

## ANALYTICAL REPORT

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

Laboratory Job ID: 240-159418-1  
Client Project/Site: Ford LTP - Off-Site

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

Attn: Kristoffer Hinskey



---

Authorized for release by:  
11/19/2021 1:48:53 PM

Michael DelMonico, Project Manager I  
(330)497-9396  
[Michael.DelMonico@Eurofinset.com](mailto:Michael.DelMonico@Eurofinset.com)

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*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.*



# Table of Contents

|                                  |    |
|----------------------------------|----|
| Cover Page . . . . .             | 1  |
| Table of Contents . . . . .      | 2  |
| Definitions/Glossary . . . . .   | 3  |
| Case Narrative . . . . .         | 4  |
| Method Summary . . . . .         | 5  |
| Sample Summary . . . . .         | 6  |
| Detection Summary . . . . .      | 7  |
| Client Sample Results . . . . .  | 8  |
| Surrogate Summary . . . . .      | 10 |
| QC Sample Results . . . . .      | 11 |
| QC Association Summary . . . . . | 14 |
| Lab Chronicle . . . . .          | 15 |
| Certification Summary . . . . .  | 16 |
| Chain of Custody . . . . .       | 17 |

# Definitions/Glossary

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

Job ID: 240-159418-1

## Qualifiers

### GC/MS VOA

| Qualifier | Qualifier Description                                    |
|-----------|--|
| F1        | MS and/or MSD recovery exceeds control limits.           |
| 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: 240-159418-1

---

## Job ID: 240-159418-1

---

Laboratory: Eurofins TestAmerica, Canton

### Narrative

---

Job Narrative  
240-159418-1

### Comments

No additional comments.

### Receipt

The samples were received on 11/5/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.7° 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.

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

# Method Summary

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

Job ID: 240-159418-1

| 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

- 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: 240-159418-1

---

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 240-159418-1  | TRIP BLANK_33    | Water  | 11/03/21 00:00 | 11/05/21 08:00 |
| 240-159418-2  | MW-106S_110321   | Water  | 11/03/21 15:16 | 11/05/21 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: 240-159418-1

---

**Client Sample ID: TRIP BLANK\_33**

**Lab Sample ID: 240-159418-1**

No Detections.

---

**Client Sample ID: MW-106S\_110321**

**Lab Sample ID: 240-159418-2**

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: 240-159418-1

**Client Sample ID: TRIP BLANK\_33**

**Lab Sample ID: 240-159418-1**

**Date Collected: 11/03/21 00:00**

**Matrix: Water**

**Date Received: 11/05/21 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 |   |          | 11/13/21 19:30 | 1       |
| cis-1,2-Dichloroethene   | 1.0    | U         | 1.0 | 0.46 | ug/L |   |          | 11/13/21 19:30 | 1       |
| Tetrachloroethene        | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 11/13/21 19:30 | 1       |
| trans-1,2-Dichloroethene | 1.0    | U         | 1.0 | 0.51 | ug/L |   |          | 11/13/21 19:30 | 1       |
| Trichloroethene          | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 11/13/21 19:30 | 1       |
| Vinyl chloride           | 1.0    | U         | 1.0 | 0.45 | ug/L |   |          | 11/13/21 19:30 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 96        |           | 62 - 137 |          | 11/13/21 19:30 | 1       |
| 4-Bromofluorobenzene (Surr)  | 80        |           | 56 - 136 |          | 11/13/21 19:30 | 1       |
| Toluene-d8 (Surr)            | 104       |           | 78 - 122 |          | 11/13/21 19:30 | 1       |
| Dibromofluoromethane (Surr)  | 96        |           | 73 - 120 |          | 11/13/21 19:30 | 1       |



# Client Sample Results

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

Job ID: 240-159418-1

**Client Sample ID: MW-106S\_110321**

**Lab Sample ID: 240-159418-2**

**Date Collected: 11/03/21 15:16**

**Matrix: Water**

**Date Received: 11/05/21 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 F1      | 2.0 | 0.86 | ug/L |   |          | 11/11/21 23:03 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 81        |           | 66 - 120 |          | 11/11/21 23:03 | 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 |   |          | 11/13/21 19:52 | 1       |
| cis-1,2-Dichloroethene   | 1.0    | U         | 1.0 | 0.46 | ug/L |   |          | 11/13/21 19:52 | 1       |
| Tetrachloroethene        | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 11/13/21 19:52 | 1       |
| trans-1,2-Dichloroethene | 1.0    | U         | 1.0 | 0.51 | ug/L |   |          | 11/13/21 19:52 | 1       |
| Trichloroethene          | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 11/13/21 19:52 | 1       |
| Vinyl chloride           | 1.0    | U         | 1.0 | 0.45 | ug/L |   |          | 11/13/21 19:52 | 1       |

| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 62 - 137 |          | 11/13/21 19:52 | 1       |
| 4-Bromofluorobenzene (Surr)  | 79        |           | 56 - 136 |          | 11/13/21 19:52 | 1       |
| Toluene-d8 (Surr)            | 111       |           | 78 - 122 |          | 11/13/21 19:52 | 1       |
| Dibromofluoromethane (Surr)  | 99        |           | 73 - 120 |          | 11/13/21 19:52 | 1       |

# Surrogate Summary

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

Job ID: 240-159418-1

## 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<br>(62-137) | BFB<br>(56-136) | TOL<br>(78-122) | DBFM<br>(73-120) |
|------------------|--------------------|-----------------|-----------------|-----------------|------------------|
| 240-159418-1     | TRIP BLANK_33      | 96              | 80              | 104             | 96               |
| 240-159418-2     | MW-106S_110321     | 98              | 79              | 111             | 99               |
| 240-159418-2 MS  | MW-106S-MS_110321  | 93              | 87              | 106             | 94               |
| 240-159418-2 MSD | MW-106S-MSD_110321 | 90              | 87              | 107             | 91               |
| LCS 240-512817/4 | Lab Control Sample | 90              | 89              | 112             | 90               |
| MB 240-512817/6  | Method Blank       | 98              | 81              | 112             | 98               |

#### 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<br>(66-120) |
|------------------|--------------------|-----------------|
| 240-159418-2     | MW-106S_110321     | 81              |
| 240-159418-2 MS  | MW-106S-MS_110321  | 82              |
| 240-159418-2 MSD | MW-106S-MSD_110321 | 83              |
| LCS 240-512585/4 | Lab Control Sample | 81              |
| MB 240-512585/5  | Method Blank       | 84              |

#### Surrogate Legend

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

# QC Sample Results

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

Job ID: 240-159418-1

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

**Lab Sample ID: MB 240-512817/6**  
**Matrix: Water**  
**Analysis Batch: 512817**

**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 |   |          | 11/13/21 13:55 | 1       |
| cis-1,2-Dichloroethene   | 1.0    | U         | 1.0 | 0.46 | ug/L |   |          | 11/13/21 13:55 | 1       |
| Tetrachloroethene        | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 11/13/21 13:55 | 1       |
| trans-1,2-Dichloroethene | 1.0    | U         | 1.0 | 0.51 | ug/L |   |          | 11/13/21 13:55 | 1       |
| Trichloroethene          | 1.0    | U         | 1.0 | 0.44 | ug/L |   |          | 11/13/21 13:55 | 1       |
| Vinyl chloride           | 1.0    | U         | 1.0 | 0.45 | ug/L |   |          | 11/13/21 13:55 | 1       |

| Surrogate                    | MB        | MB        | Limits   | Prepared | Analyzed       | Dil Fac |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|
|                              | %Recovery | Qualifier |          |          |                |         |
| 1,2-Dichloroethane-d4 (Surr) | 98        |           | 62 - 137 |          | 11/13/21 13:55 | 1       |
| 4-Bromofluorobenzene (Surr)  | 81        |           | 56 - 136 |          | 11/13/21 13:55 | 1       |
| Toluene-d8 (Surr)            | 112       |           | 78 - 122 |          | 11/13/21 13:55 | 1       |
| Dibromofluoromethane (Surr)  | 98        |           | 73 - 120 |          | 11/13/21 13:55 | 1       |

**Lab Sample ID: LCS 240-512817/4**  
**Matrix: Water**  
**Analysis Batch: 512817**

**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       | 10.0        | 10.9   |           | ug/L |   | 109  | 63 - 134     |
| cis-1,2-Dichloroethene   | 10.0        | 10.3   |           | ug/L |   | 103  | 77 - 123     |
| Tetrachloroethene        | 10.0        | 11.9   |           | ug/L |   | 119  | 76 - 123     |
| trans-1,2-Dichloroethene | 10.0        | 10.8   |           | ug/L |   | 108  | 75 - 124     |
| Trichloroethene          | 10.0        | 9.19   |           | ug/L |   | 92   | 70 - 122     |
| Vinyl chloride           | 10.0        | 9.48   |           | ug/L |   | 95   | 60 - 144     |

| Surrogate                    | LCS       | LCS       | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 90        |           | 62 - 137 |
| 4-Bromofluorobenzene (Surr)  | 89        |           | 56 - 136 |
| Toluene-d8 (Surr)            | 112       |           | 78 - 122 |
| Dibromofluoromethane (Surr)  | 90        |           | 73 - 120 |

**Lab Sample ID: 240-159418-2 MS**  
**Matrix: Water**  
**Analysis Batch: 512817**

**Client Sample ID: MW-106S-MS\_110321**  
**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         | 10.0        | 10.3   |           | ug/L |   | 103  | 56 - 135     |
| cis-1,2-Dichloroethene   | 1.0    | U         | 10.0        | 9.89   |           | ug/L |   | 99   | 66 - 128     |
| Tetrachloroethene        | 1.0    | U         | 10.0        | 9.53   |           | ug/L |   | 95   | 62 - 131     |
| trans-1,2-Dichloroethene | 1.0    | U         | 10.0        | 9.91   |           | ug/L |   | 99   | 56 - 136     |
| Trichloroethene          | 1.0    | U         | 10.0        | 8.16   |           | ug/L |   | 82   | 61 - 124     |
| Vinyl chloride           | 1.0    | U         | 10.0        | 9.96   |           | ug/L |   | 100  | 43 - 157     |

| Surrogate                    | MS        | MS        | Limits   |
|------------------------------|-----------|-----------|----------|
|                              | %Recovery | Qualifier |          |
| 1,2-Dichloroethane-d4 (Surr) | 93        |           | 62 - 137 |
| 4-Bromofluorobenzene (Surr)  | 87        |           | 56 - 136 |
| Toluene-d8 (Surr)            | 106       |           | 78 - 122 |

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-159418-1

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

**Lab Sample ID: 240-159418-2 MS**  
**Matrix: Water**  
**Analysis Batch: 512817**

**Client Sample ID: MW-106S-MS\_110321**  
**Prep Type: Total/NA**

|                             | MS        | MS        |          |
|-----------------------------|-----------|-----------|----------|
| Surrogate                   | %Recovery | Qualifier | Limits   |
| Dibromofluoromethane (Surr) | 94        |           | 73 - 120 |

**Lab Sample ID: 240-159418-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 512817**

**Client Sample ID: MW-106S-MSD\_110321**  
**Prep Type: Total/NA**

| Analyte                  | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|--------------------------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| 1,1-Dichloroethene       | 1.0           | U                | 10.0        | 10.0       |               | ug/L |   | 100  | 56 - 135     | 2   | 26        |
| cis-1,2-Dichloroethene   | 1.0           | U                | 10.0        | 10.1       |               | ug/L |   | 101  | 66 - 128     | 2   | 14        |
| Tetrachloroethene        | 1.0           | U                | 10.0        | 10.1       |               | ug/L |   | 101  | 62 - 131     | 5   | 20        |
| trans-1,2-Dichloroethene | 1.0           | U                | 10.0        | 10.1       |               | ug/L |   | 101  | 56 - 136     | 2   | 15        |
| Trichloroethene          | 1.0           | U                | 10.0        | 8.61       |               | ug/L |   | 86   | 61 - 124     | 5   | 15        |
| Vinyl chloride           | 1.0           | U                | 10.0        | 10.2       |               | ug/L |   | 102  | 43 - 157     | 3   | 24        |

  

|                              | MSD       | MSD       |          |
|------------------------------|-----------|-----------|----------|
| Surrogate                    | %Recovery | Qualifier | Limits   |
| 1,2-Dichloroethane-d4 (Surr) | 90        |           | 62 - 137 |
| 4-Bromofluorobenzene (Surr)  | 87        |           | 56 - 136 |
| Toluene-d8 (Surr)            | 107       |           | 78 - 122 |
| Dibromofluoromethane (Surr)  | 91        |           | 73 - 120 |

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

**Lab Sample ID: MB 240-512585/5**  
**Matrix: Water**  
**Analysis Batch: 512585**

**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 |   |          | 11/11/21 19:04 | 1       |

  

|                              | MB        | MB        |          |          |                |         |  |  |  |
|------------------------------|-----------|-----------|----------|----------|----------------|---------|--|--|--|
| Surrogate                    | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |  |  |  |
| 1,2-Dichloroethane-d4 (Surr) | 84        |           | 66 - 120 |          | 11/11/21 19:04 | 1       |  |  |  |

**Lab Sample ID: LCS 240-512585/4**  
**Matrix: Water**  
**Analysis Batch: 512585**

**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        | 9.86       |               | ug/L |   | 99   | 80 - 122     |

  

|                              | LCS       | LCS       |          |
|------------------------------|-----------|-----------|----------|
| Surrogate                    | %Recovery | Qualifier | Limits   |
| 1,2-Dichloroethane-d4 (Surr) | 81        |           | 66 - 120 |

**Lab Sample ID: 240-159418-2 MS**  
**Matrix: Water**  
**Analysis Batch: 512585**

**Client Sample ID: MW-106S-MS\_110321**  
**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 F1             | 10.0        | 11.1      |              | ug/L |   | 111  | 51 - 153     |

Eurofins TestAmerica, Canton

# QC Sample Results

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

Job ID: 240-159418-1

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

| <u>Surrogate</u>             | <u>MS</u><br><u>%Recovery</u> | <u>MS</u><br><u>Qualifier</u> | <u>Limits</u> |
|------------------------------|-------------------------------|-------------------------------|---------------|
| 1,2-Dichloroethane-d4 (Surr) | 82                            |                               | 66 - 120      |

**Lab Sample ID: 240-159418-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 512585**

**Client Sample ID: MW-106S-MSD\_110321**  
**Prep Type: Total/NA**

| <u>Analyte</u> | <u>Sample</u><br><u>Result</u> | <u>Sample</u><br><u>Qualifier</u> | <u>Spike</u><br><u>Added</u> | <u>MSD</u><br><u>Result</u> | <u>MSD</u><br><u>Qualifier</u> | <u>Unit</u> | <u>D</u> | <u>%Rec</u> | <u>%Rec.</u><br><u>Limits</u> | <u>RPD</u> | <u>RPD</u><br><u>Limit</u> |
|----------------|--------------------------------|-----------------------------------|------------------------------|-----------------------------|--------------------------------|-------------|----------|-------------|-------------------------------|------------|----------------------------|
| 1,4-Dioxane    | 2.0                            | U F1                              | 10.0                         | 10.2                        |                                | ug/L        |          | 102         | 51 - 153                      | 8          | 16                         |

| <u>Surrogate</u>             | <u>MSD</u><br><u>%Recovery</u> | <u>MSD</u><br><u>Qualifier</u> | <u>Limits</u> |
|------------------------------|--------------------------------|--------------------------------|---------------|
| 1,2-Dichloroethane-d4 (Surr) | 83                             |                                | 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: 240-159418-1

## GC/MS VOA

### Analysis Batch: 512585

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method    | Prep Batch |
|------------------|--------------------|-----------|--------|-----------|------------|
| 240-159418-2     | MW-106S_110321     | Total/NA  | Water  | 8260B SIM |            |
| MB 240-512585/5  | Method Blank       | Total/NA  | Water  | 8260B SIM |            |
| LCS 240-512585/4 | Lab Control Sample | Total/NA  | Water  | 8260B SIM |            |
| 240-159418-2 MS  | MW-106S-MS_110321  | Total/NA  | Water  | 8260B SIM |            |
| 240-159418-2 MSD | MW-106S-MSD_110321 | Total/NA  | Water  | 8260B SIM |            |

### Analysis Batch: 512817

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 240-159418-1     | TRIP BLANK_33      | Total/NA  | Water  | 8260B  |            |
| 240-159418-2     | MW-106S_110321     | Total/NA  | Water  | 8260B  |            |
| MB 240-512817/6  | Method Blank       | Total/NA  | Water  | 8260B  |            |
| LCS 240-512817/4 | Lab Control Sample | Total/NA  | Water  | 8260B  |            |
| 240-159418-2 MS  | MW-106S-MS_110321  | Total/NA  | Water  | 8260B  |            |
| 240-159418-2 MSD | MW-106S-MSD_110321 | Total/NA  | Water  | 8260B  |            |

# Lab Chronicle

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

Job ID: 240-159418-1

**Client Sample ID: TRIP BLANK\_33**

**Lab Sample ID: 240-159418-1**

**Date Collected: 11/03/21 00:00**

**Matrix: Water**

**Date Received: 11/05/21 08:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1               | 512817       | 11/13/21 19:30       | LEE     | TAL CAN |

**Client Sample ID: MW-106S\_110321**

**Lab Sample ID: 240-159418-2**

**Date Collected: 11/03/21 15:16**

**Matrix: Water**

**Date Received: 11/05/21 08:00**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab     |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA  | Analysis   | 8260B        |     | 1               | 512817       | 11/13/21 19:52       | LEE     | TAL CAN |
| Total/NA  | Analysis   | 8260B SIM    |     | 1               | 512585       | 11/11/21 23:03       | CS      | 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: 240-159418-1

## 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                  | 02-23-22        |
| 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               | 12-31-21        |
| Minnesota             | NELAP   | OH00048               | 12-31-21        |
| Minnesota (Petrofund) | State   | 3506                  | 08-01-23        |
| New Jersey            | NELAP   | OH001                 | 06-30-22        |
| New York              | NELAP   | 10975                 | 03-31-22        |
| Ohio VAP              | State   | CL0024                | 12-21-23        |
| Oregon                | NELAP   | 4062                  | 02-23-22        |
| Pennsylvania          | NELAP   | 68-00340              | 08-31-22        |
| Texas                 | NELAP   | T104704517-18-10      | 08-31-22        |
| Virginia              | NELAP   | 11570                 | 09-14-22        |
| Washington            | State   | C971                  | 01-12-22        |
| West Virginia DEP     | State   | 210                   | 12-31-21        |



Chain of Custody Record

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

Regulatory program:  DW  NPDES  RCRA  Other

Client Project Manager: Kris Hinskey  
 Telephone: 248-994-2240  
 Email: kris@hinskey.com

Site Contact: Julia McClafferty  
 Telephone: 734-644-5131

Lab Contact: Mike DeMonico  
 Telephone: 330-497-9396

Company Name: Arcadis  
 Address: 28550 Cabot Drive, Suite 500  
 City/State/Zip: Novi, MI, 48377  
 Phone: 248-994-2240

Project Name: Ford LTP Off-Site  
 Project Number: 30080642.402.04  
 PO # 30080642.402.04

Sampler Name: AINSON HAVTA  
 Method of Shipment/Carrier:  
 Shipping/Tracking No:

| Sample Identification | Sample Date | Sample Time | Matrix |         |          |       | Containers & Preservatives |      |     |      |      |      |        | Sample Specific Notes / Special Instructions |        |  |  |
|-----------------------|-------------|-------------|--------|---------|----------|-------|----------------------------|------|-----|------|------|------|--------|--|--------|--|--|
|                       |             |             | Air    | Aqueous | Sediment | Solid | H2SO4                      | HNO3 | HCl | NaOH | ZnAc | NaCl | Uptres |  | Others |  |  |
| TRIP BLANK_33         |             |             | X      |         |          |       |                            | 1    |     |      |      |      |        |  |        |  | 1 Trip Blank                             |
| MN-1005-110321        | 11/3/21     | 1510        | X      |         |          |       |                            | 6    |     |      |      |      |        |  |        |  | 3 VOAs for 8260B<br>3 VOAs for 8260B SIM |
| MN-1005-MS-110321     | 11/3/21     | 1514        | X      |         |          |       |                            | 6    |     |      |      |      |        |  |        |  |  |
| MN-1005-MSD-110321    | 11/3/21     | 1510        | X      |         |          |       |                            | 6    |     |      |      |      |        |  |        |  |  |



Possible Hazard Identification:  Non-Hazard  Irritable  Poison B  Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month):  
 Return to Client  Disposal By Lab  Archive For \_\_\_\_\_ Months

| Relinquished by: | Company: | Date/Time:   | Received by:      | Company: | Date/Time:   |
|------------------|----------|--------------|-------------------|----------|--------------|
| Alyssa           | Arcadis  | 11/3/21 1030 | NOVI Cold Storage | Arcadis  | 11/3/21 1430 |
| Christina        | ARCADIS  | 11/4/21 1040 | Jessie Harber     | ETA      | 11/4/21 1041 |
| Jessie Harber    | ETA      | 11/4/21 1049 | M.A.A.            | ETA      | 11/5/21 8:00 |

**Eurofins TestAmerica Canton Sample Receipt Form/Narrative**

Login # : 159418

**Canton Facility**

Client ARCADIS Site Name \_\_\_\_\_

Cooler unpacked by:  
Matthew Swana

Cooler Received on 11/5/21 Opened on 11/5/21

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 +0.1 °C) Observed Cooler Temp. 0.6 °C Corrected Cooler Temp. 0.7 °C  
 IR GUN #IR-15 (CF +0.2°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 (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)?
10. Were correct bottle(s) used for the test(s) indicated? Yes No
11. Sufficient quantity received to perform indicated analyses? OMP Yes No  
11-5-21
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? ● ← Larger than this. Yes No NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_ Yes No
17. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not checked for pH by Receiving:  
  
VOAs  
Oil and Grease  
TOC

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_

Concerning \_\_\_\_\_

**18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES**  additional next page

Samples processed by:

TB is not logged for SIM due to insufficient volume.  
OMP 11-5-21

**19. 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)

**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: \_\_\_\_\_