C971                  | 01-12-23        |
| West Virginia DEP     | State   | 210                   | 12-31-22        |

\* Accreditation/Certification renewal pending - accreditation/certification considered valid.





**Eurofins TestAmerica Canton Sample Receipt Form/Narrative** Login # : 162944  
**Canton Facility**

Client Ford LTP Site Name \_\_\_\_\_ Cooler unpacked by: JME  
Cooler Received on 2/23/22 Opened on 2/23/22  
FedEx: 1<sup>st</sup> Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other \_\_\_\_\_

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

TestAmerica Cooler # TA 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-14 (CF -0.2 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
IR GUN #IR-15 (CF -0.7 °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 NA  
-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 (ID/Date/Time) be reconciled with the COC? Yes No  
9. For each sample, does the COC specify preservatives (Y/N) # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes No  
10. Were correct bottle(s) used for the test(s) indicated? Y 2/23/22 Yes No  
11. Sufficient quantity received to perform indicated analyses? Yes No  
12. Are these work share samples and all listed on the COC? Yes No

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC157842  
14. Were VOAs on the COC? Yes No  
15. Were air bubbles >6 mm in any VOA vials? Yes larger than this. Yes No NA  
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 01042016 Yes No  
17. 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

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**18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES**  additional next page Samples processed by: \_\_\_\_\_

---

**19. SAMPLE CONDITION**  
Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.  
Sample(s) 1x 40mL MW-1395 021622 were received with bubble >6 mm in diameter. (Notify PM)

---

**20. 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: \_\_\_\_\_

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

