

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

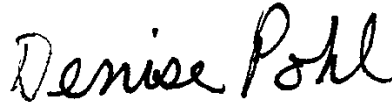
TestAmerica Laboratories, Inc.

TestAmerica Canton
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Tel: (330)497-9396

TestAmerica Job ID: 240-87921-1
Client Project/Site: Ford LTP Livonia MI

For:
ARCADIS U.S., Inc.
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Novi, Michigan 48377

Attn: Kristoffer Hinskey



Authorized for release by:
11/22/2017 2:09:08 PM

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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 Livonia MI

TestAmerica Job ID: 240-87921-1

Qualifiers

GC/MS VOA

| Qualifier | Qualifier Description |
|-----------|--|
| F2 | MS/MSD RPD exceeds control limits |
| F1 | MS and/or MSD Recovery is outside acceptance limits. |
| U | Indicates the analyte was analyzed for but not detected. |
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

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 |
| 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) |
| 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 Livonia MI

TestAmerica Job ID: 240-87921-1

Job ID: 240-87921-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford LTP Livonia MI

Report Number: 240-87921-1

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.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. 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 TestAmerica and its client.

RECEIPT

The samples were received on 11/11/2017 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 1.0° C and 1.2° C.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-81_11092017 (240-87921-1), MW-83_11092017 (240-87921-2), MW-78_11092017 (240-87921-3), MW-84_11092017 (240-87921-4), MW-77_11102017 (240-87921-5), MW-87_11102017 (240-87921-6) and MW-86_11102017 (240-87921-7) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/20/2017.

Carbon disulfide was detected in method blank MB 240-304322/6 at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Vinyl chloride failed the recovery criteria low for the MSD of sample 240-87918-35 in batch 240-304322. 2-Hexanone and Vinyl chloride exceeded the RPD limit.

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

Case Narrative

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

TestAmerica Job ID: 240-87921-1

Job ID: 240-87921-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

VOLATILE ORGANIC COMPOUNDS (GCMS SIM)

Samples MW-81_11092017 (240-87921-1), MW-83_11092017 (240-87921-2), MW-78_11092017 (240-87921-3), MW-84_11092017 (240-87921-4), MW-77_11102017 (240-87921-5), MW-87_11102017 (240-87921-6) and MW-86_11102017 (240-87921-7) were analyzed for volatile organic compounds (GCMS SIM) in accordance with EPA SW-846 Method 8260B SIM. The samples were analyzed on 11/17/2017.

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

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Method Summary

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

TestAmerica Job ID: 240-87921-1

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

Protocol References:

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

Laboratory References:

TAL CAN = 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 Livonia MI

TestAmerica Job ID: 240-87921-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---------------|------------------|--------|----------------|----------------|
| 240-87921-1 | MW-81_11092017 | Water | 11/09/17 12:05 | 11/11/17 09:30 |
| 240-87921-2 | MW-83_11092017 | Water | 11/09/17 14:15 | 11/11/17 09:30 |
| 240-87921-3 | MW-78_11092017 | Water | 11/09/17 15:30 | 11/11/17 09:30 |
| 240-87921-4 | MW-84_11092017 | Water | 11/09/17 16:30 | 11/11/17 09:30 |
| 240-87921-5 | MW-77_11102017 | Water | 11/10/17 09:20 | 11/11/17 09:30 |
| 240-87921-6 | MW-87_11102017 | Water | 11/10/17 10:40 | 11/11/17 09:30 |
| 240-87921-7 | MW-86_11102017 | Water | 11/10/17 11:45 | 11/11/17 09:30 |

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Detection Summary

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-81_11092017

Lab Sample ID: 240-87921-1

No Detections.

Client Sample ID: MW-83_11092017

Lab Sample ID: 240-87921-2

No Detections.

Client Sample ID: MW-78_11092017

Lab Sample ID: 240-87921-3

No Detections.

Client Sample ID: MW-84_11092017

Lab Sample ID: 240-87921-4

No Detections.

Client Sample ID: MW-77_11102017

Lab Sample ID: 240-87921-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|------------------------|--------|-----------|-----|------|------|---------|---|--------|-----------|
| cis-1,2-Dichloroethene | 0.73 | J | 1.0 | 0.30 | ug/L | 1 | | 8260B | Total/NA |

Client Sample ID: MW-87_11102017

Lab Sample ID: 240-87921-6

No Detections.

Client Sample ID: MW-86_11102017

Lab Sample ID: 240-87921-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|-------------|--------|-----------|-----|------|------|---------|---|-----------|-----------|
| 1,4-Dioxane | 0.87 | J | 2.0 | 0.24 | ug/L | 1 | | 8260B SIM | Total/NA |

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-81_11092017

Lab Sample ID: 240-87921-1

Date Collected: 11/09/17 12:05

Matrix: Water

Date Received: 11/11/17 09:30

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 | 0.24 | ug/L | | | 11/17/17 17:33 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 81 | | 63 - 125 | | | | | 11/17/17 17:33 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 15:36 | 1 |
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.27 | ug/L | | | 11/20/17 15:36 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 15:36 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.29 | ug/L | | | 11/20/17 15:36 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.33 | ug/L | | | 11/20/17 15:36 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.45 | ug/L | | | 11/20/17 15:36 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 98 | | 69 - 120 | | | | | 11/20/17 15:36 | 1 |
| Dibromofluoromethane (Surr) | 99 | | 69 - 124 | | | | | 11/20/17 15:36 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 105 | | 61 - 138 | | | | | 11/20/17 15:36 | 1 |
| Toluene-d8 (Surr) | 97 | | 73 - 120 | | | | | 11/20/17 15:36 | 1 |

Client Sample Results

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-83_11092017

Lab Sample ID: 240-87921-2

Date Collected: 11/09/17 14:15

Matrix: Water

Date Received: 11/11/17 09:30

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 | 0.24 | ug/L | | | 11/17/17 17:58 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 86 | | 63 - 125 | | | | | 11/17/17 17:58 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|------------------|------------------|---------------|------|------|---|-----------------|-----------------|----------------|
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 15:57 | 1 |
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.27 | ug/L | | | 11/20/17 15:57 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 15:57 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.29 | ug/L | | | 11/20/17 15:57 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.33 | ug/L | | | 11/20/17 15:57 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.45 | ug/L | | | 11/20/17 15:57 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 94 | | 69 - 120 | | | | | 11/20/17 15:57 | 1 |
| Dibromofluoromethane (Surr) | 90 | | 69 - 124 | | | | | 11/20/17 15:57 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 91 | | 61 - 138 | | | | | 11/20/17 15:57 | 1 |
| Toluene-d8 (Surr) | 96 | | 73 - 120 | | | | | 11/20/17 15:57 | 1 |

Client Sample Results

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-78_11092017

Lab Sample ID: 240-87921-3

Date Collected: 11/09/17 15:30

Matrix: Water

Date Received: 11/11/17 09:30

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 | 0.24 | ug/L | | | 11/17/17 18:23 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 77 | | 63 - 125 | | | | | 11/17/17 18:23 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 16:19 | 1 |
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.27 | ug/L | | | 11/20/17 16:19 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 16:19 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.29 | ug/L | | | 11/20/17 16:19 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.33 | ug/L | | | 11/20/17 16:19 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.45 | ug/L | | | 11/20/17 16:19 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 95 | | 69 - 120 | | | | | 11/20/17 16:19 | 1 |
| Dibromofluoromethane (Surr) | 92 | | 69 - 124 | | | | | 11/20/17 16:19 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 95 | | 61 - 138 | | | | | 11/20/17 16:19 | 1 |
| Toluene-d8 (Surr) | 96 | | 73 - 120 | | | | | 11/20/17 16:19 | 1 |

Client Sample Results

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-84_11092017

Lab Sample ID: 240-87921-4

Date Collected: 11/09/17 16:30

Matrix: Water

Date Received: 11/11/17 09:30

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 | 0.24 | ug/L | | | 11/17/17 18:48 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 78 | | 63 - 125 | | | | | 11/17/17 18:48 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 16:41 | 1 |
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.27 | ug/L | | | 11/20/17 16:41 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 16:41 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.29 | ug/L | | | 11/20/17 16:41 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.33 | ug/L | | | 11/20/17 16:41 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.45 | ug/L | | | 11/20/17 16:41 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 97 | | 69 - 120 | | | | | 11/20/17 16:41 | 1 |
| Dibromofluoromethane (Surr) | 92 | | 69 - 124 | | | | | 11/20/17 16:41 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 96 | | 61 - 138 | | | | | 11/20/17 16:41 | 1 |
| Toluene-d8 (Surr) | 95 | | 73 - 120 | | | | | 11/20/17 16:41 | 1 |

Client Sample Results

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-77_11102017

Lab Sample ID: 240-87921-5

Date Collected: 11/10/17 09:20

Matrix: Water

Date Received: 11/11/17 09:30

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 | 0.24 | ug/L | | | 11/17/17 19:13 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 78 | | 63 - 125 | | | | | 11/17/17 19:13 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|-------------------------------|-------------|-----------|----------|------|------|---|----------|----------------|---------|
| cis-1,2-Dichloroethene | 0.73 | J | 1.0 | 0.30 | ug/L | | | 11/20/17 17:03 | 1 |
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.27 | ug/L | | | 11/20/17 17:03 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 17:03 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.29 | ug/L | | | 11/20/17 17:03 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.33 | ug/L | | | 11/20/17 17:03 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.45 | ug/L | | | 11/20/17 17:03 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 99 | | 69 - 120 | | | | | 11/20/17 17:03 | 1 |
| Dibromofluoromethane (Surr) | 89 | | 69 - 124 | | | | | 11/20/17 17:03 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 92 | | 61 - 138 | | | | | 11/20/17 17:03 | 1 |
| Toluene-d8 (Surr) | 94 | | 73 - 120 | | | | | 11/20/17 17:03 | 1 |

Client Sample Results

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-87_11102017

Lab Sample ID: 240-87921-6

Date Collected: 11/10/17 10:40

Matrix: Water

Date Received: 11/11/17 09:30

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 | 0.24 | ug/L | | | 11/17/17 19:37 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 79 | | 63 - 125 | | | | | 11/17/17 19:37 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 17:25 | 1 |
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.27 | ug/L | | | 11/20/17 17:25 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 17:25 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.29 | ug/L | | | 11/20/17 17:25 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.33 | ug/L | | | 11/20/17 17:25 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.45 | ug/L | | | 11/20/17 17:25 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 93 | | 69 - 120 | | | | | 11/20/17 17:25 | 1 |
| Dibromofluoromethane (Surr) | 94 | | 69 - 124 | | | | | 11/20/17 17:25 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 94 | | 61 - 138 | | | | | 11/20/17 17:25 | 1 |
| Toluene-d8 (Surr) | 94 | | 73 - 120 | | | | | 11/20/17 17:25 | 1 |

Client Sample Results

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-86_11102017

Lab Sample ID: 240-87921-7

Date Collected: 11/10/17 11:45

Matrix: Water

Date Received: 11/11/17 09:30

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| 1,4-Dioxane | 0.87 | J | 2.0 | 0.24 | ug/L | | | 11/17/17 20:51 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 1,2-Dichloroethane-d4 (Surr) | 80 | | 63 - 125 | | | | | 11/17/17 20:51 | 1 |

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

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|------------------------------|-----------|-----------|----------|------|------|---|----------|----------------|---------|
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 17:47 | 1 |
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.27 | ug/L | | | 11/20/17 17:47 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 17:47 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.29 | ug/L | | | 11/20/17 17:47 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.33 | ug/L | | | 11/20/17 17:47 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.45 | ug/L | | | 11/20/17 17:47 | 1 |
| Surrogate | %Recovery | Qualifier | Limits | | | | Prepared | Analyzed | Dil Fac |
| 4-Bromofluorobenzene (Surr) | 97 | | 69 - 120 | | | | | 11/20/17 17:47 | 1 |
| Dibromofluoromethane (Surr) | 85 | | 69 - 124 | | | | | 11/20/17 17:47 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 92 | | 61 - 138 | | | | | 11/20/17 17:47 | 1 |
| Toluene-d8 (Surr) | 98 | | 73 - 120 | | | | | 11/20/17 17:47 | 1 |

Surrogate Summary

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

TestAmerica Job ID: 240-87921-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

| Lab Sample ID | Client Sample ID | Percent Surrogate Recovery (Acceptance Limits) | | | |
|--------------------|------------------------|--|------------------|-------------------|-----------------|
| | | BFB (69-120) | DBFM (69-124) | 12DCE (61-138) | TOL (73-120) |
| 240-87918-E-35 MS | Matrix Spike | 96 | 89 | 92 | 98 |
| 240-87918-F-35 MSD | Matrix Spike Duplicate | 100 | 88 | 92 | 98 |
| 240-87921-1 | MW-81_11092017 | 98 | 99 | 105 | 97 |
| 240-87921-2 | MW-83_11092017 | 94 | 90 | 91 | 96 |
| 240-87921-3 | MW-78_11092017 | 95 | 92 | 95 | 96 |
| 240-87921-4 | MW-84_11092017 | 97 | 92 | 96 | 95 |
| 240-87921-5 | MW-77_11102017 | 99 | 89 | 92 | 94 |
| 240-87921-6 | MW-87_11102017 | 93 | 94 | 94 | 94 |
| 240-87921-7 | MW-86_11102017 | 97 | 85 | 92 | 98 |
| LCS 240-304322/4 | Lab Control Sample | 97 | 93 | 97 | 97 |
| MB 240-304322/6 | Method Blank | 100 | 90 | 93 | 94 |

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
12DCE = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (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 | 12DCE (63-125) |
|------------------|--------------------|-------------------|
| | | 240-87921-1 |
| 240-87921-2 | MW-83_11092017 | 86 |
| 240-87921-3 | MW-78_11092017 | 77 |
| 240-87921-4 | MW-84_11092017 | 78 |
| 240-87921-5 | MW-77_11102017 | 78 |
| 240-87921-6 | MW-87_11102017 | 79 |
| 240-87921-6 MS | MW-87_11102017 | 80 |
| 240-87921-6 MSD | MW-87_11102017 | 80 |
| 240-87921-7 | MW-86_11102017 | 80 |
| LCS 240-304047/4 | Lab Control Sample | 81 |
| MB 240-304047/5 | Method Blank | 81 |

Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)

QC Sample Results

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

TestAmerica Job ID: 240-87921-1

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

Lab Sample ID: MB 240-304322/6

Matrix: Water

Analysis Batch: 304322

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|--------------------------|-----------|--------------|-----|------|------|---|----------|----------------|---------|
| cis-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 14:29 | 1 |
| 1,1-Dichloroethene | 1.0 | U | 1.0 | 0.27 | ug/L | | | 11/20/17 14:29 | 1 |
| Tetrachloroethene | 1.0 | U | 1.0 | 0.30 | ug/L | | | 11/20/17 14:29 | 1 |
| trans-1,2-Dichloroethene | 1.0 | U | 1.0 | 0.29 | ug/L | | | 11/20/17 14:29 | 1 |
| Trichloroethene | 1.0 | U | 1.0 | 0.33 | ug/L | | | 11/20/17 14:29 | 1 |
| Vinyl chloride | 1.0 | U | 1.0 | 0.45 | ug/L | | | 11/20/17 14:29 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|--------------|--------------|----------|----------|----------------|---------|
| 4-Bromofluorobenzene (Surr) | 100 | | 69 - 120 | | 11/20/17 14:29 | 1 |
| Dibromofluoromethane (Surr) | 90 | | 69 - 124 | | 11/20/17 14:29 | 1 |
| 1,2-Dichloroethane-d4 (Surr) | 93 | | 61 - 138 | | 11/20/17 14:29 | 1 |
| Toluene-d8 (Surr) | 94 | | 73 - 120 | | 11/20/17 14:29 | 1 |

Lab Sample ID: LCS 240-304322/4

Matrix: Water

Analysis Batch: 304322

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|-----------------------------|-------------|------------|---------------|------|---|------|--------------|
| Acetone | 20.0 | 18.1 | | ug/L | | 91 | 35 - 131 |
| Benzene | 10.0 | 9.24 | | ug/L | | 92 | 79 - 120 |
| Bromodichloromethane | 10.0 | 8.40 | | ug/L | | 84 | 79 - 125 |
| Bromoform | 10.0 | 8.49 | | ug/L | | 85 | 55 - 145 |
| Bromomethane | 10.0 | 5.84 | | ug/L | | 58 | 17 - 158 |
| 2-Butanone (MEK) | 20.0 | 24.4 | | ug/L | | 122 | 43 - 149 |
| Carbon disulfide | 10.0 | 9.03 | | ug/L | | 90 | 49 - 141 |
| Carbon tetrachloride | 10.0 | 8.73 | | ug/L | | 87 | 55 - 171 |
| Chlorobenzene | 10.0 | 9.05 | | ug/L | | 91 | 80 - 120 |
| Chloroethane | 10.0 | 4.18 | | ug/L | | 42 | 10 - 149 |
| Chloroform | 10.0 | 8.53 | | ug/L | | 85 | 80 - 120 |
| Chloromethane | 10.0 | 7.60 | | ug/L | | 76 | 59 - 124 |
| cis-1,2-Dichloroethene | 10.0 | 8.68 | | ug/L | | 87 | 77 - 120 |
| cis-1,3-Dichloropropene | 10.0 | 9.84 | | ug/L | | 98 | 75 - 120 |
| Cyclohexane | 10.0 | 11.3 | | ug/L | | 113 | 66 - 135 |
| Dibromochloromethane | 10.0 | 8.34 | | ug/L | | 83 | 64 - 129 |
| 1,2-Dibromo-3-Chloropropane | 10.0 | 7.41 | | ug/L | | 74 | 50 - 130 |
| 1,2-Dibromoethane | 10.0 | 9.26 | | ug/L | | 93 | 80 - 120 |
| 1,2-Dichlorobenzene | 10.0 | 8.52 | | ug/L | | 85 | 80 - 120 |
| 1,3-Dichlorobenzene | 10.0 | 8.99 | | ug/L | | 90 | 80 - 120 |
| 1,4-Dichlorobenzene | 10.0 | 8.76 | | ug/L | | 88 | 80 - 120 |
| Dichlorodifluoromethane | 10.0 | 9.51 | | ug/L | | 95 | 42 - 141 |
| 1,1-Dichloroethane | 10.0 | 9.42 | | ug/L | | 94 | 74 - 120 |
| 1,2-Dichloroethane | 10.0 | 9.47 | | ug/L | | 95 | 68 - 133 |
| 1,1-Dichloroethene | 10.0 | 9.36 | | ug/L | | 94 | 65 - 127 |
| 1,2-Dichloropropane | 10.0 | 10.3 | | ug/L | | 103 | 78 - 127 |
| Diethyl ether | 10.0 | 10.3 | | ug/L | | 103 | 72 - 125 |
| Ethylbenzene | 10.0 | 8.74 | | ug/L | | 87 | 80 - 120 |
| 2-Hexanone | 20.0 | 23.1 | | ug/L | | 116 | 28 - 169 |
| Isopropylbenzene | 10.0 | 8.46 | | ug/L | | 85 | 80 - 128 |

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87921-1

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

Lab Sample ID: LCS 240-304322/4

Matrix: Water

Analysis Batch: 304322

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---------------------------------------|-------------|------------|---------------|------|---|------|--------------|
| Methyl acetate | 20.0 | 18.8 | | ug/L | | 94 | 63 - 137 |
| Methylcyclohexane | 10.0 | 10.2 | | ug/L | | 102 | 63 - 141 |
| Methylene Chloride | 10.0 | 8.63 | | ug/L | | 86 | 64 - 140 |
| 4-Methyl-2-pentanone (MIBK) | 20.0 | 20.4 | | ug/L | | 102 | 53 - 144 |
| Methyl tert-butyl ether | 10.0 | 9.15 | | ug/L | | 91 | 73 - 120 |
| Styrene | 10.0 | 8.43 | | ug/L | | 84 | 80 - 121 |
| 1,1,2,2-Tetrachloroethane | 10.0 | 10.0 | | ug/L | | 100 | 58 - 122 |
| Tetrachloroethene | 10.0 | 8.98 | | ug/L | | 90 | 80 - 122 |
| Toluene | 10.0 | 8.94 | | ug/L | | 89 | 78 - 120 |
| trans-1,2-Dichloroethene | 10.0 | 9.12 | | ug/L | | 91 | 74 - 124 |
| trans-1,3-Dichloropropene | 10.0 | 8.66 | | ug/L | | 87 | 67 - 120 |
| 1,2,4-Trichlorobenzene | 10.0 | 6.27 | | ug/L | | 63 | 34 - 141 |
| 1,1,1-Trichloroethane | 10.0 | 8.57 | | ug/L | | 86 | 64 - 147 |
| 1,1,2-Trichloroethane | 10.0 | 9.01 | | ug/L | | 90 | 76 - 121 |
| Trichloroethene | 10.0 | 9.12 | | ug/L | | 91 | 76 - 124 |
| Trichlorofluoromethane | 10.0 | 8.65 | | ug/L | | 87 | 27 - 176 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 10.0 | 11.3 | | ug/L | | 113 | 65 - 144 |
| 1,2,4-Trimethylbenzene | 10.0 | 8.84 | | ug/L | | 88 | 80 - 120 |
| 1,3,5-Trimethylbenzene | 10.0 | 9.16 | | ug/L | | 92 | 79 - 120 |
| Vinyl chloride | 10.0 | 10.7 | | ug/L | | 107 | 65 - 124 |
| Xylenes, Total | 20.0 | 16.9 | | ug/L | | 85 | 80 - 120 |
| 1,4-Dioxane | 200 | 159 | | ug/L | | 79 | 35 - 134 |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|------------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 97 | | 69 - 120 |
| Dibromofluoromethane (Surr) | 93 | | 69 - 124 |
| 1,2-Dichloroethane-d4 (Surr) | 97 | | 61 - 138 |
| Toluene-d8 (Surr) | 97 | | 73 - 120 |

Lab Sample ID: 240-87918-E-35 MS

Matrix: Water

Analysis Batch: 304322

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 |
|------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| Acetone | 10 | U | 20.0 | 19.5 | | ug/L | | 98 | 19 - 133 |
| Benzene | 1.0 | U | 10.0 | 9.56 | | ug/L | | 96 | 69 - 127 |
| Bromodichloromethane | 1.0 | U | 10.0 | 8.91 | | ug/L | | 89 | 75 - 128 |
| Bromoform | 1.0 | U | 10.0 | 8.89 | | ug/L | | 89 | 61 - 135 |
| Bromomethane | 1.0 | U | 10.0 | 3.01 | | ug/L | | 30 | 10 - 148 |
| 2-Butanone (MEK) | 10 | U | 20.0 | 24.9 | | ug/L | | 125 | 34 - 153 |
| Carbon disulfide | 1.3 | J B | 10.0 | 10.7 | | ug/L | | 94 | 46 - 143 |
| Carbon tetrachloride | 1.0 | U | 10.0 | 7.75 | | ug/L | | 78 | 53 - 175 |
| Chlorobenzene | 1.0 | U | 10.0 | 9.47 | | ug/L | | 95 | 76 - 120 |
| Chloroethane | 1.0 | U | 10.0 | 6.55 | | ug/L | | 65 | 10 - 141 |
| Chloroform | 1.0 | U | 10.0 | 8.61 | | ug/L | | 86 | 74 - 125 |
| Chloromethane | 1.0 | U | 10.0 | 4.60 | | ug/L | | 46 | 34 - 127 |
| cis-1,2-Dichloroethene | 1.0 | U | 10.0 | 8.58 | | ug/L | | 86 | 69 - 127 |

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87921-1

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

Lab Sample ID: 240-87918-E-35 MS

Matrix: Water

Analysis Batch: 304322

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 |
|---------------------------------------|---------------|------------------|-------------|-----------|--------------|------|---|------|--------------|
| cis-1,3-Dichloropropene | 1.0 | U | 10.0 | 10.6 | | ug/L | | 106 | 68 - 120 |
| Cyclohexane | 1.0 | U | 10.0 | 9.32 | | ug/L | | 93 | 56 - 135 |
| Dibromochloromethane | 1.0 | U | 10.0 | 8.73 | | ug/L | | 87 | 62 - 131 |
| 1,2-Dibromo-3-Chloropropane | 1.0 | U | 10.0 | 7.95 | | ug/L | | 80 | 48 - 130 |
| 1,2-Dibromoethane | 1.0 | U | 10.0 | 9.92 | | ug/L | | 99 | 73 - 121 |
| 1,2-Dichlorobenzene | 1.0 | U | 10.0 | 8.98 | | ug/L | | 90 | 70 - 120 |
| 1,3-Dichlorobenzene | 1.0 | U | 10.0 | 8.90 | | ug/L | | 89 | 71 - 120 |
| 1,4-Dichlorobenzene | 1.0 | U | 10.0 | 8.90 | | ug/L | | 89 | 72 - 120 |
| Dichlorodifluoromethane | 1.0 | U | 10.0 | 8.23 | | ug/L | | 82 | 45 - 130 |
| 1,1-Dichloroethane | 1.0 | U | 10.0 | 9.23 | | ug/L | | 92 | 69 - 122 |
| 1,2-Dichloroethane | 1.0 | U | 10.0 | 9.52 | | ug/L | | 95 | 64 - 138 |
| 1,1-Dichloroethene | 1.0 | U | 10.0 | 8.95 | | ug/L | | 89 | 62 - 127 |
| 1,2-Dichloropropane | 1.0 | U | 10.0 | 10.9 | | ug/L | | 109 | 72 - 131 |
| Ethylbenzene | 1.0 | U | 10.0 | 8.80 | | ug/L | | 88 | 72 - 121 |
| 2-Hexanone | 10 | U F2 | 20.0 | 24.4 | | ug/L | | 122 | 21 - 184 |
| Isopropylbenzene | 1.0 | U | 10.0 | 8.32 | | ug/L | | 83 | 70 - 132 |
| Methyl acetate | 10 | U | 20.0 | 18.4 | | ug/L | | 92 | 52 - 139 |
| Methylcyclohexane | 1.0 | U | 10.0 | 8.04 | | ug/L | | 80 | 46 - 139 |
| Methylene Chloride | 5.0 | U | 10.0 | 8.37 | | ug/L | | 84 | 52 - 137 |
| 4-Methyl-2-pentanone (MIBK) | 10 | U | 20.0 | 22.3 | | ug/L | | 111 | 53 - 147 |
| Methyl tert-butyl ether | 1.0 | U | 10.0 | 8.95 | | ug/L | | 89 | 67 - 125 |
| Styrene | 1.0 | U | 10.0 | 8.80 | | ug/L | | 88 | 74 - 125 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 10.0 | 9.81 | | ug/L | | 98 | 51 - 123 |
| Tetrachloroethene | 1.0 | U | 10.0 | 8.66 | | ug/L | | 87 | 69 - 126 |
| Toluene | 1.0 | U | 10.0 | 9.36 | | ug/L | | 94 | 69 - 125 |
| trans-1,2-Dichloroethene | 1.0 | U | 10.0 | 8.76 | | ug/L | | 88 | 66 - 131 |
| trans-1,3-Dichloropropene | 1.0 | U | 10.0 | 9.25 | | ug/L | | 93 | 59 - 120 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 10.0 | 7.25 | | ug/L | | 72 | 26 - 138 |
| 1,1,1-Trichloroethane | 1.0 | U | 10.0 | 7.89 | | ug/L | | 79 | 57 - 156 |
| 1,1,2-Trichloroethane | 1.0 | U | 10.0 | 10.4 | | ug/L | | 104 | 68 - 127 |
| Trichloroethene | 1.0 | U | 10.0 | 9.05 | | ug/L | | 91 | 68 - 129 |
| Trichlorofluoromethane | 1.0 | U | 10.0 | 6.28 | | ug/L | | 63 | 28 - 172 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 1.0 | U | 10.0 | 7.90 | | ug/L | | 79 | 58 - 137 |
| Vinyl chloride | 21 | F2 F1 | 10.0 | 27.1 | | ug/L | | 60 | 55 - 123 |

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|------------------------------|--------------|--------------|----------|
| 4-Bromofluorobenzene (Surr) | 96 | | 69 - 120 |
| Dibromofluoromethane (Surr) | 89 | | 69 - 124 |
| 1,2-Dichloroethane-d4 (Surr) | 92 | | 61 - 138 |
| Toluene-d8 (Surr) | 98 | | 73 - 120 |

Lab Sample ID: 240-87918-F-35 MSD

Matrix: Water

Analysis Batch: 304322

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 | RPD Limit |
|---------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| Acetone | 10 | U | 20.0 | 15.2 | | ug/L | | 76 | 19 - 133 | 25 | 35 |

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87921-1

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

Lab Sample ID: 240-87918-F-35 MSD

Matrix: Water

Analysis Batch: 304322

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 | RPD Limit |
|---------------------------------------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| Benzene | 1.0 | U | 10.0 | 8.97 | | ug/L | | 90 | 69 - 127 | 6 | 10 |
| Bromodichloromethane | 1.0 | U | 10.0 | 8.42 | | ug/L | | 84 | 75 - 128 | 6 | 13 |
| Bromoform | 1.0 | U | 10.0 | 9.00 | | ug/L | | 90 | 61 - 135 | 1 | 13 |
| Bromomethane | 1.0 | U | 10.0 | 3.40 | | ug/L | | 34 | 10 - 148 | 12 | 35 |
| 2-Butanone (MEK) | 10 | U | 20.0 | 22.2 | | ug/L | | 111 | 34 - 153 | 12 | 23 |
| Carbon disulfide | 1.3 | J B | 10.0 | 11.3 | | ug/L | | 100 | 46 - 143 | 5 | 18 |
| Carbon tetrachloride | 1.0 | U | 10.0 | 7.16 | | ug/L | | 72 | 53 - 175 | 8 | 17 |
| Chlorobenzene | 1.0 | U | 10.0 | 9.24 | | ug/L | | 92 | 76 - 120 | 2 | 12 |
| Chloroethane | 1.0 | U | 10.0 | 6.97 | | ug/L | | 70 | 10 - 141 | 6 | 35 |
| Chloroform | 1.0 | U | 10.0 | 8.25 | | ug/L | | 83 | 74 - 125 | 4 | 11 |
| Chloromethane | 1.0 | U | 10.0 | 5.27 | | ug/L | | 53 | 34 - 127 | 14 | 25 |
| cis-1,2-Dichloroethene | 1.0 | U | 10.0 | 8.35 | | ug/L | | 83 | 69 - 127 | 3 | 11 |
| cis-1,3-Dichloropropene | 1.0 | U | 10.0 | 10.1 | | ug/L | | 101 | 68 - 120 | 5 | 13 |
| Cyclohexane | 1.0 | U | 10.0 | 8.78 | | ug/L | | 88 | 56 - 135 | 6 | 35 |
| Dibromochloromethane | 1.0 | U | 10.0 | 8.72 | | ug/L | | 87 | 62 - 131 | 0 | 15 |
| 1,2-Dibromo-3-Chloropropane | 1.0 | U | 10.0 | 9.61 | | ug/L | | 96 | 48 - 130 | 19 | 31 |
| 1,2-Dibromoethane | 1.0 | U | 10.0 | 9.83 | | ug/L | | 98 | 73 - 121 | 1 | 12 |
| 1,2-Dichlorobenzene | 1.0 | U | 10.0 | 8.56 | | ug/L | | 86 | 70 - 120 | 5 | 19 |
| 1,3-Dichlorobenzene | 1.0 | U | 10.0 | 8.79 | | ug/L | | 88 | 71 - 120 | 1 | 18 |
| 1,4-Dichlorobenzene | 1.0 | U | 10.0 | 8.64 | | ug/L | | 86 | 72 - 120 | 3 | 17 |
| Dichlorodifluoromethane | 1.0 | U | 10.0 | 8.44 | | ug/L | | 84 | 45 - 130 | 2 | 34 |
| 1,1-Dichloroethane | 1.0 | U | 10.0 | 8.86 | | ug/L | | 89 | 69 - 122 | 4 | 11 |
| 1,2-Dichloroethane | 1.0 | U | 10.0 | 9.22 | | ug/L | | 92 | 64 - 138 | 3 | 11 |
| 1,1-Dichloroethene | 1.0 | U | 10.0 | 7.90 | | ug/L | | 79 | 62 - 127 | 12 | 14 |
| 1,2-Dichloropropane | 1.0 | U | 10.0 | 10.5 | | ug/L | | 105 | 72 - 131 | 3 | 12 |
| Ethylbenzene | 1.0 | U | 10.0 | 8.61 | | ug/L | | 86 | 72 - 121 | 2 | 15 |
| 2-Hexanone | 10 | U F2 | 20.0 | 27.8 | F2 | ug/L | | 139 | 21 - 184 | 13 | 12 |
| Isopropylbenzene | 1.0 | U | 10.0 | 7.84 | | ug/L | | 78 | 70 - 132 | 6 | 16 |
| Methyl acetate | 10 | U | 20.0 | 18.0 | | ug/L | | 90 | 52 - 139 | 2 | 14 |
| Methylcyclohexane | 1.0 | U | 10.0 | 7.91 | | ug/L | | 79 | 46 - 139 | 2 | 35 |
| Methylene Chloride | 5.0 | U | 10.0 | 7.92 | | ug/L | | 79 | 52 - 137 | 5 | 12 |
| 4-Methyl-2-pentanone (MIBK) | 10 | U | 20.0 | 23.5 | | ug/L | | 118 | 53 - 147 | 6 | 16 |
| Methyl tert-butyl ether | 1.0 | U | 10.0 | 8.75 | | ug/L | | 87 | 67 - 125 | 2 | 12 |
| Styrene | 1.0 | U | 10.0 | 8.39 | | ug/L | | 84 | 74 - 125 | 5 | 14 |
| 1,1,2,2-Tetrachloroethane | 1.0 | U | 10.0 | 10.7 | | ug/L | | 107 | 51 - 123 | 9 | 17 |
| Tetrachloroethene | 1.0 | U | 10.0 | 8.81 | | ug/L | | 88 | 69 - 126 | 2 | 18 |
| Toluene | 1.0 | U | 10.0 | 8.95 | | ug/L | | 89 | 69 - 125 | 5 | 14 |
| trans-1,2-Dichloroethene | 1.0 | U | 10.0 | 8.47 | | ug/L | | 85 | 66 - 131 | 3 | 11 |
| trans-1,3-Dichloropropene | 1.0 | U | 10.0 | 9.00 | | ug/L | | 90 | 59 - 120 | 3 | 14 |
| 1,2,4-Trichlorobenzene | 1.0 | U | 10.0 | 7.18 | | ug/L | | 72 | 26 - 138 | 1 | 35 |
| 1,1,1-Trichloroethane | 1.0 | U | 10.0 | 7.40 | | ug/L | | 74 | 57 - 156 | 6 | 13 |
| 1,1,2-Trichloroethane | 1.0 | U | 10.0 | 10.3 | | ug/L | | 103 | 68 - 127 | 2 | 11 |
| Trichloroethene | 1.0 | U | 10.0 | 8.46 | | ug/L | | 85 | 68 - 129 | 7 | 12 |
| Trichlorofluoromethane | 1.0 | U | 10.0 | 5.75 | | ug/L | | 58 | 28 - 172 | 9 | 26 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 1.0 | U | 10.0 | 5.96 | | ug/L | | 60 | 58 - 137 | 28 | 35 |
| Vinyl chloride | 21 | F2 F1 | 10.0 | 23.7 | F2 F1 | ug/L | | 26 | 55 - 123 | 13 | 12 |

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-87921-1

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

Lab Sample ID: 240-87918-F-35 MSD
Matrix: Water
Analysis Batch: 304322

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

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|------------------------------|---------------|---------------|----------|
| 4-Bromofluorobenzene (Surr) | 100 | | 69 - 120 |
| Dibromofluoromethane (Surr) | 88 | | 69 - 124 |
| 1,2-Dichloroethane-d4 (Surr) | 92 | | 61 - 138 |
| Toluene-d8 (Surr) | 98 | | 73 - 120 |

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

Lab Sample ID: MB 240-304047/5
Matrix: Water
Analysis Batch: 304047

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 | 0.24 | ug/L | | | 11/17/17 13:26 | 1 |

| Surrogate | MB %Recovery | MB Qualifier | Limits | Prepared | Analyzed | Dil Fac |
|------------------------------|--------------|--------------|----------|----------|----------------|---------|
| 1,2-Dichloroethane-d4 (Surr) | 81 | | 63 - 125 | | 11/17/17 13:26 | 1 |

Lab Sample ID: LCS 240-304047/4
Matrix: Water
Analysis Batch: 304047

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 | 9.73 | | ug/L | | 97 | 59 - 131 |

| Surrogate | LCS %Recovery | LCS Qualifier | Limits |
|------------------------------|---------------|---------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 81 | | 63 - 125 |

Lab Sample ID: 240-87921-6 MS
Matrix: Water
Analysis Batch: 304047

Client Sample ID: MW-87_11102017
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 | 8.97 | | ug/L | | 90 | 52 - 129 |

| Surrogate | MS %Recovery | MS Qualifier | Limits |
|------------------------------|--------------|--------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 80 | | 63 - 125 |

Lab Sample ID: 240-87921-6 MSD
Matrix: Water
Analysis Batch: 304047

Client Sample ID: MW-87_11102017
Prep Type: Total/NA

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec. Limits | RPD | RPD Limit |
|-------------|---------------|------------------|-------------|------------|---------------|------|---|------|--------------|-----|-----------|
| 1,4-Dioxane | 2.0 | U | 10.0 | 10.2 | | ug/L | | 102 | 52 - 129 | 13 | 13 |

| Surrogate | MSD %Recovery | MSD Qualifier | Limits |
|------------------------------|---------------|---------------|----------|
| 1,2-Dichloroethane-d4 (Surr) | 80 | | 63 - 125 |

TestAmerica Canton

QC Association Summary

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

TestAmerica Job ID: 240-87921-1

GC/MS VOA

Analysis Batch: 304047

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|-----------|------------|
| 240-87921-1 | MW-81_11092017 | Total/NA | Water | 8260B SIM | |
| 240-87921-2 | MW-83_11092017 | Total/NA | Water | 8260B SIM | |
| 240-87921-3 | MW-78_11092017 | Total/NA | Water | 8260B SIM | |
| 240-87921-4 | MW-84_11092017 | Total/NA | Water | 8260B SIM | |
| 240-87921-5 | MW-77_11102017 | Total/NA | Water | 8260B SIM | |
| 240-87921-6 | MW-87_11102017 | Total/NA | Water | 8260B SIM | |
| 240-87921-7 | MW-86_11102017 | Total/NA | Water | 8260B SIM | |
| MB 240-304047/5 | Method Blank | Total/NA | Water | 8260B SIM | |
| LCS 240-304047/4 | Lab Control Sample | Total/NA | Water | 8260B SIM | |
| 240-87921-6 MS | MW-87_11102017 | Total/NA | Water | 8260B SIM | |
| 240-87921-6 MSD | MW-87_11102017 | Total/NA | Water | 8260B SIM | |

Analysis Batch: 304322

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|--------------------|------------------------|-----------|--------|--------|------------|
| 240-87921-1 | MW-81_11092017 | Total/NA | Water | 8260B | |
| 240-87921-2 | MW-83_11092017 | Total/NA | Water | 8260B | |
| 240-87921-3 | MW-78_11092017 | Total/NA | Water | 8260B | |
| 240-87921-4 | MW-84_11092017 | Total/NA | Water | 8260B | |
| 240-87921-5 | MW-77_11102017 | Total/NA | Water | 8260B | |
| 240-87921-6 | MW-87_11102017 | Total/NA | Water | 8260B | |
| 240-87921-7 | MW-86_11102017 | Total/NA | Water | 8260B | |
| MB 240-304322/6 | Method Blank | Total/NA | Water | 8260B | |
| LCS 240-304322/4 | Lab Control Sample | Total/NA | Water | 8260B | |
| 240-87918-E-35 MS | Matrix Spike | Total/NA | Water | 8260B | |
| 240-87918-F-35 MSD | Matrix Spike Duplicate | Total/NA | Water | 8260B | |

Lab Chronicle

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-81_11092017

Date Collected: 11/09/17 12:05

Date Received: 11/11/17 09:30

Lab Sample ID: 240-87921-1

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 304322 | 11/20/17 15:36 | LRW | TAL CAN |
| Total/NA | Analysis | 8260B SIM | | 1 | 304047 | 11/17/17 17:33 | SAM | TAL CAN |

Client Sample ID: MW-83_11092017

Date Collected: 11/09/17 14:15

Date Received: 11/11/17 09:30

Lab Sample ID: 240-87921-2

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 304322 | 11/20/17 15:57 | LRW | TAL CAN |
| Total/NA | Analysis | 8260B SIM | | 1 | 304047 | 11/17/17 17:58 | SAM | TAL CAN |

Client Sample ID: MW-78_11092017

Date Collected: 11/09/17 15:30

Date Received: 11/11/17 09:30

Lab Sample ID: 240-87921-3

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 304322 | 11/20/17 16:19 | LRW | TAL CAN |
| Total/NA | Analysis | 8260B SIM | | 1 | 304047 | 11/17/17 18:23 | SAM | TAL CAN |

Client Sample ID: MW-84_11092017

Date Collected: 11/09/17 16:30

Date Received: 11/11/17 09:30

Lab Sample ID: 240-87921-4

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 304322 | 11/20/17 16:41 | LRW | TAL CAN |
| Total/NA | Analysis | 8260B SIM | | 1 | 304047 | 11/17/17 18:48 | SAM | TAL CAN |

Client Sample ID: MW-77_11102017

Date Collected: 11/10/17 09:20

Date Received: 11/11/17 09:30

Lab Sample ID: 240-87921-5

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 304322 | 11/20/17 17:03 | LRW | TAL CAN |
| Total/NA | Analysis | 8260B SIM | | 1 | 304047 | 11/17/17 19:13 | SAM | TAL CAN |

Client Sample ID: MW-87_11102017

Date Collected: 11/10/17 10:40

Date Received: 11/11/17 09:30

Lab Sample ID: 240-87921-6

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 304322 | 11/20/17 17:25 | LRW | TAL CAN |

TestAmerica Canton

Lab Chronicle

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

TestAmerica Job ID: 240-87921-1

Client Sample ID: MW-87_11102017

Date Collected: 11/10/17 10:40

Date Received: 11/11/17 09:30

Lab Sample ID: 240-87921-6

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B SIM | | 1 | 304047 | 11/17/17 19:37 | SAM | TAL CAN |

Client Sample ID: MW-86_11102017

Date Collected: 11/10/17 11:45

Date Received: 11/11/17 09:30

Lab Sample ID: 240-87921-7

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Prepared or Analyzed | Analyst | Lab |
|-----------|------------|--------------|-----|-----------------|--------------|----------------------|---------|---------|
| Total/NA | Analysis | 8260B | | 1 | 304322 | 11/20/17 17:47 | LRW | TAL CAN |
| Total/NA | Analysis | 8260B SIM | | 1 | 304047 | 11/17/17 20:51 | SAM | TAL CAN |

Laboratory References:

TAL CAN = 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 Livonia MI

TestAmerica Job ID: 240-87921-1

Laboratory: TestAmerica Canton

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

| Authority | Program | EPA Region | Identification Number | Expiration Date |
|-----------------------|---------------|------------|-----------------------|-----------------|
| California | State Program | 9 | 2927 | 02-23-18 |
| Connecticut | State Program | 1 | PH-0590 | 12-31-17 * |
| Florida | NELAP | 4 | E87225 | 06-30-18 |
| Illinois | NELAP | 5 | 200004 | 07-31-18 |
| Kansas | NELAP | 7 | E-10336 | 01-31-18 * |
| Kentucky (UST) | State Program | 4 | 58 | 02-23-18 |
| Kentucky (WW) | State Program | 4 | 98016 | 12-31-17 * |
| Minnesota | NELAP | 5 | 039-999-348 | 12-31-17 * |
| Minnesota (Petrofund) | State Program | 1 | 3506 | 07-31-18 |
| Nevada | State Program | 9 | OH-000482008A | 07-31-18 |
| New Jersey | NELAP | 2 | OH001 | 06-30-18 |
| New York | NELAP | 2 | 10975 | 03-31-18 |
| Ohio VAP | State Program | 5 | CL0024 | 09-06-19 |
| Oregon | NELAP | 10 | 4062 | 02-23-18 |
| Pennsylvania | NELAP | 3 | 68-00340 | 08-31-18 |
| Texas | NELAP | 6 | T104704517-17-9 | 08-31-18 |
| USDA | Federal | | P330-16-00404 | 12-28-19 |
| Virginia | NELAP | 3 | 460175 | 09-14-18 |
| Washington | State Program | 10 | C971 | 01-12-18 * |
| West Virginia DEP | State Program | 3 | 210 | 12-31-17 * |

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

Chain of Custody Record

1.2/C1.2
1.0/C1.0

Client Information
 4101 Shuffel Street NW
 North Canton, OH 44720
 Phone (330) 497-9396 Fax (330) 497-0772

Client Contact
 Kristoffer Hinskey
 Phone: 618-201-0836
 E-Mail: denise.pohl@testamericainc.com

Company
 ARCADIS U.S., Inc.
 Address: 28550 Cabot Drive Suite 500
 City: Novi
 State: MI, Zip: 48377
 Phone: MI001318.0002.00002
 Email: kristoffer.hinskey@arcadis-us.com
 Project Name: Ford LTP Livonia MI - E203631
 Site: SSO/W#

Due Date Requested:
 TAT Requested (days):
 PO #:
 WO #:
 Cardena #: E205664 E204458
 Project #:
 SSO/W#:

Analysis Requested

| Sample Identification | Sample Date | Sample Time | Sample Type (C=Comp, G=grab) | Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air) | Field Filtered Sample (Yes or No) | Perform MS/MSD (Yes or No) | 826B, 826B SIM | Total Number of Containers | Special Instructions/Note: |
|-----------------------|-------------|-------------|------------------------------|---|-----------------------------------|----------------------------|----------------|----------------------------|----------------------------|
| MW-81-11092017 | 11-9-17 | 1205 | G | Water | | | | | |
| MW-83-11092017 | 11-9-17 | 1415 | G | Water | | | | | |
| MW-78-11092017 | 11-9-17 | 1530 | G | Water | | | | | |
| MW-84-11092017 | 11-9-17 | 1630 | G | Water | | | | | |
| MW-77-11102017 | 11-10-17 | 920 | G | Water | | | | | |
| MW-87-11102017 | 11-10-17 | 1040 | G | Water | | | | | |
| MW-86-11102017 | 11-10-17 | 1145 | G | Water | | | | | |
| | | | | Water | | | | | |
| | | | | Water | | | | | |
| | | | | Water | | | | | |
| | | | | Water | | | | | |

Preservation Codes:
 A - HCL
 B - NaOH
 C - Zn Acetate
 D - Nitric Acid
 E - NaHSO4
 F - MeOH
 G - Amchlor
 H - Ascorbic Acid
 I - Ice
 J - DI Water
 K - EDTA
 L - EDA
 Other:
 M - Hexane
 N - None
 O - AsNaO2
 P - Na2O4S
 Q - Na2SO3
 R - Na2S2O3
 S - H2SO4
 T - TSP Dodecahydrate
 U - Acetone
 V - MCAA
 W - pH 4-5
 Z - other (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For Months
 Special Instructions/QC Requirements: Submit through Cardena at jim.tomalia@cardena.com

Possible Hazard Identification
 Non-Hazard Flammable Skin Irritant Poison B Unknown Radiological
 Deliverable Requested: I, II, III, IV, Other (specify)
 Empty Kit Relinquished by: Date: _____
 Relinquished by: Ashly Ribel Ashly Ribel Date/Time: 11/10/17 1314 Company: ARCADIS Company
 Relinquished by: John S. Date/Time: 11/10/17 1400 Company: Company
 Relinquished by: Date/Time: _____ Company: Company
 Custody Seals Intact: Yes No
 Custody Seal No.: _____
 Cooler Temperature(s) °C and Other Remarks: _____



TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Client Arcadis V.S Site Name _____
Cooler Received on 11/11/17 Opened on 11/11/17
FedEx: 1st Grd UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Cooler unpacked by: [Signature]

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

TestAmerica Cooler # _____ 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

- Cooler temperature upon receipt
IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN #36 (CF +0.3°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN # 627 (CF -1.3°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 See Multiple Cooler Form
- 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
- Shippers' packing slip attached to the cooler(s)? Yes No
- Did custody papers accompany the sample(s)? Yes No
- Were the custody papers relinquished & signed in the appropriate place? Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
- Did all bottles arrive in good condition (Unbroken)? Yes No
- Could all bottle labels be reconciled with the COC? Yes No
- Were correct bottle(s) used for the test(s) indicated? Yes No
- Sufficient quantity received to perform indicated analyses? Yes No
- Are these work share samples?
If yes, Questions 11-15 have been checked at the originating laboratory.
- Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC697954
- Were VOAs on the COC? Yes No NA
- Were air bubbles >6 mm in any VOA vials? Yes No Larger than this.
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____
 Yes No
- 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 _____

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

17. 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)

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

