TETRA TECH

August 6, 2014

Mr. James Johnson
On-Scene Coordinator
U.S. Environmental Protection Agency, Region 7
11201 Renner Boulevard
Lenexa, Kansas 66219

**Subject: Data Deliverable Package 01**
**West Lake Landfill Site, Bridgeton, Missouri**
**CERCLIS ID: MOD079900932**
**EPA Region 7, START 4, Contract No. EP-S7-13-06, Task Order No. 0058**
**Task Monitor: James Johnson, On-Scene Coordinator**

Dear Mr. Johnson:

Tetra Tech, Inc. is submitting the following analytical laboratory reports with associated data validation reports for sampling at locations off-site of the West Lake Landfill Site (WLLS) in Bridgeton, Missouri.

| Sample Delivery Group | Analysis Type | Sample Collection Date |
|---|---|---|
| J1335 | VOCs by TO-15 | 05/08/2014 |
| J1370 | VOCs by TO-15 | 05/15/2014 |
| J1432 | VOCs by TO-15 | 05/23/2014 |
| J1462 | VOCs by TO-15 | 05/30/2014 |
| J1495 | VOCs by TO-15 | 06/06/2014 |
| J1572 | VOCs by TO-15 | 06/18/2014 |
| J1610 | VOCs by TO-15 | 06/26/2014 |
| J1676 | VOCs by TO-15 | 07/10/2014 |
| J1715 | VOCs by TO-15 | 07/17/2014 |

If you have any questions or comments, please contact Rob Monnig at (816) 412-1775.

Sincerely,

for Dave Kinroth
START Project Manager

Ted Faile, PG, CHMM
START Program Manager

Enclosures

X9025.14.0058.000

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**Tetra Tech, Inc.**
**DATA VALIDATION REPORT**
**LEVEL II**

| | |
|---|---|
| Site: | West Lake Landfill Site, Bridgeton, Missouri |
| Laboratory: | TestAmerica Laboratories, Inc. (Nashville, Tennessee) |
| Data Reviewer: | Harry Ellis, Tetra Tech, Inc. (Tetra Tech) |
| Review Date | May 19, 2014 |
| Sample Delivery Group (SDG): | J1335 |
| Sample Numbers: | WAA-01-SU-PS-20140508, WAA-02-SU-PS-20140508, WAA-03-SU-PS-20140508, WAA-04-SU-PS-20140508, WAA-05-SU-PS-20140508, WAA-04-SU-DU-20140508, and WAA-00-SU-TB-20140508 |
| Matrix / Number of Samples: | 5 Air Samples, 1 Field Duplicate, and 1 Trip Blank |

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

19 May 2014

Certified by Harry Ellis, Chemist

Date



WLLFOIA4312 - 015 - 0154894

## DATA VALIDATION QUALIFIERS

**U** — The analyte was not detected above the reported sample quantitation limit.

**J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.

**R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.



WLLFOIA4312 - 015 - 0154895

## DATA ASSESSMENT

Sample delivery group (SDG) J1335 included five (5) environmental air (passivated canister) samples and two (2) QC samples (1 field duplicate and 1 trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

## VOLATILE ORGANIC COMPOUND ANALYSIS

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. LCS and duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

III. Blanks

There were no analytes in the laboratory (method) blank and in the field blank. No qualifications were applied.

IV. Laboratory Control Sample (LCS)

All percent recoveries from the LCS analyses were within established control limits. No qualifications were applied.

V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

VI. Comments

Many detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

VII. Overall Assessment of Data

Overall data quality is acceptable, with no qualifications applied. All data are usable as reported for their intended purposes.



WLLFOIA4312 - 015 - 0154896

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

TestAmerica Job ID: 140-1335-1
Client Project/Site: West Lake Landfill
Revision: 1

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

*Authorized for release by:*
*5/22/2014 4:38:41 PM*

Jamie McKinney, Senior Project Manager
(865)291-3000
jamie.mckinney@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*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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WLLFOIA4312 - 015 - 0154899

# Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| 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 |
| 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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Job ID: 140-1335-1

### Laboratory: TestAmerica Knoxville

**Narrative**

**Job Narrative**
**140-1335-1**
**REVISED**

**Comments**
This report has been revised. The results have been reported in ug/m3.

**Receipt**
The samples were received on 5/9/2014 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Air - GC/MS VOA**
Method(s) TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified “zero air” as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of “zero air” by TestAmerica Knoxville.

No other analytical or quality issues were noted.



WLLFOIA4312 - 015 - 0154901

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-01-SU-PS-20140508 — Lab Sample ID: 140-1335-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.16 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.097 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.060 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.038 | J | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.72 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.45 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.091 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.26 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.30 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.081 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.23 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.23 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 1.2 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.31 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.38 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.10 | J | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.5 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.2 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.39 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.91 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.3 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.35 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.85 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.3 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-02-SU-PS-20140508 — Lab Sample ID: 140-1335-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.087 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.10 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.066 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.77 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.50 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.3 | | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.12 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.21 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.22 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.67 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.32 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.42 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.6 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.5 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 4.5 | | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.53 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.79 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.3 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-03-SU-PS-20140508 — Lab Sample ID: 140-1335-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.079 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,4-Dichlorobenzene | 0.084 | J | 0.20 | 0.064 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.11 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Bromomethane | 0.052 | J | 0.20 | 0.032 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.11 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.34 | | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.17 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 2.4 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.54 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.38 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.28 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.22 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.61 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,4-Dichlorobenzene | 0.51 | J | 1.2 | 0.38 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.35 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Bromomethane | 0.20 | J | 0.78 | 0.12 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.67 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.91 | | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.83 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 5.0 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.7 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.3 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.1 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.3 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-PS-20140508 — Lab Sample ID: 140-1335-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.085 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.091 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.049 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.048 | J | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.82 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.36 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.27 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.21 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.65 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.29 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.31 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.13 | J | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.7 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.8 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.95 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.80 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-05-SU-PS-20140508 — Lab Sample ID: 140-1335-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.084 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.098 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.070 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.053 | J | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.86 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.42 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.55 | | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.18 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.35 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.26 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.64 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.31 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.44 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.14 | J | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.8 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.1 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.9 | | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.77 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.3 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.5 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-DU-20140508 — Lab Sample ID: 140-1335-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.075 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.10 | J | 0.20 | 0.063 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.088 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.060 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.66 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.43 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.22 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.23 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.11 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.30 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.20 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.58 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.50 | J | 0.98 | 0.31 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.28 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.38 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.4 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.1 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.77 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.0 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.49 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.1 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.1 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

**Client Sample ID: WAA-00-SU-TB-20140508** **Lab Sample ID: 140-1335-7**

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-01-SU-PS-20140508

**Lab Sample ID: 140-1335-1**

**Date Collected: 05/08/14 11:40**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.16 | J | 0.20 | 0.031 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Benzene | 0.097 | J | 0.20 | 0.056 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Carbon tetrachloride | 0.060 | J | 0.20 | 0.038 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Chloroethane | 0.038 | J | 0.20 | 0.035 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Chloromethane | 0.72 | | 0.50 | 0.16 | ppb v/v | | | 05/13/14 22:51 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/13/14 22:51 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Dichlorodifluoromethane | 0.45 | | 0.20 | 0.068 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Ethylbenzene | 0.091 | J | 0.20 | 0.068 | ppb v/v | | | 05/13/14 22:51 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Methylene Chloride | 0.26 | J | 0.50 | 0.13 | ppb v/v | | | 05/13/14 22:51 | 1 |
| m-Xylene & p-Xylene | 0.30 | | 0.20 | 0.12 | ppb v/v | | | 05/13/14 22:51 | 1 |
| o-Xylene | 0.081 | J | 0.20 | 0.061 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Toluene | 0.23 | | 0.20 | 0.12 | ppb v/v | | | 05/13/14 22:51 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Trichlorofluoromethane | 0.23 | | 0.20 | 0.024 | ppb v/v | | | 05/13/14 22:51 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/13/14 22:51 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 1.2 | J | 1.5 | 0.24 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/13/14 22:51 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-01-SU-PS-20140508

**Lab Sample ID: 140-1335-1**

**Date Collected: 05/08/14 11:40**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Benzene | 0.31 | J | 0.64 | 0.18 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Carbon tetrachloride | 0.38 | J | 1.3 | 0.24 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Chloroethane | 0.10 | J | 0.53 | 0.092 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Chloromethane | 1.5 | | 1.0 | 0.33 | ug/m3 | | | 05/13/14 22:51 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/13/14 22:51 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Dichlorodifluoromethane | 2.2 | | 0.99 | 0.34 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Ethylbenzene | 0.39 | J | 0.87 | 0.30 | ug/m3 | | | 05/13/14 22:51 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Methylene Chloride | 0.91 | J | 1.7 | 0.45 | ug/m3 | | | 05/13/14 22:51 | 1 |
| m-Xylene & p-Xylene | 1.3 | | 0.87 | 0.52 | ug/m3 | | | 05/13/14 22:51 | 1 |
| o-Xylene | 0.35 | J | 0.87 | 0.26 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Toluene | 0.85 | | 0.75 | 0.45 | ug/m3 | | | 05/13/14 22:51 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Trichlorofluoromethane | 1.3 | | 1.1 | 0.13 | ug/m3 | | | 05/13/14 22:51 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/13/14 22:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *05/13/14 22:51* | *1* |

## Client Sample ID: WAA-02-SU-PS-20140508

**Lab Sample ID: 140-1335-2**

**Date Collected: 05/08/14 13:46**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.087 | J | 0.20 | 0.031 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/13/14 23:41 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-02-SU-PS-20140508

## Lab Sample ID: 140-1335-2

**Date Collected: 05/08/14 13:46**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/13/14 23:41 | 1 |
| **Benzene** | **0.10** | J | 0.20 | 0.056 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/13/14 23:41 | 1 |
| **Carbon tetrachloride** | **0.066** | J | 0.20 | 0.038 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/13/14 23:41 | 1 |
| **Chloromethane** | **0.77** | | 0.50 | 0.16 | ppb v/v | | | 05/13/14 23:41 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/13/14 23:41 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/13/14 23:41 | 1 |
| **Dichlorodifluoromethane** | **0.50** | | 0.20 | 0.068 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/13/14 23:41 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/13/14 23:41 | 1 |
| **Methylene Chloride** | **1.3** | | 0.50 | 0.13 | ppb v/v | | | 05/13/14 23:41 | 1 |
| **m-Xylene & p-Xylene** | **0.12** | J | 0.20 | 0.12 | ppb v/v | | | 05/13/14 23:41 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/13/14 23:41 | 1 |
| **Toluene** | **0.21** | | 0.20 | 0.12 | ppb v/v | | | 05/13/14 23:41 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/13/14 23:41 | 1 |
| **Trichlorofluoromethane** | **0.22** | | 0.20 | 0.024 | ppb v/v | | | 05/13/14 23:41 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/13/14 23:41 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/13/14 23:41 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.67** | J | 1.5 | 0.24 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/13/14 23:41 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-02-SU-PS-20140508

**Lab Sample ID: 140-1335-2**

**Date Collected: 05/08/14 13:46**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Benzene | 0.32 | J | 0.64 | 0.18 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Carbon tetrachloride | 0.42 | J | 1.3 | 0.24 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Chloromethane | 1.6 | | 1.0 | 0.33 | ug/m3 | | | 05/13/14 23:41 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/13/14 23:41 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Dichlorodifluoromethane | 2.5 | | 0.99 | 0.34 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/13/14 23:41 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Methylene Chloride | 4.5 | | 1.7 | 0.45 | ug/m3 | | | 05/13/14 23:41 | 1 |
| m-Xylene & p-Xylene | 0.53 | J | 0.87 | 0.52 | ug/m3 | | | 05/13/14 23:41 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Toluene | 0.79 | | 0.75 | 0.45 | ug/m3 | | | 05/13/14 23:41 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Trichlorofluoromethane | 1.3 | | 1.1 | 0.13 | ug/m3 | | | 05/13/14 23:41 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/13/14 23:41 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *05/13/14 23:41* | *1* |

## Client Sample ID: WAA-03-SU-PS-20140508

**Lab Sample ID: 140-1335-3**

**Date Collected: 05/08/14 12:33**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.079 | J | 0.20 | 0.031 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/14/14 00:32 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-03-SU-PS-20140508

## Lab Sample ID: 140-1335-3

**Date Collected: 05/08/14 12:33**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,4-Dichlorobenzene | 0.084 | J | 0.20 | 0.064 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Benzene | 0.11 | J | 0.20 | 0.056 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Bromomethane | 0.052 | J | 0.20 | 0.032 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Carbon tetrachloride | 0.11 | J | 0.20 | 0.038 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Chloroethane | 0.34 | | 0.20 | 0.035 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Chloroform | 0.17 | J | 0.20 | 0.038 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Chloromethane | 2.4 | | 0.50 | 0.16 | ppb v/v | | | 05/14/14 00:32 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/14/14 00:32 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Dichlorodifluoromethane | 0.54 | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 00:32 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Methylene Chloride | 0.38 | J | 0.50 | 0.13 | ppb v/v | | | 05/14/14 00:32 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/14/14 00:32 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Toluene | 0.28 | | 0.20 | 0.12 | ppb v/v | | | 05/14/14 00:32 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Trichlorofluoromethane | 0.22 | | 0.20 | 0.024 | ppb v/v | | | 05/14/14 00:32 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/14/14 00:32 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.61 | J | 1.5 | 0.24 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,4-Dichlorobenzene | 0.51 | J | 1.2 | 0.38 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Benzene | 0.35 | J | 0.64 | 0.18 | ug/m3 | | | 05/14/14 00:32 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-03-SU-PS-20140508

**Lab Sample ID: 140-1335-3**

**Date Collected: 05/08/14 12:33**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Bromomethane | 0.20 | J | 0.78 | 0.12 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Carbon tetrachloride | 0.67 | J | 1.3 | 0.24 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Chloroethane | 0.91 | | 0.53 | 0.092 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Chloroform | 0.83 | J | 0.98 | 0.19 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Chloromethane | 5.0 | | 1.0 | 0.33 | ug/m3 | | | 05/14/14 00:32 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/14/14 00:32 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Dichlorodifluoromethane | 2.7 | | 0.99 | 0.34 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/14/14 00:32 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Methylene Chloride | 1.3 | J | 1.7 | 0.45 | ug/m3 | | | 05/14/14 00:32 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/14/14 00:32 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Toluene | 1.1 | | 0.75 | 0.45 | ug/m3 | | | 05/14/14 00:32 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Trichlorofluoromethane | 1.3 | | 1.1 | 0.13 | ug/m3 | | | 05/14/14 00:32 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/14/14 00:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *108* | | *60 - 140* | | *05/14/14 00:32* | *1* |

## Client Sample ID: WAA-04-SU-PS-20140508

**Lab Sample ID: 140-1335-4**

**Date Collected: 05/08/14 13:15**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.085 | J | 0.20 | 0.031 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 01:22 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-04-SU-PS-20140508

## Lab Sample ID: 140-1335-4

**Date Collected: 05/08/14 13:15**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Benzene | 0.091 | J | 0.20 | 0.056 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Carbon tetrachloride | 0.049 | J | 0.20 | 0.038 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Chloroethane | 0.048 | J | 0.20 | 0.035 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Chloromethane | 0.82 | | 0.50 | 0.16 | ppb v/v | | | 05/14/14 01:22 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/14/14 01:22 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Dichlorodifluoromethane | 0.36 | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 01:22 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Methylene Chloride | 0.27 | J | 0.50 | 0.13 | ppb v/v | | | 05/14/14 01:22 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/14/14 01:22 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Toluene | 0.21 | | 0.20 | 0.12 | ppb v/v | | | 05/14/14 01:22 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | | | 05/14/14 01:22 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/14/14 01:22 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.65 | J | 1.5 | 0.24 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Benzene | 0.29 | J | 0.64 | 0.18 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Carbon tetrachloride | 0.31 | J | 1.3 | 0.24 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Chloroethane | 0.13 | J | 0.53 | 0.092 | ug/m3 | | | 05/14/14 01:22 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-04-SU-PS-20140508

**Lab Sample ID: 140-1335-4**

**Date Collected: 05/08/14 13:15**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Chloromethane | 1.7 | | 1.0 | 0.33 | ug/m3 | | | 05/14/14 01:22 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/14/14 01:22 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Dichlorodifluoromethane | 1.8 | | 0.99 | 0.34 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/14/14 01:22 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Methylene Chloride | 0.95 | J | 1.7 | 0.45 | ug/m3 | | | 05/14/14 01:22 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/14/14 01:22 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Toluene | 0.80 | | 0.75 | 0.45 | ug/m3 | | | 05/14/14 01:22 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | | | 05/14/14 01:22 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/14/14 01:22 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *60 - 140* | | *05/14/14 01:22* | *1* |

## Client Sample ID: WAA-05-SU-PS-20140508

**Lab Sample ID: 140-1335-5**

**Date Collected: 05/08/14 14:08**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 0.084 | J | 0.20 | 0.031 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Benzene | 0.098 | J | 0.20 | 0.056 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Carbon tetrachloride | 0.070 | J | 0.20 | 0.038 | ppb v/v | | | 05/14/14 02:11 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-05-SU-PS-20140508

## Lab Sample ID: 140-1335-5

**Date Collected: 05/08/14 14:08**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Chloroethane | 0.053 | J | 0.20 | 0.035 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Chloromethane | 0.86 | | 0.50 | 0.16 | ppb v/v | | | 05/14/14 02:11 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/14/14 02:11 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Dichlorodifluoromethane | 0.42 | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 02:11 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Methylene Chloride | 0.55 | | 0.50 | 0.13 | ppb v/v | | | 05/14/14 02:11 | 1 |
| m-Xylene & p-Xylene | 0.18 | J | 0.20 | 0.12 | ppb v/v | | | 05/14/14 02:11 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Toluene | 0.35 | | 0.20 | 0.12 | ppb v/v | | | 05/14/14 02:11 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Trichlorofluoromethane | 0.26 | | 0.20 | 0.024 | ppb v/v | | | 05/14/14 02:11 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/14/14 02:11 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.64 | J | 1.5 | 0.24 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Benzene | 0.31 | J | 0.64 | 0.18 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Carbon tetrachloride | 0.44 | J | 1.3 | 0.24 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Chloroethane | 0.14 | J | 0.53 | 0.092 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Chloromethane | 1.8 | | 1.0 | 0.33 | ug/m3 | | | 05/14/14 02:11 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/14/14 02:11 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Dichlorodifluoromethane | 2.1 | | 0.99 | 0.34 | ug/m3 | | | 05/14/14 02:11 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-05-SU-PS-20140508

**Lab Sample ID: 140-1335-5**

**Date Collected: 05/08/14 14:08**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/14/14 02:11 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Methylene Chloride | 1.9 | | 1.7 | 0.45 | ug/m3 | | | 05/14/14 02:11 | 1 |
| m-Xylene & p-Xylene | 0.77 | J | 0.87 | 0.52 | ug/m3 | | | 05/14/14 02:11 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Toluene | 1.3 | | 0.75 | 0.45 | ug/m3 | | | 05/14/14 02:11 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Trichlorofluoromethane | 1.5 | | 1.1 | 0.13 | ug/m3 | | | 05/14/14 02:11 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/14/14 02:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *60 - 140* | | *05/14/14 02:11* | *1* |

## Client Sample ID: WAA-04-SU-DU-20140508

**Lab Sample ID: 140-1335-6**

**Date Collected: 05/08/14 13:15**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.075 | J | 0.20 | 0.031 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,2,4-Trimethylbenzene | 0.10 | J | 0.20 | 0.063 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Benzene | 0.088 | J | 0.20 | 0.056 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Carbon tetrachloride | 0.060 | J | 0.20 | 0.038 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Chloromethane | 0.66 | | 0.50 | 0.16 | ppb v/v | | | 05/14/14 03:01 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/14/14 03:01 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-04-SU-DU-20140508

## Lab Sample ID: 140-1335-6

**Date Collected: 05/08/14 13:15**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Dichlorodifluoromethane | 0.43 | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 03:01 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Methylene Chloride | 0.22 | J | 0.50 | 0.13 | ppb v/v | | | 05/14/14 03:01 | 1 |
| m-Xylene & p-Xylene | 0.23 | | 0.20 | 0.12 | ppb v/v | | | 05/14/14 03:01 | 1 |
| o-Xylene | 0.11 | J | 0.20 | 0.061 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Toluene | 0.30 | | 0.20 | 0.12 | ppb v/v | | | 05/14/14 03:01 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Trichlorofluoromethane | 0.20 | | 0.20 | 0.024 | ppb v/v | | | 05/14/14 03:01 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/14/14 03:01 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.58 | J | 1.5 | 0.24 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,2,4-Trimethylbenzene | 0.50 | J | 0.98 | 0.31 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Benzene | 0.28 | J | 0.64 | 0.18 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Carbon tetrachloride | 0.38 | J | 1.3 | 0.24 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Chloromethane | 1.4 | | 1.0 | 0.33 | ug/m3 | | | 05/14/14 03:01 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/14/14 03:01 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Dichlorodifluoromethane | 2.1 | | 0.99 | 0.34 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/14/14 03:01 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Methylene Chloride | 0.77 | J | 1.7 | 0.45 | ug/m3 | | | 05/14/14 03:01 | 1 |
| m-Xylene & p-Xylene | 1.0 | | 0.87 | 0.52 | ug/m3 | | | 05/14/14 03:01 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-04-SU-DU-20140508

**Lab Sample ID: 140-1335-6**

**Date Collected: 05/08/14 13:15**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| o-Xylene | 0.49 | J | 0.87 | 0.26 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Toluene | 1.1 | | 0.75 | 0.45 | ug/m3 | | | 05/14/14 03:01 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Trichlorofluoromethane | 1.1 | | 1.1 | 0.13 | ug/m3 | | | 05/14/14 03:01 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/14/14 03:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *112* | | *60 - 140* | | *05/14/14 03:01* | *1* |

## Client Sample ID: WAA-00-SU-TB-20140508

**Lab Sample ID: 140-1335-7**

**Date Collected: 05/08/14 15:47**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 05/14/14 04:39 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/14/14 04:39 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/14/14 04:39 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 05/14/14 04:39 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-00-SU-TB-20140508

## Lab Sample ID: 140-1335-7

**Date Collected: 05/08/14 15:47**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/14/14 04:39 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/14/14 04:39 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 05/14/14 04:39 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/14/14 04:39 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 05/14/14 04:39 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/14/14 04:39 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/14/14 04:39 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 05/14/14 04:39 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/14/14 04:39 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 05/14/14 04:39 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/14/14 04:39 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 05/14/14 04:39 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-00-SU-TB-20140508

## Lab Sample ID: 140-1335-7

**Date Collected: 05/08/14 15:47**
**Matrix: Air**
**Date Received: 05/09/14 09:50**
**Sample Container: Summa Canister 6L**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/14/14 04:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *60 - 140* | | *05/14/14 04:39* | *1* |

# Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | **Client Sample ID** | **BFB (60-140)** | | | | | | |
| 140-1335-1 | WAA-01-SU-PS-20140508 | 107 | | | | | | |
| 140-1335-2 | WAA-02-SU-PS-20140508 | 107 | | | | | | |
| 140-1335-3 | WAA-03-SU-PS-20140508 | 108 | | | | | | |
| 140-1335-4 | WAA-04-SU-PS-20140508 | 110 | | | | | | |
| 140-1335-5 | WAA-05-SU-PS-20140508 | 110 | | | | | | |
| 140-1335-6 | WAA-04-SU-DU-20140508 | 112 | | | | | | |
| 140-1335-7 | WAA-00-SU-TB-20140508 | 106 | | | | | | |
| LCS 140-1209/1002 | Lab Control Sample | 107 | | | | | | |
| MB 140-1209/7 | Method Blank | 101 | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-1209/7**
**Matrix: Air**
**Analysis Batch: 1209**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 05/13/14 13:09 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/13/14 13:09 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/13/14 13:09 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 05/13/14 13:09 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/13/14 13:09 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/13/14 13:09 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 05/13/14 13:09 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/13/14 13:09 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/13/14 13:09 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1209/7**
**Matrix: Air**
**Analysis Batch: 1209**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 05/13/14 13:09 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/13/14 13:09 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/13/14 13:09 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 05/13/14 13:09 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/13/14 13:09 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 05/13/14 13:09 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 05/13/14 13:09 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/13/14 13:09 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *60 - 140* | | *05/13/14 13:09* | *1* |

**Lab Sample ID: LCS 140-1209/1002**
**Matrix: Air**
**Analysis Batch: 1209**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 2.00 | 2.27 | | ppb v/v | | 113 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 2.00 | 2.19 | | ppb v/v | | 110 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 2.00 | 2.49 | | ppb v/v | | 125 | 70 - 130 |
| 1,1,2-Trichloroethane | 2.00 | 2.15 | | ppb v/v | | 108 | 70 - 130 |
| 1,1-Dichloroethane | 2.00 | 2.46 | | ppb v/v | | 123 | 70 - 130 |
| 1,1-Dichloroethene | 2.00 | 2.45 | | ppb v/v | | 122 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1209/1002**
**Matrix: Air**
**Analysis Batch: 1209**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2.00 | 1.75 | | ppb v/v | | 87 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 2.00 | 1.98 | | ppb v/v | | 99 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00 | 2.20 | | ppb v/v | | 110 | 60 - 140 |
| 1,2-Dichlorobenzene | 2.00 | 1.79 | | ppb v/v | | 89 | 70 - 130 |
| 1,2-Dichloroethane | 2.00 | 2.14 | | ppb v/v | | 107 | 70 - 130 |
| 1,2-Dichloropropane | 2.00 | 2.32 | | ppb v/v | | 116 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 2.00 | 1.97 | | ppb v/v | | 98 | 70 - 130 |
| 1,3-Dichlorobenzene | 2.00 | 1.79 | | ppb v/v | | 90 | 70 - 130 |
| 1,4-Dichlorobenzene | 2.00 | 1.84 | | ppb v/v | | 92 | 70 - 130 |
| Benzene | 2.00 | 2.31 | | ppb v/v | | 115 | 70 - 130 |
| Benzyl chloride | 2.00 | 2.25 | | ppb v/v | | 113 | 70 - 130 |
| Bromomethane | 2.00 | 2.11 | | ppb v/v | | 106 | 70 - 130 |
| Carbon tetrachloride | 2.00 | 2.02 | | ppb v/v | | 101 | 70 - 130 |
| Chlorobenzene | 2.00 | 1.99 | | ppb v/v | | 100 | 70 - 130 |
| Chloroethane | 2.00 | 2.20 | | ppb v/v | | 110 | 70 - 130 |
| Chloroform | 2.00 | 2.40 | | ppb v/v | | 120 | 70 - 130 |
| Chloromethane | 2.00 | 2.41 | | ppb v/v | | 120 | 60 - 140 |
| cis-1,2-Dichloroethene | 2.00 | 2.37 | | ppb v/v | | 118 | 70 - 130 |
| cis-1,3-Dichloropropene | 2.00 | 2.32 | | ppb v/v | | 116 | 70 - 130 |
| Dichlorodifluoromethane | 2.00 | 2.51 | | ppb v/v | | 125 | 60 - 140 |
| Ethylbenzene | 2.00 | 2.10 | | ppb v/v | | 105 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 2.00 | 2.12 | | ppb v/v | | 106 | 70 - 130 |
| Hexachlorobutadiene | 2.00 | 1.55 | | ppb v/v | | 77 | 60 - 140 |
| Methylene Chloride | 2.00 | 2.45 | | ppb v/v | | 123 | 70 - 130 |
| m-Xylene & p-Xylene | 4.00 | 4.12 | | ppb v/v | | 103 | 70 - 130 |
| o-Xylene | 2.00 | 2.05 | | ppb v/v | | 102 | 70 - 130 |
| Styrene | 2.00 | 2.12 | | ppb v/v | | 106 | 70 - 130 |
| Tetrachloroethene | 2.00 | 2.00 | | ppb v/v | | 100 | 70 - 130 |
| Toluene | 2.00 | 2.20 | | ppb v/v | | 110 | 70 - 130 |
| trans-1,3-Dichloropropene | 2.00 | 2.27 | | ppb v/v | | 113 | 70 - 130 |
| Trichloroethene | 2.00 | 2.04 | | ppb v/v | | 102 | 70 - 130 |
| Trichlorofluoromethane | 2.00 | 2.15 | | ppb v/v | | 107 | 60 - 140 |
| Vinyl chloride | 2.00 | 2.34 | | ppb v/v | | 117 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 12.4 | | ug/m3 | | 113 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 15.0 | | ug/m3 | | 110 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 19.1 | | ug/m3 | | 125 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 11.7 | | ug/m3 | | 108 | 70 - 130 |
| 1,1-Dichloroethane | 8.1 | 9.97 | | ug/m3 | | 123 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 9.70 | | ug/m3 | | 122 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 13.0 | | ug/m3 | | 87 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.8 | 9.72 | | ug/m3 | | 99 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 15.4 | | ug/m3 | | 110 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 10.8 | | ug/m3 | | 89 | 70 - 130 |
| 1,2-Dichloroethane | 8.1 | 8.65 | | ug/m3 | | 107 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1209/1002**
**Matrix: Air**
**Analysis Batch: 1209**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 9.2 | 10.7 | | ug/m3 | | 116 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.8 | 9.67 | | ug/m3 | | 98 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 10.8 | | ug/m3 | | 90 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 11.0 | | ug/m3 | | 92 | 70 - 130 |
| Benzene | 6.4 | 7.37 | | ug/m3 | | 115 | 70 - 130 |
| Benzyl chloride | 10 | 11.7 | | ug/m3 | | 113 | 70 - 130 |
| Bromomethane | 7.8 | 8.20 | | ug/m3 | | 106 | 70 - 130 |
| Carbon tetrachloride | 13 | 12.7 | | ug/m3 | | 101 | 70 - 130 |
| Chlorobenzene | 9.2 | 9.17 | | ug/m3 | | 100 | 70 - 130 |
| Chloroethane | 5.3 | 5.80 | | ug/m3 | | 110 | 70 - 130 |
| Chloroform | 9.8 | 11.7 | | ug/m3 | | 120 | 70 - 130 |
| Chloromethane | 4.1 | 4.97 | | ug/m3 | | 120 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 9.38 | | ug/m3 | | 118 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.1 | 10.5 | | ug/m3 | | 116 | 70 - 130 |
| Dichlorodifluoromethane | 9.9 | 12.4 | | ug/m3 | | 125 | 60 - 140 |
| Ethylbenzene | 8.7 | 9.12 | | ug/m3 | | 105 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 16.3 | | ug/m3 | | 106 | 70 - 130 |
| Hexachlorobutadiene | 21 | 16.5 | | ug/m3 | | 77 | 60 - 140 |
| Methylene Chloride | 7.0 | 8.53 | | ug/m3 | | 123 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 17.9 | | ug/m3 | | 103 | 70 - 130 |
| o-Xylene | 8.7 | 8.89 | | ug/m3 | | 102 | 70 - 130 |
| Styrene | 8.5 | 9.03 | | ug/m3 | | 106 | 70 - 130 |
| Tetrachloroethene | 14 | 13.6 | | ug/m3 | | 100 | 70 - 130 |
| Toluene | 7.5 | 8.28 | | ug/m3 | | 110 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1 | 10.3 | | ug/m3 | | 113 | 70 - 130 |
| Trichloroethene | 11 | 11.0 | | ug/m3 | | 102 | 70 - 130 |
| Trichlorofluoromethane | 11 | 12.1 | | ug/m3 | | 107 | 60 - 140 |
| Vinyl chloride | 5.1 | 5.98 | | ug/m3 | | 117 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* |

# QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Air - GC/MS VOA

### Analysis Batch: 1209

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1335-1 | WAA-01-SU-PS-20140508 | Total/NA | Air | TO-15 | |
| 140-1335-2 | WAA-02-SU-PS-20140508 | Total/NA | Air | TO-15 | |
| 140-1335-3 | WAA-03-SU-PS-20140508 | Total/NA | Air | TO-15 | |
| 140-1335-4 | WAA-04-SU-PS-20140508 | Total/NA | Air | TO-15 | |
| 140-1335-5 | WAA-05-SU-PS-20140508 | Total/NA | Air | TO-15 | |
| 140-1335-6 | WAA-04-SU-DU-20140508 | Total/NA | Air | TO-15 | |
| 140-1335-7 | WAA-00-SU-TB-20140508 | Total/NA | Air | TO-15 | |
| LCS 140-1209/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1209/7 | Method Blank | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-01-SU-PS-20140508 — Lab Sample ID: 140-1335-1

**Date Collected: 05/08/14 11:40** — **Matrix: Air**
**Date Received: 05/09/14 09:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1209 | 05/13/14 22:51 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-02-SU-PS-20140508 — Lab Sample ID: 140-1335-2

**Date Collected: 05/08/14 13:46** — **Matrix: Air**
**Date Received: 05/09/14 09:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1209 | 05/13/14 23:41 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-03-SU-PS-20140508 — Lab Sample ID: 140-1335-3

**Date Collected: 05/08/14 12:33** — **Matrix: Air**
**Date Received: 05/09/14 09:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1209 | 05/14/14 00:32 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-04-SU-PS-20140508 — Lab Sample ID: 140-1335-4

**Date Collected: 05/08/14 13:15** — **Matrix: Air**
**Date Received: 05/09/14 09:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1209 | 05/14/14 01:22 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-05-SU-PS-20140508 — Lab Sample ID: 140-1335-5

**Date Collected: 05/08/14 14:08** — **Matrix: Air**
**Date Received: 05/09/14 09:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1209 | 05/14/14 02:11 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-04-SU-DU-20140508 — Lab Sample ID: 140-1335-6

**Date Collected: 05/08/14 13:15** — **Matrix: Air**
**Date Received: 05/09/14 09:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1209 | 05/14/14 03:01 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Client Sample ID: WAA-00-SU-TB-20140508

**Lab Sample ID: 140-1335-7**

**Date Collected: 05/08/14 15:47**

**Matrix: Air**

**Date Received: 05/09/14 09:50**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1209 | 05/14/14 04:39 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

## Laboratory: TestAmerica Knoxville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | AFCEE | | N/A | |
| Arkansas DEQ | State Program | 6 | 88-0688 | 06-17-14 |
| California | State Program | 9 | 2423 | 06-30-14 |
| Colorado | State Program | 8 | N/A | 02-28-15 |
| Connecticut | State Program | 1 | PH-0223 | 09-30-15 |
| Florida | NELAP | 4 | E87177 | 06-30-14 |
| Georgia | State Program | 4 | 906 | 06-13-14 * |
| Hawaii | State Program | 9 | N/A | 04-13-15 |
| Iowa | State Program | 7 | 375 | 08-01-14 |
| Kansas | NELAP | 7 | E-10349 | 10-31-14 |
| Kentucky (DW) | State Program | 4 | 90101 | 12-31-14 |
| L-A-B | DoD ELAP | | L2311 | 02-13-16 |
| Louisiana | NELAP | 6 | LA110001 | 12-31-14 |
| Maryland | State Program | 3 | 277 | 03-31-15 |
| Michigan | State Program | 5 | 9933 | 04-13-14 * |
| Nevada | State Program | 9 | TN00009 | 07-31-14 |
| New Jersey | NELAP | 2 | TN001 | 06-30-14 |
| New York | NELAP | 2 | 10781 | 03-31-15 |
| North Carolina DENR | State Program | 4 | 64 | 12-31-14 |
| North Carolina DHHS | State Program | 4 | 21705 | 07-31-14 |
| Ohio VAP | State Program | 5 | CL0059 | 03-26-15 |
| Oklahoma | State Program | 6 | 9415 | 08-31-14 |
| Pennsylvania | NELAP | 3 | 68-00576 | 12-31-14 |
| South Carolina | State Program | 4 | 84001 | 06-30-14 |
| Tennessee | State Program | 4 | 2014 | 04-13-17 |
| Texas | NELAP | 6 | T104704380-TX | 08-31-14 |
| USDA | Federal | | P330-13-00260 | 08-29-16 |
| Utah | NELAP | 8 | QUAN3 | 07-31-14 |
| Virginia | NELAP | 3 | 460176 | 09-14-14 |
| Virginia | State Program | 3 | 165 | 06-30-14 |
| Washington | State Program | 10 | C593 | 01-19-15 |
| West Virginia DEP | State Program | 3 | 345 | 04-30-15 |
| West Virginia DHHR | State Program | 3 | 9955C | 12-31-14 |
| Wisconsin | State Program | 5 | 998044300 | 08-31-14 |

* Expired certification is currently pending renewal and is considered valid.

# Method Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | TAL KNX |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1335-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 140-1335-1 | WAA-01-SU-PS-20140508 | Air | 05/08/14 11:40 | 05/09/14 09:50 |
| 140-1335-2 | WAA-02-SU-PS-20140508 | Air | 05/08/14 13:46 | 05/09/14 09:50 |
| 140-1335-3 | WAA-03-SU-PS-20140508 | Air | 05/08/14 12:33 | 05/09/14 09:50 |
| 140-1335-4 | WAA-04-SU-PS-20140508 | Air | 05/08/14 13:15 | 05/09/14 09:50 |
| 140-1335-5 | WAA-05-SU-PS-20140508 | Air | 05/08/14 14:08 | 05/09/14 09:50 |
| 140-1335-6 | WAA-04-SU-DU-20140508 | Air | 05/08/14 13:15 | 05/09/14 09:50 |
| 140-1335-7 | WAA-00-SU-TB-20140508 | Air | 05/08/14 15:47 | 05/09/14 09:50 |

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

**Client Contact Information**
Company: Tetra Tech Inc.
Address: 415 Oak Street
City/State/Zip: Kansas City MO 64106
Phone: 816-412-1786
FAX: 816-410-1748
Project Name: Westlake Landfill
Site/location: Bridgeton MO
PO # 1105352

**Project Manager:** Dave Kinroth
Phone: 314-517-6798
Site Contact: Same
TAL Contact: ?

**Sampled By:** Dave Kinroth, Greg Blattner

1 of 2 COCs

**Analysis Turnaround Time**
Standard (Specify) X
Rush (Specify)

140-1335 Chain of Custody

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, "Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25 | ASTM L | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-01-SU-PS-20140508 | 5-7-14 to 5-8-14 | 12:00 | 11:40 | -29.0 | -2.0 | 09953 | 11087 | X | | | | | | | | | | | |
| WAA-02-SU-PS-20140508 | ↓ | 13:59 | 13:46 | -29.0 | -1.5 | 09562 | 09973 | ↓ | | | | | | | | | | | |
| WAA-03-SU-PS-20140508 | ↓ | 13:17 | 12:33 | -29.0 | -2.5 | 09841 | 09631 | ↓ | | | | | | | | | | | |
| WAA-04-SU-PS-20140508 | ↓ | 13:30 | 13:15 | -29.1 | -3.5 | 10449 | 09869 | ↓ | | | | | | | | | | | |
| WAA-05-SU-PS-20140508 | ↓ | 14:24 | 14:08 | -28.9 | -0.5 | 09561 | 09776 | ↓ | | | | | | | | | | | |
| WAA-04-SU-DU-20140508 | ↓ | 13:30 | 13:15 | -29.0 | -2.5 | 10442 | 10307 | ↓ | | | | | | | | | | | |

**Sampled by :**

| Temperature (Fahrenheit) | Interior | Ambient |
|---|---|---|
| Start | | 84°F |
| Stop | | 84°F |

| Pressure (inches of Hg) | Interior | Ambient | Meter |
|---|---|---|---|
| Start | | 29.76 | |
| Stop | | 29.81 | |

Received @ ambient
No custody seal
2 boxes
KW 5/9/14
FedEx PO
trk# 5799 0207 3419

**Special Instructions/QC Requirements & Comments:**

| | | | |
|---|---|---|---|
| Canisters Shipped by: | Date/Time: | Canisters Received by: [signature] 5/9/14 0950 | 7 cans |
| Samples Relinquished by: Dave Kinroth [signature] | Date/Time: 5-8-14 | Received by: [signature] 5.8.14 1645 | 7 flows |
| Relinquished by: [signature] | Date/Time: 5-8-14 1645 | Received by: | |

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

| Client Contact Information | Project Manager: Dave Kinroth | Sampled By: Dave Kinroth, Greg Blattner | 2 of 2 COCs |
|---|---|---|---|
| Company: Tetra Tech Inc. | Phone: 314-517-6798 | | |
| Address: 415 Oak Street | Site Contact: | | |
| City/State/Zip Kansas City MO 64106 | TAL Contact: | | |
| Phone: 816-412-1786 | | | |
| FAX: 816-410-1748 | | | |
| Project Name: Westlake Landfill | Analysis Turnaround Time | | |
| Site/location: Bridgeton MO | Standard (Specify) | | |
| PO # 1105352 | Rush (Specify) | | |

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, "Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25C | ASTM D-1946 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-00-SU-TB-20140508 | 5-7-14 to 5-8-14 | 11:55 | 15:47 | -28.9 | -28.9 | 10440 | 10714 ~~10440~~ | X | | | | | | | | | | | |
| END OF SHIPMENT | | | | | | | | | | | | | | | | | | | |
| MDK | | | | | | | | | | | | | | | | | | | |
| 5-8-14 | | | | | | | | | | | | | | | | | | | |

| Sampled by : | Temperature (Fahrenheit) | | |
|---|---|---|---|
| | | Interior | Ambient |
| | Start | | 84°F |
| | Stop | | 84°F |

| | Pressure (inches of Hg) | | |
|---|---|---|---|
| | | Interior | Ambient |
| | Start | | 29.76 |
| | Stop | | 29.81 |

**Special Instructions/QC Requirements & Comments:**

| Canisters Shipped by: | Date/Time: | Canisters Received by: 5/9/14 0950 |
|---|---|---|
| Samples Relinquished by: Dave Kinroth, Greg Blattner | Date/Time: 5-8-14 | Received by: Jill Clark 5-8-14 1645 |
| Relinquished by: Jill Clark | Date/Time: 5-8-14 1645 | Received by: |

# Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1335-1

**Login Number: 1335**

**List Source: TestAmerica Knoxville**

**List Number: 1**

**Creator: Dameron, Bryan K**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | N/A | |
| Cooler Temperature is acceptable. | N/A | |
| Cooler Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | N/A | CHECKED IN LAB |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

## TestAmerica Knoxville - Air Canister Initial Pressure Check

**Gauge ID:** G1

| Analyst | Date | Sample ID | 6 L | 1 L | Pressure @ Receipt (-in Hg or +psig) | Time | Comments |
|---|---|---|---|---|---|---|---|
| AFB | 5/12/2014 | 140-1335-A-1 | X | | -3.1 | 1548 | |
| AFB | 5/12/2014 | 140-1335-A-2 | X | | -3.6 | 1549 | |
| AFB | 5/12/2014 | 140-1335-A-3 | X | | -3.2 | 1550 | |
| AFB | 5/12/2014 | 140-1335-A-4 | X | | -3.6 | 1551 | |
| AFB | 5/12/2014 | 140-1335-A-5 | X | | -4.2 | 1552 | |
| AFB | 5/12/2014 | 140-1335-A-6 | X | | -4.8 | 1553 | |
| AFB | 5/12/2014 | 140-1335-A-7 | X | | -29.2 | 1554 | TRIP BLK |

**Tetra Tech, Inc.**
**DATA VALIDATION REPORT**
**LEVEL II**

| | |
|---|---|
| Site: | West Lake Landfill Site, Bridgeton, Missouri |
| Laboratory: | TestAmerica Laboratories, Inc. (Nashville, Tennessee) |
| Data Reviewer: | Harry Ellis, Tetra Tech, Inc. (Tetra Tech) |
| Review Date | May 23, 2014 |
| Sample Delivery Group (SDG): | J1370 |
| Sample Numbers: | WAA-01-SU-PS-20140515, WAS-01-SU-DU-20140514, WAA-02-SU-PS-20140515, WAA-03-SU-PS-20140515, WAA-04-SU-PS-20140515, WAA-05-SU-PS-20140515, and WAA-00-SU-TB-20140515 |
| Matrix / Number of Samples: | 5 Air Samples, 1 Field Duplicate, and 1 Trip Blank |

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

23 May 2014

Certified by Harry Ellis, Chemist

Date



WLLFOIA4312 - 015 - 0154935

## DATA VALIDATION QUALIFIERS

**U** — The analyte was not detected above the reported sample quantitation limit.

**J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.

**R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.



WLLFOIA4312 - 015 - 0154936

## DATA ASSESSMENT

Sample delivery group (SDG) J1370 included five (5) environmental air (passivated canister) samples and two (2) QC samples (1 field duplicate and 1 trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

## VOLATILE ORGANIC COMPOUND ANALYSIS

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. LCS and duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

III. Blanks

There were no analytes in the laboratory (method) blank. However the field blank yielded low (less than reporting limit) concentrations of the common laboratory contaminant methylene chloride and of chloromethane (methyl chloride), which is naturally occurring as well as synthetic. Results for chloromethane and methylene chloride in the other samples that are less than the reporting limits ("RL" on the analytical reports) were qualified as artifacts and flagged "U". Results for chloromethane and methylene chloride above the RL are qualified as estimated, possibly biased high, and flagged "J".

IV. Laboratory Control Sample (LCS)

All percent recoveries from the duplicate LCS analyses were within established control limits. No qualifications were applied.

V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

VI. Comments

Many detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

VII. Overall Assessment of Data

Overall data quality is acceptable, with few qualifications applied. All data are usable as qualified for their intended purposes.



WLLFOIA4312 - 015 - 0154937

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

TestAmerica Job ID: 140-1370-1
Client Project/Site: West Lake Landfill

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

*Authorized for release by:*
*5/22/2014 4:32:19 PM*

Jamie McKinney, Senior Project Manager
(865)291-3000
jamie.mckinney@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| 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 |
| 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) |

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-01-SU-PS-20140515 — Lab Sample ID: 140-1370-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.086 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.097 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.075 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.73 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.43 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.27 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.23 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.24 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.66 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.31 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.47 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.5 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.1 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.93 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.87 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-01-SU-DU-20140515 — Lab Sample ID: 140-1370-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.081 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.073 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.67 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.54 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.55 | | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.16 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.61 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.62 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.44 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.46 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.4 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.7 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.9 | | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.72 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.3 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-02-SU-PS-20140515 — Lab Sample ID: 140-1370-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.081 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.069 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.073 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.48 | J | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.46 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.25 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-02-SU-PS-20140515 (Continued) — Lab Sample ID: 140-1370-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Toluene | 0.21 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.62 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.22 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.46 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.0 | J | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.3 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.88 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.78 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-03-SU-PS-20140515 — Lab Sample ID: 140-1370-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.077 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.10 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.067 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.60 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.49 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.35 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.23 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.26 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.59 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.32 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.42 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.2 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.4 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.2 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.88 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.5 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-PS-20140515 — Lab Sample ID: 140-1370-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.081 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.088 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.072 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.61 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.37 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.30 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.16 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.30 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.62 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.28 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.46 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.8 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-04-SU-PS-20140515 (Continued) — Lab Sample ID: 140-1370-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 1.0 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.61 | J | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.7 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-05-SU-PS-20140515 — Lab Sample ID: 140-1370-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.077 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,2,4-Trichlorobenzene | 0.13 | J | 1.0 | 0.098 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,4-Dichlorobenzene | 0.085 | J | 0.20 | 0.064 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.097 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.065 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.59 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.36 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Hexachlorobutadiene | 0.10 | J | 1.0 | 0.078 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.57 | | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.38 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.27 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.59 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,2,4-Trichlorobenzene | 0.96 | J | 7.4 | 0.73 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,4-Dichlorobenzene | 0.51 | J | 1.2 | 0.38 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.31 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.41 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.2 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.8 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Hexachlorobutadiene | 1.1 | J | 11 | 0.83 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 2.0 | | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.4 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.5 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-00-SU-TB-20140515 — Lab Sample ID: 140-1370-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | 0.19 | J | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.16 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Chloromethane | 0.39 | J | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.57 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

Client Sample ID: WAA-01-SU-PS-20140515
Date Collected: 05/15/14 14:38
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1370-1
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 16:52 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.086** | **J** | 0.20 | 0.031 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/19/14 16:52 | 1 |
| **Benzene** | **0.097** | **J** | 0.20 | 0.056 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 16:52 | 1 |
| **Carbon tetrachloride** | **0.075** | **J** | 0.20 | 0.038 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/19/14 16:52 | 1 |
| **Chloromethane** | **0.73** | J | 0.50 | 0.16 | ppb v/v | | | 05/19/14 16:52 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/19/14 16:52 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/19/14 16:52 | 1 |
| **Dichlorodifluoromethane** | **0.43** | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 16:52 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/19/14 16:52 | 1 |
| **Methylene Chloride** | ~~0.27~~ | J 4 | 0.50 | 0.13 | ppb v/v | | | 05/19/14 16:52 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/19/14 16:52 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/19/14 16:52 | 1 |
| **Toluene** | **0.23** | | 0.20 | 0.12 | ppb v/v | | | 05/19/14 16:52 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/19/14 16:52 | 1 |
| **Trichlorofluoromethane** | **0.24** | | 0.20 | 0.024 | ppb v/v | | | 05/19/14 16:52 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/19/14 16:52 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/19/14 16:52 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.66** | **J** | 1.5 | 0.24 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/19/14 16:52 | 1 |

HVG 23 May 2014

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-01-SU-PS-20140515

Lab Sample ID: 140-1370-1
Matrix: Air

Date Collected: 05/15/14 14:38
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/19/14 16:52 | 1 |
| **Benzene** | **0.31** | J | 0.64 | 0.18 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/19/14 16:52 | 1 |
| **Carbon tetrachloride** | **0.47** | J | 1.3 | 0.24 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/19/14 16:52 | 1 |
| **Chloromethane** | **1.5** | J | 1.0 | 0.33 | ug/m3 | | | 05/19/14 16:52 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/19/14 16:52 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/19/14 16:52 | 1 |
| **Dichlorodifluoromethane** | **2.1** | | 0.99 | 0.34 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/19/14 16:52 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/19/14 16:52 | 1 |
| **Methylene Chloride** | ~~**0.93**~~ | J U | 1.7 | 0.45 | ug/m3 | | | 05/19/14 16:52 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/19/14 16:52 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/19/14 16:52 | 1 |
| **Toluene** | **0.87** | | 0.75 | 0.45 | ug/m3 | | | 05/19/14 16:52 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/19/14 16:52 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 05/19/14 16:52 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/19/14 16:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *114* | | *60 - 140* | | *05/19/14 16:52* | *1* |

## Client Sample ID: WAA-01-SU-DU-20140515

Lab Sample ID: 140-1370-2
Matrix: Air

Date Collected: 05/15/14 14:38
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 17:42 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.081** | J | 0.20 | 0.031 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/19/14 17:42 | 1 |

HVE 23 May 14

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

**Client Sample ID: WAA-01-SU-DU-20140515**

**Lab Sample ID: 140-1370-2**

Date Collected: 05/15/14 14:38
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/19/14 17:42 | 1 |
| **Benzene** | **0.14** | J | 0.20 | 0.056 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 17:42 | 1 |
| **Carbon tetrachloride** | **0.073** | J | 0.20 | 0.038 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/19/14 17:42 | 1 |
| **Chloromethane** | **0.67** | J | 0.50 | 0.16 | ppb v/v | | | 05/19/14 17:42 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/19/14 17:42 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/19/14 17:42 | 1 |
| **Dichlorodifluoromethane** | **0.54** | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 17:42 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/19/14 17:42 | 1 |
| **Methylene Chloride** | **0.55** | J | 0.50 | 0.13 | ppb v/v | | | 05/19/14 17:42 | 1 |
| **m-Xylene & p-Xylene** | **0.16** | J | 0.20 | 0.12 | ppb v/v | | | 05/19/14 17:42 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/19/14 17:42 | 1 |
| **Toluene** | **0.61** | | 0.20 | 0.12 | ppb v/v | | | 05/19/14 17:42 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/19/14 17:42 | 1 |
| **Trichlorofluoromethane** | **0.25** | | 0.20 | 0.024 | ppb v/v | | | 05/19/14 17:42 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/19/14 17:42 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/19/14 17:42 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.62** | J | 1.5 | 0.24 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/19/14 17:42 | 1 |

HVE 23 May 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-01-SU-DU-20140515

Lab Sample ID: 140-1370-2
Matrix: Air

Date Collected: 05/15/14 14:38
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/19/14 17:42 | 1 |
| **Benzene** | **0.44** | J | 0.64 | 0.18 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/19/14 17:42 | 1 |
| **Carbon tetrachloride** | **0.46** | J | 1.3 | 0.24 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/19/14 17:42 | 1 |
| **Chloromethane** | **1.4** | J | 1.0 | 0.33 | ug/m3 | | | 05/19/14 17:42 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/19/14 17:42 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/19/14 17:42 | 1 |
| **Dichlorodifluoromethane** | **2.7** | | 0.99 | 0.34 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/19/14 17:42 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/19/14 17:42 | 1 |
| **Methylene Chloride** | **1.9** | J | 1.7 | 0.45 | ug/m3 | | | 05/19/14 17:42 | 1 |
| **m-Xylene & p-Xylene** | **0.72** | J | 0.87 | 0.52 | ug/m3 | | | 05/19/14 17:42 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/19/14 17:42 | 1 |
| **Toluene** | **2.3** | | 0.75 | 0.45 | ug/m3 | | | 05/19/14 17:42 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/19/14 17:42 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 05/19/14 17:42 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/19/14 17:42 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *112* | | *60 - 140* | | *05/19/14 17:42* | *1* |

## Client Sample ID: WAA-02-SU-PS-20140515

Lab Sample ID: 140-1370-3
Matrix: Air

Date Collected: 05/15/14 16:20
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/20/14 16:11 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.081** | J | 0.20 | 0.031 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/20/14 16:11 | 1 |

HVE 23 May 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

**Client Sample ID: WAA-02-SU-PS-20140515**
Date Collected: 05/15/14 16:20
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1370-3**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/20/14 16:11 | 1 |
| **Benzene** | **0.069** | J | 0.20 | 0.056 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/20/14 16:11 | 1 |
| **Carbon tetrachloride** | **0.073** | J | 0.20 | 0.038 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/20/14 16:11 | 1 |
| **Chloromethane** | **0.48** | J U | 0.50 | 0.16 | ppb v/v | | | 05/20/14 16:11 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/20/14 16:11 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/20/14 16:11 | 1 |
| **Dichlorodifluoromethane** | **0.46** | | 0.20 | 0.068 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/20/14 16:11 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/20/14 16:11 | 1 |
| **Methylene Chloride** | **0.25** | J U | 0.50 | 0.13 | ppb v/v | | | 05/20/14 16:11 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/20/14 16:11 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/20/14 16:11 | 1 |
| **Toluene** | **0.21** | | 0.20 | 0.12 | ppb v/v | | | 05/20/14 16:11 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/20/14 16:11 | 1 |
| **Trichlorofluoromethane** | **0.25** | | 0.20 | 0.024 | ppb v/v | | | 05/20/14 16:11 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/20/14 16:11 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/20/14 16:11 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.62** | J | 1.5 | 0.24 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/20/14 16:11 | 1 |
| **Benzene** | **0.22** | J | 0.64 | 0.18 | ug/m3 | | | 05/20/14 16:11 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-02-SU-PS-20140515

Lab Sample ID: 140-1370-3
Matrix: Air

Date Collected: 05/15/14 16:20
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/20/14 16:11 | 1 |
| **Carbon tetrachloride** | **0.46** | J | 1.3 | 0.24 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/20/14 16:11 | 1 |
| **Chloromethane** | ~~1.8~~ | J 4 | 1.0 | 0.33 | ug/m3 | | | 05/20/14 16:11 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/20/14 16:11 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/20/14 16:11 | 1 |
| **Dichlorodifluoromethane** | **2.3** | | 0.99 | 0.34 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/20/14 16:11 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/20/14 16:11 | 1 |
| **Methylene Chloride** | ~~0.88~~ | J 4 | 1.7 | 0.45 | ug/m3 | | | 05/20/14 16:11 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/20/14 16:11 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/20/14 16:11 | 1 |
| **Toluene** | **0.78** | | 0.75 | 0.45 | ug/m3 | | | 05/20/14 16:11 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/20/14 16:11 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 05/20/14 16:11 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/20/14 16:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *60 - 140* | | *05/20/14 16:11* | *1* |

## Client Sample ID: WAA-03-SU-PS-20140515

Lab Sample ID: 140-1370-4
Matrix: Air

Date Collected: 05/15/14 14:50
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/20/14 17:01 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.077** | J | 0.20 | 0.031 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/20/14 17:01 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

**Client Sample ID: WAA-03-SU-PS-20140515**
Date Collected: 05/15/14 14:50
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1370-4**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/20/14 17:01 | 1 |
| **Benzene** | **0.10** | J | 0.20 | 0.056 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/20/14 17:01 | 1 |
| **Carbon tetrachloride** | **0.067** | J | 0.20 | 0.038 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/20/14 17:01 | 1 |
| **Chloromethane** | **0.60** | J | 0.50 | 0.16 | ppb v/v | | | 05/20/14 17:01 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/20/14 17:01 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/20/14 17:01 | 1 |
| **Dichlorodifluoromethane** | **0.49** | | 0.20 | 0.068 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/20/14 17:01 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/20/14 17:01 | 1 |
| **Methylene Chloride** | ~~0.35~~ | M | 0.50 | 0.13 | ppb v/v | | | 05/20/14 17:01 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/20/14 17:01 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/20/14 17:01 | 1 |
| **Toluene** | **0.23** | | 0.20 | 0.12 | ppb v/v | | | 05/20/14 17:01 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/20/14 17:01 | 1 |
| **Trichlorofluoromethane** | **0.26** | | 0.20 | 0.024 | ppb v/v | | | 05/20/14 17:01 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/20/14 17:01 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/20/14 17:01 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.59** | J | 1.5 | 0.24 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/20/14 17:01 | 1 |
| **Benzene** | **0.32** | J | 0.64 | 0.18 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/20/14 17:01 | 1 |
| **Carbon tetrachloride** | **0.42** | J | 1.3 | 0.24 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/20/14 17:01 | 1 |

HVE 23 May 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-03-SU-PS-20140515

Lab Sample ID: 140-1370-4
Matrix: Air

Date Collected: 05/15/14 14:50
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/20/14 17:01 | 1 |
| **Chloromethane** | **1.2** | J | 1.0 | 0.33 | ug/m3 | | | 05/20/14 17:01 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/20/14 17:01 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/20/14 17:01 | 1 |
| **Dichlorodifluoromethane** | **2.4** | | 0.99 | 0.34 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/20/14 17:01 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/20/14 17:01 | 1 |
| **Methylene Chloride** | ~~4.2~~ | J U | 1.7 | 0.45 | ug/m3 | | | 05/20/14 17:01 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/20/14 17:01 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/20/14 17:01 | 1 |
| **Toluene** | **0.88** | | 0.75 | 0.45 | ug/m3 | | | 05/20/14 17:01 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/20/14 17:01 | 1 |
| **Trichlorofluoromethane** | **1.5** | | 1.1 | 0.13 | ug/m3 | | | 05/20/14 17:01 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/20/14 17:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *60 - 140* | | *05/20/14 17:01* | *1* |

## Client Sample ID: WAA-04-SU-PS-20140515

Lab Sample ID: 140-1370-5
Matrix: Air

Date Collected: 05/15/14 15:17
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/21/14 04:24 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.081** | J | 0.20 | 0.031 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/21/14 04:24 | 1 |
| **Benzene** | **0.088** | J | 0.20 | 0.056 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/21/14 04:24 | 1 |
| **Carbon tetrachloride** | **0.072** | J | 0.20 | 0.038 | ppb v/v | | | 05/21/14 04:24 | 1 |

HVE 23 May 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-04-SU-PS-20140515

Lab Sample ID: 140-1370-5
Matrix: Air

Date Collected: 05/15/14 15:17
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/21/14 04:24 | 1 |
| **Chloromethane** | **0.61** | J | 0.50 | 0.16 | ppb v/v | | | 05/21/14 04:24 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/21/14 04:24 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/21/14 04:24 | 1 |
| **Dichlorodifluoromethane** | **0.37** | | 0.20 | 0.068 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/21/14 04:24 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/21/14 04:24 | 1 |
| **Methylene Chloride** | ~~0.30~~ J | 4 | 0.50 | 0.13 | ppb v/v | | | 05/21/14 04:24 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/21/14 04:24 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/21/14 04:24 | 1 |
| **Toluene** | **0.16** | J | 0.20 | 0.12 | ppb v/v | | | 05/21/14 04:24 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/21/14 04:24 | 1 |
| **Trichlorofluoromethane** | **0.30** | | 0.20 | 0.024 | ppb v/v | | | 05/21/14 04:24 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/21/14 04:24 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/21/14 04:24 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.62** | J | 1.5 | 0.24 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/21/14 04:24 | 1 |
| **Benzene** | **0.28** | J | 0.64 | 0.18 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/21/14 04:24 | 1 |
| **Carbon tetrachloride** | **0.46** | J | 1.3 | 0.24 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/21/14 04:24 | 1 |
| **Chloromethane** | **1.3** | J | 1.0 | 0.33 | ug/m3 | | | 05/21/14 04:24 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/21/14 04:24 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/21/14 04:24 | 1 |
| **Dichlorodifluoromethane** | **1.8** | | 0.99 | 0.34 | ug/m3 | | | 05/21/14 04:24 | 1 |

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TestAmerica Knoxville



5/22/2014

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-04-SU-PS-20140515

Lab Sample ID: 140-1370-5
Matrix: Air

Date Collected: 05/15/14 15:17
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/21/14 04:24 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/21/14 04:24 | 1 |
| **Methylene Chloride** | ~~1.0~~ ~~J~~ U | | 1.7 | 0.45 | ug/m3 | | | 05/21/14 04:24 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/21/14 04:24 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/21/14 04:24 | 1 |
| **Toluene** | **0.61** | J | 0.75 | 0.45 | ug/m3 | | | 05/21/14 04:24 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/21/14 04:24 | 1 |
| **Trichlorofluoromethane** | **1.7** | | 1.1 | 0.13 | ug/m3 | | | 05/21/14 04:24 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/21/14 04:24 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *112* | | *60 - 140* | | *05/21/14 04:24* | *1* |

## Client Sample ID: WAA-05-SU-PS-20140515

Lab Sample ID: 140-1370-6
Matrix: Air

Date Collected: 05/15/14 15:14
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.077** | J | 0.20 | 0.031 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **1,2,4-Trichlorobenzene** | **0.13** | J | 1.0 | 0.098 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **1,4-Dichlorobenzene** | **0.085** | J | 0.20 | 0.064 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **Benzene** | **0.097** | J | 0.20 | 0.056 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **Carbon tetrachloride** | **0.065** | J | 0.20 | 0.038 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **Chloromethane** | **0.59** | J | 0.50 | 0.16 | ppb v/v | | | 05/19/14 21:01 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/19/14 21:01 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-05-SU-PS-20140515

Lab Sample ID: 140-1370-6

Date Collected: 05/15/14 15:14
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **Dichlorodifluoromethane** | **0.36** | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 21:01 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **Hexachlorobutadiene** | **0.10** | J | 1.0 | 0.078 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **Methylene Chloride** | **0.57** | J | 0.50 | 0.13 | ppb v/v | | | 05/19/14 21:01 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/19/14 21:01 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **Toluene** | **0.38** | | 0.20 | 0.12 | ppb v/v | | | 05/19/14 21:01 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/19/14 21:01 | 1 |
| **Trichlorofluoromethane** | **0.27** | | 0.20 | 0.024 | ppb v/v | | | 05/19/14 21:01 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/19/14 21:01 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.59** | J | 1.5 | 0.24 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **1,2,4-Trichlorobenzene** | **0.96** | J | 7.4 | 0.73 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **1,4-Dichlorobenzene** | **0.51** | J | 1.2 | 0.38 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **Benzene** | **0.31** | J | 0.64 | 0.18 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **Carbon tetrachloride** | **0.41** | J | 1.3 | 0.24 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **Chloromethane** | **1.2** | J | 1.0 | 0.33 | ug/m3 | | | 05/19/14 21:01 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/19/14 21:01 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **Dichlorodifluoromethane** | **1.8** | | 0.99 | 0.34 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/19/14 21:01 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **Hexachlorobutadiene** | **1.1** | J | 11 | 0.83 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **Methylene Chloride** | **2.0** | J | 1.7 | 0.45 | ug/m3 | | | 05/19/14 21:01 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/19/14 21:01 | 1 |

HUE 23 May 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-05-SU-PS-20140515

Lab Sample ID: 140-1370-6
Matrix: Air

Date Collected: 05/15/14 15:14
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **Toluene** | **1.4** | | 0.75 | 0.45 | ug/m3 | | | 05/19/14 21:01 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/19/14 21:01 | 1 |
| **Trichlorofluoromethane** | **1.5** | | 1.1 | 0.13 | ug/m3 | | | 05/19/14 21:01 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/19/14 21:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *114* | | *60 - 140* | | *05/19/14 21:01* | *1* |

## Client Sample ID: WAA-00-SU-TB-20140515

Lab Sample ID: 140-1370-7
Matrix: Air

Date Collected: 05/15/14 18:05
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/19/14 16:03 | 1 |
| **Chloromethane** | **0.19** | J | 0.50 | 0.16 | ppb v/v | | | 05/19/14 16:03 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/19/14 16:03 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 16:03 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/19/14 16:03 | 1 |
| **Methylene Chloride** | **0.16** | J | 0.50 | 0.13 | ppb v/v | | | 05/19/14 16:03 | 1 |

HVE 23 My 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-00-SU-TB-20140515

Lab Sample ID: 140-1370-7

Date Collected: 05/15/14 18:05
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/19/14 16:03 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/19/14 16:03 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 05/19/14 16:03 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/19/14 16:03 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/19/14 16:03 | 1 |
| **Chloromethane** | **0.39** | **J** | 1.0 | 0.33 | ug/m3 | | | 05/19/14 16:03 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/19/14 16:03 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/19/14 16:03 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/19/14 16:03 | 1 |
| **Methylene Chloride** | **0.57** | **J** | 1.7 | 0.45 | ug/m3 | | | 05/19/14 16:03 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/19/14 16:03 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 05/19/14 16:03 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/19/14 16:03 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 05/19/14 16:03 | 1 |

HVE 23 May 14

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

**Client Sample ID: WAA-00-SU-TB-20140515**
Date Collected: 05/15/14 18:05
Date Received: 05/17/14 09:40
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1370-7**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/19/14 16:03 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *60 - 140* | | *05/19/14 16:03* | *1* |

HVF

23 May 14

# Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | **Client Sample ID** | **BFB (60-140)** | | | | | | |
| 140-1370-1 | WAA-01-SU-PS-20140515 | 114 | | | | | | |
| 140-1370-2 | WAA-01-SU-DU-20140515 | 112 | | | | | | |
| 140-1370-3 | WAA-02-SU-PS-20140515 | 104 | | | | | | |
| 140-1370-4 | WAA-03-SU-PS-20140515 | 106 | | | | | | |
| 140-1370-5 | WAA-04-SU-PS-20140515 | 112 | | | | | | |
| 140-1370-6 | WAA-05-SU-PS-20140515 | 114 | | | | | | |
| 140-1370-7 | WAA-00-SU-TB-20140515 | 103 | | | | | | |
| LCS 140-1231/1002 | Lab Control Sample | 104 | | | | | | |
| LCS 140-1235/1002 | Lab Control Sample | 105 | | | | | | |
| MB 140-1231/4 | Method Blank | 95 | | | | | | |
| MB 140-1235/5 | Method Blank | 95 | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-1231/4**
**Matrix: Air**
**Analysis Batch: 1231**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 05/19/14 15:14 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/19/14 15:14 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/19/14 15:14 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 05/19/14 15:14 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/19/14 15:14 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/19/14 15:14 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 05/19/14 15:14 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/19/14 15:14 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/19/14 15:14 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1231/4**
**Matrix: Air**
**Analysis Batch: 1231**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 05/19/14 15:14 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/19/14 15:14 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/19/14 15:14 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 05/19/14 15:14 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/19/14 15:14 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 05/19/14 15:14 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 05/19/14 15:14 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/19/14 15:14 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *95* | | *60 - 140* | | *05/19/14 15:14* | *1* |

**Lab Sample ID: LCS 140-1231/1002**
**Matrix: Air**
**Analysis Batch: 1231**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 2.00 | 2.00 | | ppb v/v | | 100 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 2.00 | 2.23 | | ppb v/v | | 112 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 2.00 | 2.05 | | ppb v/v | | 103 | 70 - 130 |
| 1,1,2-Trichloroethane | 2.00 | 2.18 | | ppb v/v | | 109 | 70 - 130 |
| 1,1-Dichloroethane | 2.00 | 2.09 | | ppb v/v | | 105 | 70 - 130 |
| 1,1-Dichloroethene | 2.00 | 2.00 | | ppb v/v | | 100 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1231/1002**
**Matrix: Air**
**Analysis Batch: 1231**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2.00 | 1.85 | | ppb v/v | | 92 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 2.00 | 2.03 | | ppb v/v | | 102 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00 | 1.95 | | ppb v/v | | 98 | 60 - 140 |
| 1,2-Dichlorobenzene | 2.00 | 1.93 | | ppb v/v | | 97 | 70 - 130 |
| 1,2-Dichloroethane | 2.00 | 1.93 | | ppb v/v | | 97 | 70 - 130 |
| 1,2-Dichloropropane | 2.00 | 2.08 | | ppb v/v | | 104 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 2.00 | 2.05 | | ppb v/v | | 103 | 70 - 130 |
| 1,3-Dichlorobenzene | 2.00 | 1.95 | | ppb v/v | | 97 | 70 - 130 |
| 1,4-Dichlorobenzene | 2.00 | 1.94 | | ppb v/v | | 97 | 70 - 130 |
| Benzene | 2.00 | 2.04 | | ppb v/v | | 102 | 70 - 130 |
| Benzyl chloride | 2.00 | 2.28 | | ppb v/v | | 114 | 70 - 130 |
| Bromomethane | 2.00 | 1.98 | | ppb v/v | | 99 | 70 - 130 |
| Carbon tetrachloride | 2.00 | 1.94 | | ppb v/v | | 97 | 70 - 130 |
| Chlorobenzene | 2.00 | 1.98 | | ppb v/v | | 99 | 70 - 130 |
| Chloroethane | 2.00 | 2.06 | | ppb v/v | | 103 | 70 - 130 |
| Chloroform | 2.00 | 2.08 | | ppb v/v | | 104 | 70 - 130 |
| Chloromethane | 2.00 | 2.01 | | ppb v/v | | 100 | 60 - 140 |
| cis-1,2-Dichloroethene | 2.00 | 2.05 | | ppb v/v | | 103 | 70 - 130 |
| cis-1,3-Dichloropropene | 2.00 | 2.14 | | ppb v/v | | 107 | 70 - 130 |
| Dichlorodifluoromethane | 2.00 | 1.95 | | ppb v/v | | 98 | 60 - 140 |
| Ethylbenzene | 2.00 | 2.03 | | ppb v/v | | 102 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 2.00 | 2.08 | | ppb v/v | | 104 | 70 - 130 |
| Hexachlorobutadiene | 2.00 | 1.68 | | ppb v/v | | 84 | 60 - 140 |
| Methylene Chloride | 2.00 | 2.01 | | ppb v/v | | 101 | 70 - 130 |
| m-Xylene & p-Xylene | 4.00 | 4.06 | | ppb v/v | | 102 | 70 - 130 |
| o-Xylene | 2.00 | 2.00 | | ppb v/v | | 100 | 70 - 130 |
| Styrene | 2.00 | 2.14 | | ppb v/v | | 107 | 70 - 130 |
| Tetrachloroethene | 2.00 | 2.05 | | ppb v/v | | 102 | 70 - 130 |
| Toluene | 2.00 | 2.16 | | ppb v/v | | 108 | 70 - 130 |
| trans-1,3-Dichloropropene | 2.00 | 2.25 | | ppb v/v | | 112 | 70 - 130 |
| Trichloroethene | 2.00 | 1.92 | | ppb v/v | | 96 | 70 - 130 |
| Trichlorofluoromethane | 2.00 | 2.06 | | ppb v/v | | 103 | 60 - 140 |
| Vinyl chloride | 2.00 | 2.04 | | ppb v/v | | 102 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 10.9 | | ug/m3 | | 100 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 15.3 | | ug/m3 | | 112 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 15.7 | | ug/m3 | | 103 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 11.9 | | ug/m3 | | 109 | 70 - 130 |
| 1,1-Dichloroethane | 8.1 | 8.48 | | ug/m3 | | 105 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 7.91 | | ug/m3 | | 100 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 13.7 | | ug/m3 | | 92 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.8 | 10.0 | | ug/m3 | | 102 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 13.7 | | ug/m3 | | 98 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 11.6 | | ug/m3 | | 97 | 70 - 130 |
| 1,2-Dichloroethane | 8.1 | 7.83 | | ug/m3 | | 97 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1231/1002**
**Matrix: Air**
**Analysis Batch: 1231**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 9.2 | 9.59 | | ug/m3 | | 104 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.8 | 10.1 | | ug/m3 | | 103 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 11.7 | | ug/m3 | | 97 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 11.7 | | ug/m3 | | 97 | 70 - 130 |
| Benzene | 6.4 | 6.51 | | ug/m3 | | 102 | 70 - 130 |
| Benzyl chloride | 10 | 11.8 | | ug/m3 | | 114 | 70 - 130 |
| Bromomethane | 7.8 | 7.68 | | ug/m3 | | 99 | 70 - 130 |
| Carbon tetrachloride | 13 | 12.2 | | ug/m3 | | 97 | 70 - 130 |
| Chlorobenzene | 9.2 | 9.12 | | ug/m3 | | 99 | 70 - 130 |
| Chloroethane | 5.3 | 5.43 | | ug/m3 | | 103 | 70 - 130 |
| Chloroform | 9.8 | 10.2 | | ug/m3 | | 104 | 70 - 130 |
| Chloromethane | 4.1 | 4.14 | | ug/m3 | | 100 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 8.13 | | ug/m3 | | 103 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.1 | 9.70 | | ug/m3 | | 107 | 70 - 130 |
| Dichlorodifluoromethane | 9.9 | 9.66 | | ug/m3 | | 98 | 60 - 140 |
| Ethylbenzene | 8.7 | 8.83 | | ug/m3 | | 102 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 16.0 | | ug/m3 | | 104 | 70 - 130 |
| Hexachlorobutadiene | 21 | 17.9 | | ug/m3 | | 84 | 60 - 140 |
| Methylene Chloride | 6.9 | 6.99 | | ug/m3 | | 101 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 17.6 | | ug/m3 | | 102 | 70 - 130 |
| o-Xylene | 8.7 | 8.70 | | ug/m3 | | 100 | 70 - 130 |
| Styrene | 8.5 | 9.12 | | ug/m3 | | 107 | 70 - 130 |
| Tetrachloroethene | 14 | 13.9 | | ug/m3 | | 102 | 70 - 130 |
| Toluene | 7.5 | 8.13 | | ug/m3 | | 108 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1 | 10.2 | | ug/m3 | | 112 | 70 - 130 |
| Trichloroethene | 11 | 10.3 | | ug/m3 | | 96 | 70 - 130 |
| Trichlorofluoromethane | 11 | 11.5 | | ug/m3 | | 103 | 60 - 140 |
| Vinyl chloride | 5.1 | 5.21 | | ug/m3 | | 102 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *60 - 140* |

**Lab Sample ID: MB 140-1235/5**
**Matrix: Air**
**Analysis Batch: 1235**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/20/14 13:02 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1235/5**
**Matrix: Air**
**Analysis Batch: 1235**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 05/20/14 13:02 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/20/14 13:02 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/20/14 13:02 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 05/20/14 13:02 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/20/14 13:02 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/20/14 13:02 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 05/20/14 13:02 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/20/14 13:02 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/20/14 13:02 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1235/5**
**Matrix: Air**
**Analysis Batch: 1235**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 05/20/14 13:02 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/20/14 13:02 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/20/14 13:02 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 05/20/14 13:02 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/20/14 13:02 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 05/20/14 13:02 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 05/20/14 13:02 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/20/14 13:02 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *95* | | *60 - 140* | | *05/20/14 13:02* | *1* |

**Lab Sample ID: LCS 140-1235/1002**
**Matrix: Air**
**Analysis Batch: 1235**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 2.00 | 2.08 | | ppb v/v | | 104 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 2.00 | 2.35 | | ppb v/v | | 118 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.00 | 2.09 | | ppb v/v | | 105 | 70 - 130 |
| 1,1,2-Trichloroethane | 2.00 | 2.29 | | ppb v/v | | 115 | 70 - 130 |
| 1,1-Dichloroethane | 2.00 | 2.16 | | ppb v/v | | 108 | 70 - 130 |
| 1,1-Dichloroethene | 2.00 | 2.02 | | ppb v/v | | 101 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 2.00 | 1.75 | | ppb v/v | | 88 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 2.00 | 2.12 | | ppb v/v | | 106 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00 | 1.90 | | ppb v/v | | 95 | 60 - 140 |
| 1,2-Dichlorobenzene | 2.00 | 1.99 | | ppb v/v | | 99 | 70 - 130 |
| 1,2-Dichloroethane | 2.00 | 2.01 | | ppb v/v | | 101 | 70 - 130 |
| 1,2-Dichloropropane | 2.00 | 2.09 | | ppb v/v | | 105 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 2.00 | 2.15 | | ppb v/v | | 108 | 70 - 130 |
| 1,3-Dichlorobenzene | 2.00 | 2.01 | | ppb v/v | | 101 | 70 - 130 |
| 1,4-Dichlorobenzene | 2.00 | 2.01 | | ppb v/v | | 100 | 70 - 130 |
| Benzene | 2.00 | 2.04 | | ppb v/v | | 102 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1235/1002**
**Matrix: Air**
**Analysis Batch: 1235**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Benzyl chloride | 2.00 | 2.36 | | ppb v/v | | 118 | 70 - 130 |
| Bromomethane | 2.00 | 1.89 | | ppb v/v | | 94 | 70 - 130 |
| Carbon tetrachloride | 2.00 | 2.00 | | ppb v/v | | 100 | 70 - 130 |
| Chlorobenzene | 2.00 | 2.00 | | ppb v/v | | 100 | 70 - 130 |
| Chloroethane | 2.00 | 1.98 | | ppb v/v | | 99 | 70 - 130 |
| Chloroform | 2.00 | 2.13 | | ppb v/v | | 107 | 70 - 130 |
| Chloromethane | 2.00 | 1.87 | | ppb v/v | | 93 | 60 - 140 |
| cis-1,2-Dichloroethene | 2.00 | 2.09 | | ppb v/v | | 104 | 70 - 130 |
| cis-1,3-Dichloropropene | 2.00 | 2.16 | | ppb v/v | | 108 | 70 - 130 |
| Dichlorodifluoromethane | 2.00 | 1.94 | | ppb v/v | | 97 | 60 - 140 |
| Ethylbenzene | 2.00 | 2.04 | | ppb v/v | | 102 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 2.00 | 2.16 | | ppb v/v | | 108 | 70 - 130 |
| Hexachlorobutadiene | 2.00 | 1.61 | | ppb v/v | | 80 | 60 - 140 |
| Methylene Chloride | 2.00 | 2.06 | | ppb v/v | | 103 | 70 - 130 |
| m-Xylene & p-Xylene | 4.00 | 4.13 | | ppb v/v | | 103 | 70 - 130 |
| o-Xylene | 2.00 | 2.05 | | ppb v/v | | 102 | 70 - 130 |
| Styrene | 2.00 | 2.23 | | ppb v/v | | 112 | 70 - 130 |
| Tetrachloroethene | 2.00 | 2.15 | | ppb v/v | | 107 | 70 - 130 |
| Toluene | 2.00 | 2.26 | | ppb v/v | | 113 | 70 - 130 |
| trans-1,3-Dichloropropene | 2.00 | 2.39 | | ppb v/v | | 120 | 70 - 130 |
| Trichloroethene | 2.00 | 1.95 | | ppb v/v | | 97 | 70 - 130 |
| Trichlorofluoromethane | 2.00 | 2.06 | | ppb v/v | | 103 | 60 - 140 |
| Vinyl chloride | 2.00 | 1.97 | | ppb v/v | | 98 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 11.4 | | ug/m3 | | 104 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 16.2 | | ug/m3 | | 118 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 16.0 | | ug/m3 | | 105 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 12.5 | | ug/m3 | | 115 | 70 - 130 |
| 1,1-Dichloroethane | 8.1 | 8.75 | | ug/m3 | | 108 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 8.03 | | ug/m3 | | 101 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 13.0 | | ug/m3 | | 88 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.8 | 10.4 | | ug/m3 | | 106 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 13.3 | | ug/m3 | | 95 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 12.0 | | ug/m3 | | 99 | 70 - 130 |
| 1,2-Dichloroethane | 8.1 | 8.14 | | ug/m3 | | 101 | 70 - 130 |
| 1,2-Dichloropropane | 9.2 | 9.67 | | ug/m3 | | 105 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.8 | 10.6 | | ug/m3 | | 108 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 12.1 | | ug/m3 | | 101 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 12.1 | | ug/m3 | | 100 | 70 - 130 |
| Benzene | 6.4 | 6.52 | | ug/m3 | | 102 | 70 - 130 |
| Benzyl chloride | 10 | 12.2 | | ug/m3 | | 118 | 70 - 130 |
| Bromomethane | 7.8 | 7.33 | | ug/m3 | | 94 | 70 - 130 |
| Carbon tetrachloride | 13 | 12.6 | | ug/m3 | | 100 | 70 - 130 |
| Chlorobenzene | 9.2 | 9.22 | | ug/m3 | | 100 | 70 - 130 |
| Chloroethane | 5.3 | 5.21 | | ug/m3 | | 99 | 70 - 130 |
| Chloroform | 9.8 | 10.4 | | ug/m3 | | 107 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1235/1002**
**Matrix: Air**
**Analysis Batch: 1235**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| Chloromethane | 4.1 | 3.86 | | ug/m3 | | 93 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 8.28 | | ug/m3 | | 104 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.1 | 9.79 | | ug/m3 | | 108 | 70 - 130 |
| Dichlorodifluoromethane | 9.9 | 9.60 | | ug/m3 | | 97 | 60 - 140 |
| Ethylbenzene | 8.7 | 8.87 | | ug/m3 | | 102 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 16.6 | | ug/m3 | | 108 | 70 - 130 |
| Hexachlorobutadiene | 21 | 17.2 | | ug/m3 | | 80 | 60 - 140 |
| Methylene Chloride | 6.9 | 7.15 | | ug/m3 | | 103 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 17.9 | | ug/m3 | | 103 | 70 - 130 |
| o-Xylene | 8.7 | 8.89 | | ug/m3 | | 102 | 70 - 130 |
| Styrene | 8.5 | 9.50 | | ug/m3 | | 112 | 70 - 130 |
| Tetrachloroethene | 14 | 14.6 | | ug/m3 | | 107 | 70 - 130 |
| Toluene | 7.5 | 8.52 | | ug/m3 | | 113 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1 | 10.9 | | ug/m3 | | 120 | 70 - 130 |
| Trichloroethene | 11 | 10.5 | | ug/m3 | | 97 | 70 - 130 |
| Trichlorofluoromethane | 11 | 11.6 | | ug/m3 | | 103 | 60 - 140 |
| Vinyl chloride | 5.1 | 5.02 | | ug/m3 | | 98 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *60 - 140* |

# QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Air - GC/MS VOA

### Analysis Batch: 1231

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1370-1 | WAA-01-SU-PS-20140515 | Total/NA | Air | TO-15 | |
| 140-1370-2 | WAA-01-SU-DU-20140515 | Total/NA | Air | TO-15 | |
| 140-1370-6 | WAA-05-SU-PS-20140515 | Total/NA | Air | TO-15 | |
| 140-1370-7 | WAA-00-SU-TB-20140515 | Total/NA | Air | TO-15 | |
| LCS 140-1231/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1231/4 | Method Blank | Total/NA | Air | TO-15 | |

### Analysis Batch: 1235

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1370-3 | WAA-02-SU-PS-20140515 | Total/NA | Air | TO-15 | |
| 140-1370-4 | WAA-03-SU-PS-20140515 | Total/NA | Air | TO-15 | |
| 140-1370-5 | WAA-04-SU-PS-20140515 | Total/NA | Air | TO-15 | |
| LCS 140-1235/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1235/5 | Method Blank | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-01-SU-PS-20140515 — Lab Sample ID: 140-1370-1

**Date Collected: 05/15/14 14:38** — **Matrix: Air**
**Date Received: 05/17/14 09:40**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1231 | 05/19/14 16:52 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-01-SU-DU-20140515 — Lab Sample ID: 140-1370-2

**Date Collected: 05/15/14 14:38** — **Matrix: Air**
**Date Received: 05/17/14 09:40**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1231 | 05/19/14 17:42 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-02-SU-PS-20140515 — Lab Sample ID: 140-1370-3

**Date Collected: 05/15/14 16:20** — **Matrix: Air**
**Date Received: 05/17/14 09:40**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1235 | 05/20/14 16:11 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-03-SU-PS-20140515 — Lab Sample ID: 140-1370-4

**Date Collected: 05/15/14 14:50** — **Matrix: Air**
**Date Received: 05/17/14 09:40**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1235 | 05/20/14 17:01 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-04-SU-PS-20140515 — Lab Sample ID: 140-1370-5

**Date Collected: 05/15/14 15:17** — **Matrix: Air**
**Date Received: 05/17/14 09:40**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1235 | 05/21/14 04:24 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-05-SU-PS-20140515 — Lab Sample ID: 140-1370-6

**Date Collected: 05/15/14 15:14** — **Matrix: Air**
**Date Received: 05/17/14 09:40**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1231 | 05/19/14 21:01 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Client Sample ID: WAA-00-SU-TB-20140515

**Lab Sample ID: 140-1370-7**

**Date Collected: 05/15/14 18:05**

**Matrix: Air**

**Date Received: 05/17/14 09:40**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1231 | 05/19/14 16:03 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

## Laboratory: TestAmerica Knoxville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | AFCEE | | N/A | |
| Arkansas DEQ | State Program | 6 | 88-0688 | 06-17-14 |
| California | State Program | 9 | 2423 | 06-30-14 |
| Colorado | State Program | 8 | N/A | 02-28-15 |
| Connecticut | State Program | 1 | PH-0223 | 09-30-15 |
| Florida | NELAP | 4 | E87177 | 06-30-14 |
| Georgia | State Program | 4 | 906 | 06-13-14 * |
| Hawaii | State Program | 9 | N/A | 04-13-15 |
| Iowa | State Program | 7 | 375 | 08-01-14 |
| Kansas | NELAP | 7 | E-10349 | 10-31-14 |
| Kentucky (DW) | State Program | 4 | 90101 | 12-31-14 |
| L-A-B | DoD ELAP | | L2311 | 02-13-16 |
| Louisiana | NELAP | 6 | LA110001 | 12-31-14 |
| Maryland | State Program | 3 | 277 | 03-31-15 |
| Michigan | State Program | 5 | 9933 | 04-13-14 * |
| Nevada | State Program | 9 | TN00009 | 07-31-14 |
| New Jersey | NELAP | 2 | TN001 | 06-30-14 |
| New York | NELAP | 2 | 10781 | 03-31-15 |
| North Carolina DENR | State Program | 4 | 64 | 12-31-14 |
| North Carolina DHHS | State Program | 4 | 21705 | 07-31-14 |
| Ohio VAP | State Program | 5 | CL0059 | 03-26-15 |
| Oklahoma | State Program | 6 | 9415 | 08-31-14 |
| Pennsylvania | NELAP | 3 | 68-00576 | 12-31-14 |
| South Carolina | State Program | 4 | 84001 | 06-30-14 |
| Tennessee | State Program | 4 | 2014 | 04-13-17 |
| Texas | NELAP | 6 | T104704380-TX | 08-31-14 |
| USDA | Federal | | P330-13-00260 | 08-29-16 |
| Utah | NELAP | 8 | QUAN3 | 07-31-14 |
| Virginia | NELAP | 3 | 460176 | 09-14-14 |
| Virginia | State Program | 3 | 165 | 06-30-14 |
| Washington | State Program | 10 | C593 | 01-19-15 |
| West Virginia DEP | State Program | 3 | 345 | 04-30-15 |
| West Virginia DHHR | State Program | 3 | 9955C | 12-31-14 |
| Wisconsin | State Program | 5 | 998044300 | 08-31-14 |

* Expired certification is currently pending renewal and is considered valid.

# Method Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | TAL KNX |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1370-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 140-1370-1 | WAA-01-SU-PS-20140515 | Air | 05/15/14 14:38 | 05/17/14 09:40 |
| 140-1370-2 | WAA-01-SU-DU-20140515 | Air | 05/15/14 14:38 | 05/17/14 09:40 |
| 140-1370-3 | WAA-02-SU-PS-20140515 | Air | 05/15/14 16:20 | 05/17/14 09:40 |
| 140-1370-4 | WAA-03-SU-PS-20140515 | Air | 05/15/14 14:50 | 05/17/14 09:40 |
| 140-1370-5 | WAA-04-SU-PS-20140515 | Air | 05/15/14 15:17 | 05/17/14 09:40 |
| 140-1370-6 | WAA-05-SU-PS-20140515 | Air | 05/15/14 15:14 | 05/17/14 09:40 |
| 140-1370-7 | WAA-00-SU-TB-20140515 | Air | 05/15/14 18:05 | 05/17/14 09:40 |

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

| Client Contact Information | Project Manager: Dave Kinroth | Sampled By: Dave Kinroth | 1 of 2 COCs |
|---|---|---|---|
| Company: Tetra Tech Inc. | Phone: 314 517 6798 | | |
| Address: 415 Oak Street | Site Contact: same | | |
| City/State/Zip Kansas City MO 64106 | TAL Contact: Mike Franks | | |
| Phone: 816-412-1796 | | | |
| FAX: 816-410-1748 | | | |
| Project Name: Westlake Landfill | Analysis Turnaround Time | | |
| Site/location: Bridgeton MO | Standard (Specify) X 10 days | | |
| PO # 110 53 52 | Rush (Specify) | | |

140-1370 Chain of Custody

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, "Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25C | ASTM D-1946 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-01-SU-PS-20140515 | 5-14-14 to 5-15-14 | 1500 | 1438 | -29.3 | -2.5 | 09648 | 10264 | X | | | | | | | | | | | |
| WAA-01-SU-DU-20140515 | | 1500 | 1438 | -29.2 | -2.5 | 10453 | 10100 | | | | | | | | | | | | |
| WAA-02-SU-PS-20140515 | | 1650 | 1620 | -29.3 | -3.5 | 10431 | 10214 | | | | | | | | | | | | |
| WAA-03-SU-PS-20140515 | | 1518 | 1450 | -29.1 | -0.5 | 10870 | 10311 | | | | | | | | | | | | |
| WAA-04-SU-PS-20140515 | | 1530 | 1517 | -29.0 | -3.0 | 10447 | 09936 | | | | | | | | | | | | |
| WAA-05-SU-PS-20140515 | | 15:46 | 15:54 | -28.8 | -3.0 | 10349 | 10382 | | | | | | | | | | | | |

**Sampled by :**

| Temperature (Fahrenheit) | Interior | Ambient |
|---|---|---|
| Start | | 55 |
| Stop | | ~~30.10~~ 60 |

| Pressure (inches of Hg) | Interior | Ambient |
|---|---|---|
| Start | | ~~60~~ 30.10 |
| Stop | | 30.03 |

Received @ ambient
Custody seal intact
2 boxes
KL 5/17/14
fedex PO
THF# 5399 0207 3809
" " 5794

**Special Instructions/QC Requirements & Comments:**

| Canisters Shipped by: | Date/Time: | Canisters Received by: |
|---|---|---|
| Samples Relinquished by: Dave Kinroth | Date/Time: 5-16-14 12:27 | Received by: Jeff Clark 5.16.14 1227 |
| Relinquished by: Jeff Clark | Date/Time: 5.16.14 1645 | Received by: KL 5/17/14 0940 |

7 cams
7 flows
7 cc

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

| Client Contact Information | | Project Manager: Dave Kinroth | Sampled By: | 2 of 2 COCs |
|---|---|---|---|---|
| Company: | Tetra Tech Inc. | Phone: 314-517-6798 | | |
| Address: | 415 Oak St | Site Contact: same | | |
| City/State/Zip | Kansas City MO 64106 | TAL Contact: Mike Franks | | |
| Phone: | 816 412 1786 | | | |
| FAX: | 816 410 1748 | | | |
| Project Name: | Westlake Landfill | Analysis Turnaround Time | | |
| Site/location: | Bridgeton MO | Standard (Specify) X 10 day | | |
| PO # | 1105352 | Rush (Specify) | | |

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, "Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25C | ASTM D-1946 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-00-SU-TB-20140515 | 5-14+5-15-14 | 12:45 | 18:05 | -29.3 | -29.3 | 10164 | 09544 | X | | | | | | | | | | | |
| END OF SHIPMENT | | | | | | | | | | | | | | | | | | | |
| Dave Kinroth 5-16-14 | | | | | | | | | | | | | | | | | | | |

| Sampled by : | Temperature (Fahrenheit) | | |
|---|---|---|---|
| | | Interior | Ambient |
| | Start | | 55 |
| | Stop | | 60 |

| | Pressure (inches of Hg) | | |
|---|---|---|---|
| | | Interior | Ambient |
| | Start | | 30.10 |
| | Stop | | 30.03 |

**Special Instructions/QC Requirements & Comments:**

| Canisters Shipped by: | Date/Time: | Canisters Received by: |
|---|---|---|
| Samples Relinquished by: Dave Kinroth | Date/Time: 5-16-14 12:27 | Received by: Jill Clarke 5-16-14 1227 |
| Relinquished by: Jill Clarke | Date/Time: 5-16-14 1645 | Received by: KV 5/17/14 0940 |

# Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1370-1

**Login Number: 1370**

**List Source: TestAmerica Knoxville**

**List Number: 1**

**Creator: Wilson, Ken**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | N/A | |
| Cooler Temperature is acceptable. | N/A | |
| Cooler Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | N/A | This is checked in the lab. |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

## TestAmerica Knoxville - Air Canister Initial Pressure Check

**Gauge ID:** G1

| Analyst | Date | Sample ID | 6 L | 1 L | Pressure @ Receipt (-in Hg or +psig) | Time | Comments |
|---|---|---|---|---|---|---|---|
| hmt | 5/19/2014 | 140-1370-A-1 | X | | -2.3 | 8:49 | |
| hmt | 5/19/2014 | 140-1370-A-2 | X | | -3.2 | 8:50 | |
| hmt | 5/19/2014 | 140-1370-A-3 | X | | -2.4 | 8:51 | |
| hmt | 5/19/2014 | 140-1370-A-4 | X | | +0.5 | 8:52 | |
| hmt | 5/19/2014 | 140-1370-A-5 | X | | -2.4 | 8:53 | |
| hmt | 5/19/2014 | 140-1370-A-6 | X | | -1.1 | 8:54 | |
| hmt | 5/19/2014 | 140-1370-A-7 | X | | -28.8 | 8:55 | Trip blank pressed up tp +1.3 |

**Tetra Tech, Inc.**
**DATA VALIDATION REPORT**
**LEVEL II**

| | |
|---|---|
| Site: | West Lake Landfill Site, Bridgeton, Missouri |
| Laboratory: | TestAmerica Laboratories, Inc. (Nashville, Tennessee) |
| Data Reviewer: | Harry Ellis, Tetra Tech, Inc. (Tetra Tech) |
| Review Date | June 3, 2014 |
| Sample Delivery Group (SDG): | J1432 |
| Sample Numbers: | WAA-01-SU-PS-20140523, WAA-02-SU-PS-20140523, WAA-03-SU-PS-20140523, WAA-04-SU-PS-20140523, WAA-04-SU-DU-20140523, WAA-05-SU-PS-20140523, and WAA-00-SU-TB-20140515 |
| Matrix / Number of Samples: | 5 Air Samples, 1 Field Duplicate, and 1 Trip Blank |

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

3 June 2014

Certified by Harry Ellis, Chemist

Date



WLLFOIA4312 - 015 - 0154978

## DATA VALIDATION QUALIFIERS

**U** — The analyte was not detected above the reported sample quantitation limit.

**J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.

**R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.



WLLFOIA4312 - 015 - 0154979

## DATA ASSESSMENT

Sample delivery group (SDG) J1432 included five (5) environmental air (passivated canister) samples and two (2) QC samples (1 field duplicate and 1 trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

## VOLATILE ORGANIC COMPOUND ANALYSIS

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. Satisfactory LCS and field duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

III. Blanks

The laboratory (method) blank yielded low concentrations of 1,1-dichloroethane, chloromethane, methylene chloride, and trichlorofluoromethane. Field sample concentrations of these analytes less than their reporting limits, such as methylene chloride in sample WAA-01-SU-PS-20140523, were qualified as nondetected and flagged "U" to indicate that. Field sample concentrations of these analytes greater than their reporting limits but less than 10 times the blank concentration, such as trichlorofluoromethane in that same sample, were qualified as estimated, possibly biased high, and flagged "J". Field sample concentrations of these analytes greater than 10 times the blank concentration, such as trichlorofluoromethane in sample WAA-02-SU-PS-20140523, were not qualified.

IV. Laboratory Control Sample (LCS)

All percent recoveries from the duplicate LCS analyses were within established control limits. No qualifications were applied.

V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

VI. Comments

Many detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

VII. Overall Assessment of Data

Overall data quality is acceptable, with few qualifications applied. All data are usable as qualified for their intended purposes.



WLLFOIA4312 - 015 - 0154980

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

TestAmerica Job ID: 140-1432-1
Client Project/Site: West Lake Landfill

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

*Authorized for release by:*
*6/3/2014 9:55:49 AM*

Jamie McKinney, Senior Project Manager
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LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| B | Compound was found in the blank and sample. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| 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 |
| 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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Job ID: 140-1432-1

### Laboratory: TestAmerica Knoxville

**Narrative**

**Job Narrative**
**140-1432-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 5/29/2014 10:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Air - GC/MS VOA**
Method(s) TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified “zero air” as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of “zero air” by TestAmerica Knoxville.
No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



WLLFOIA4312 - 015 - 0154985

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-01-SU-PS-20140523 — Lab Sample ID: 140-1432-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.083 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.086 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.12 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.048 | J B | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.080 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.0 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.49 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.31 | J B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.22 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.23 | B | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.63 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.28 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.77 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.13 | J B | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.39 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 2.1 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.4 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.1 | J B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.83 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.3 | B | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-02-SU-PS-20140523 — Lab Sample ID: 140-1432-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.087 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.094 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.088 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.041 | J B | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.65 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.52 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.34 | J B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.38 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.23 | B | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.67 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.30 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.55 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.11 | J B | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.6 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.2 | J B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.4 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.3 | B | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-03-SU-PS-20140523 — Lab Sample ID: 140-1432-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.093 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.11 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-03-SU-PS-20140523 (Continued) — Lab Sample ID: 140-1432-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | 0.092 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.056 | J B | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.038 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.97 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.55 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.36 | J B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.12 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.44 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.26 | B | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.72 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.35 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.58 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.15 | J B | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.19 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 2.0 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.7 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.2 | J B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.54 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.7 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | B | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-PS-20140523 — Lab Sample ID: 140-1432-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.076 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.087 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.065 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.57 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.45 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.34 | J B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.080 | J | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.25 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.21 | B | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.58 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.28 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.41 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.2 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.2 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.2 | J B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.54 | J | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.95 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.2 | B | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-DU-20140523 — Lab Sample ID: 140-1432-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.076 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.080 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-04-SU-DU-20140523 (Continued) — Lab Sample ID: 140-1432-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | 0.065 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.067 | J B | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.68 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.46 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.32 | J B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.21 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.21 | B | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.58 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.26 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.41 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.18 | J B | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.4 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.3 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.1 | J B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.80 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.2 | B | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-05-SU-PS-20140523 — Lab Sample ID: 140-1432-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.076 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.088 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.069 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.036 | J B | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.58 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.47 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.31 | J B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.27 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.21 | B | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.58 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.28 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.44 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.096 | J B | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.2 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.3 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.1 | J B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.0 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.2 | B | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-00-SU-TB-20140523 — Lab Sample ID: 140-1432-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 0.21 | J B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 0.72 | J B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

**Client Sample ID: WAA-01-SU-PS-20140523**
Date Collected: 05/23/14 10:06
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1432-1**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.083** | **J** | 0.20 | 0.031 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **Benzene** | **0.086** | **J** | 0.20 | 0.056 | ppb v/v | | | 05/30/14 00:19 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/30/14 00:19 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **Carbon tetrachloride** | **0.12** | **J** | 0.20 | 0.038 | ppb v/v | | | 05/30/14 00:19 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **Chloroethane** | ~~0.048~~ ~~J B~~ U | | 0.20 | 0.035 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **Chloroform** | **0.080** | **J** | 0.20 | 0.038 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **Chloromethane** | **1.0** | | 0.50 | 0.16 | ppb v/v | | | 05/30/14 00:19 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/30/14 00:19 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **Dichlorodifluoromethane** | **0.49** | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 00:19 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 00:19 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/30/14 00:19 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **Methylene Chloride** | ~~0.31~~ ~~J B~~ U | | 0.50 | 0.13 | ppb v/v | | | 05/30/14 00:19 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 00:19 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 00:19 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/30/14 00:19 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **Toluene** | **0.22** | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 00:19 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/30/14 00:19 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/30/14 00:19 | 1 |
| **Trichlorofluoromethane** | **0.23** | ~~B~~ J | 0.20 | 0.024 | ppb v/v | | | 05/30/14 00:19 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/30/14 00:19 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.63** | **J** | 1.5 | 0.24 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/30/14 00:19 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-01-SU-PS-20140523

Lab Sample ID: 140-1432-1
Matrix: Air

Date Collected: 05/23/14 10:06
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **Benzene** | **0.28** | J | 0.64 | 0.18 | ug/m3 | | | 05/30/14 00:19 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/30/14 00:19 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **Carbon tetrachloride** | **0.77** | J | 1.3 | 0.24 | ug/m3 | | | 05/30/14 00:19 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **Chloroethane** | ~~0.13~~ | ~~J B~~ U | 0.53 | 0.092 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **Chloroform** | **0.39** | J | 0.98 | 0.19 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **Chloromethane** | **2.1** | | 1.0 | 0.33 | ug/m3 | | | 05/30/14 00:19 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/30/14 00:19 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **Dichlorodifluoromethane** | **2.4** | | 0.99 | 0.34 | ug/m3 | | | 05/30/14 00:19 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/30/14 00:19 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/30/14 00:19 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **Methylene Chloride** | ~~1.1~~ | ~~J B~~ U | 1.7 | 0.45 | ug/m3 | | | 05/30/14 00:19 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/30/14 00:19 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/30/14 00:19 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/30/14 00:19 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **Toluene** | **0.83** | | 0.75 | 0.45 | ug/m3 | | | 05/30/14 00:19 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/30/14 00:19 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/30/14 00:19 | 1 |
| **Trichlorofluoromethane** | **1.3** | ~~B~~ J | 1.1 | 0.13 | ug/m3 | | | 05/30/14 00:19 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/30/14 00:19 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *100* | | *60 - 140* | | *05/30/14 00:19* | *1* |

## Client Sample ID: WAA-02-SU-PS-20140523

Lab Sample ID: 140-1432-2
Matrix: Air

Date Collected: 05/23/14 11:55
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 01:04 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.087** | J | 0.20 | 0.031 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/30/14 01:04 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

**Client Sample ID: WAA-02-SU-PS-20140523**
Date Collected: 05/23/14 11:55
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1432-2**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/30/14 01:04 | 1 |
| **Benzene** | **0.094** | J | 0.20 | 0.056 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 01:04 | 1 |
| **Carbon tetrachloride** | **0.088** | J | 0.20 | 0.038 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/30/14 01:04 | 1 |
| **Chloroethane** | ~~0.041~~ ~~J B~~ U | | 0.20 | 0.035 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/30/14 01:04 | 1 |
| **Chloromethane** | **0.65** | | 0.50 | 0.16 | ppb v/v | | | 05/30/14 01:04 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/30/14 01:04 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/30/14 01:04 | 1 |
| **Dichlorodifluoromethane** | **0.52** | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 01:04 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/30/14 01:04 | 1 |
| **Methylene Chloride** | ~~0.34~~ ~~J B~~ U | | 0.50 | 0.13 | ppb v/v | | | 05/30/14 01:04 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 01:04 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/30/14 01:04 | 1 |
| **Toluene** | **0.38** | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 01:04 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/30/14 01:04 | 1 |
| **Trichlorofluoromethane** | **0.23** | ~~B~~ J | 0.20 | 0.024 | ppb v/v | | | 05/30/14 01:04 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/30/14 01:04 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/30/14 01:04 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.67** | J | 1.5 | 0.24 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/30/14 01:04 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-02-SU-PS-20140523

Lab Sample ID: 140-1432-2
Matrix: Air

Date Collected: 05/23/14 11:55
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/30/14 01:04 | 1 |
| **Benzene** | **0.30** | J | 0.64 | 0.18 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/30/14 01:04 | 1 |
| **Carbon tetrachloride** | **0.55** | J | 1.3 | 0.24 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/30/14 01:04 | 1 |
| **Chloroethane** | ~~0.11~~ | ~~J B~~ 4 | 0.53 | 0.092 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/30/14 01:04 | 1 |
| **Chloromethane** | **1.3** | | 1.0 | 0.33 | ug/m3 | | | 05/30/14 01:04 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/30/14 01:04 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/30/14 01:04 | 1 |
| **Dichlorodifluoromethane** | **2.6** | | 0.99 | 0.34 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/30/14 01:04 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/30/14 01:04 | 1 |
| **Methylene Chloride** | ~~1.2~~ | ~~J B~~ 4 | 1.7 | 0.45 | ug/m3 | | | 05/30/14 01:04 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/30/14 01:04 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/30/14 01:04 | 1 |
| **Toluene** | **1.4** | | 0.75 | 0.45 | ug/m3 | | | 05/30/14 01:04 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/30/14 01:04 | 1 |
| **Trichlorofluoromethane** | **1.3** | ~~B~~ 9 | 1.1 | 0.13 | ug/m3 | | | 05/30/14 01:04 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/30/14 01:04 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *100* | | *60 - 140* | | *05/30/14 01:04* | *1* |

## Client Sample ID: WAA-03-SU-PS-20140523

Lab Sample ID: 140-1432-3
Matrix: Air

Date Collected: 05/23/14 11:30
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.093** | J | 0.20 | 0.031 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 01:51 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

**Client Sample ID: WAA-03-SU-PS-20140523**
Date Collected: 05/23/14 11:30
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1432-3**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **Benzene** | **0.11** | J | 0.20 | 0.056 | ppb v/v | | | 05/30/14 01:51 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/30/14 01:51 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **Carbon tetrachloride** | **0.092** | J | 0.20 | 0.038 | ppb v/v | | | 05/30/14 01:51 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **Chloroethane** | ~~0.056~~ | ~~J B~~ U | 0.20 | 0.035 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **Chloroform** | **0.038** | J | 0.20 | 0.038 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **Chloromethane** | **0.97** | | 0.50 | 0.16 | ppb v/v | | | 05/30/14 01:51 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/30/14 01:51 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **Dichlorodifluoromethane** | **0.55** | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 01:51 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 01:51 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/30/14 01:51 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **Methylene Chloride** | ~~0.36~~ | ~~J B~~ U | 0.50 | 0.13 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **m-Xylene & p-Xylene** | **0.12** | J | 0.20 | 0.12 | ppb v/v | | | 05/30/14 01:51 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 01:51 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/30/14 01:51 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **Toluene** | **0.44** | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 01:51 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/30/14 01:51 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/30/14 01:51 | 1 |
| **Trichlorofluoromethane** | **0.26** | ~~B~~ e | 0.20 | 0.024 | ppb v/v | | | 05/30/14 01:51 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/30/14 01:51 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.72** | J | 1.5 | 0.24 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **Benzene** | **0.35** | J | 0.64 | 0.18 | ug/m3 | | | 05/30/14 01:51 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-03-SU-PS-20140523

Lab Sample ID: 140-1432-3
Matrix: Air

Date Collected: 05/23/14 11:30
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/30/14 01:51 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **Carbon tetrachloride** | **0.58** | J | 1.3 | 0.24 | ug/m3 | | | 05/30/14 01:51 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **Chloroethane** | ~~0.15~~ | ~~J B~~ U | 0.53 | 0.092 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **Chloroform** | **0.19** | J | 0.98 | 0.19 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **Chloromethane** | **2.0** | | 1.0 | 0.33 | ug/m3 | | | 05/30/14 01:51 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/30/14 01:51 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **Dichlorodifluoromethane** | **2.7** | | 0.99 | 0.34 | ug/m3 | | | 05/30/14 01:51 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/30/14 01:51 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/30/14 01:51 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **Methylene Chloride** | ~~1.3~~ | ~~J B~~ U | 1.7 | 0.45 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **m-Xylene & p-Xylene** | **0.54** | J | 0.87 | 0.52 | ug/m3 | | | 05/30/14 01:51 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/30/14 01:51 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/30/14 01:51 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **Toluene** | **1.7** | | 0.75 | 0.45 | ug/m3 | | | 05/30/14 01:51 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/30/14 01:51 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/30/14 01:51 | 1 |
| **Trichlorofluoromethane** | **1.4** | ~~B~~ e | 1.1 | 0.13 | ug/m3 | | | 05/30/14 01:51 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/30/14 01:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *60 - 140* | | *05/30/14 01:51* | *1* |

## Client Sample ID: WAA-04-SU-PS-20140523

Lab Sample ID: 140-1432-4
Matrix: Air

Date Collected: 05/23/14 11:41
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 02:36 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.076** | J | 0.20 | 0.031 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 02:36 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

**Client Sample ID: WAA-04-SU-PS-20140523**
Date Collected: 05/23/14 11:41
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1432-4**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/30/14 02:36 | 1 |
| **Benzene** | **0.087** | J | 0.20 | 0.056 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 02:36 | 1 |
| **Carbon tetrachloride** | **0.065** | J | 0.20 | 0.038 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/30/14 02:36 | 1 |
| **Chloromethane** | **0.57** | | 0.50 | 0.16 | ppb v/v | | | 05/30/14 02:36 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/30/14 02:36 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/30/14 02:36 | 1 |
| **Dichlorodifluoromethane** | **0.45** | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 02:36 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/30/14 02:36 | 1 |
| **Methylene Chloride** | ~~0.34~~ ~~J B~~ U | | 0.50 | 0.13 | ppb v/v | | | 05/30/14 02:36 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 02:36 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/30/14 02:36 | 1 |
| **Tetrachloroethene** | **0.080** | J | 0.20 | 0.040 | ppb v/v | | | 05/30/14 02:36 | 1 |
| **Toluene** | **0.25** | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 02:36 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/30/14 02:36 | 1 |
| **Trichlorofluoromethane** | **0.21** | ~~B~~ J | 0.20 | 0.024 | ppb v/v | | | 05/30/14 02:36 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/30/14 02:36 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/30/14 02:36 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.58** | J | 1.5 | 0.24 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/30/14 02:36 | 1 |
| **Benzene** | **0.28** | J | 0.64 | 0.18 | ug/m3 | | | 05/30/14 02:36 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/30/14 02:36 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/30/14 02:36 | 1 |
| **Carbon tetrachloride** | **0.41** | J | 1.3 | 0.24 | ug/m3 | | | 05/30/14 02:36 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/30/14 02:36 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/30/14 02:36 | 1 |

HVE 3 Jun 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-04-SU-PS-20140523

Lab Sample ID: 140-1432-4
Matrix: Air

Date Collected: 05/23/14 11:41
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/30/14 02:36 | 1 |
| **Chloromethane** | **1.2** | | 1.0 | 0.33 | ug/m3 | | | 05/30/14 02:36 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/30/14 02:36 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/30/14 02:36 | 1 |
| **Dichlorodifluoromethane** | **2.2** | | 0.99 | 0.34 | ug/m3 | | | 05/30/14 02:36 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/30/14 02:36 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/30/14 02:36 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/30/14 02:36 | 1 |
| **Methylene Chloride** | ~~1.2~~ ~~J B~~ U | | 1.7 | 0.45 | ug/m3 | | | 05/30/14 02:36 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/30/14 02:36 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/30/14 02:36 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/30/14 02:36 | 1 |
| **Tetrachloroethene** | **0.54** | J | 1.4 | 0.27 | ug/m3 | | | 05/30/14 02:36 | 1 |
| **Toluene** | **0.95** | | 0.75 | 0.45 | ug/m3 | | | 05/30/14 02:36 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/30/14 02:36 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/30/14 02:36 | 1 |
| **Trichlorofluoromethane** | **1.2** | ~~B~~ J | 1.1 | 0.13 | ug/m3 | | | 05/30/14 02:36 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/30/14 02:36 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *60 - 140* | | *05/30/14 02:36* | *1* |

## Client Sample ID: WAA-04-SU-DU-20140523

Lab Sample ID: 140-1432-5
Matrix: Air

Date Collected: 05/23/14 11:42
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 03:21 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.076** | J | 0.20 | 0.031 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/30/14 03:21 | 1 |
| **Benzene** | **0.080** | J | 0.20 | 0.056 | ppb v/v | | | 05/30/14 03:21 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/30/14 03:21 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 03:21 | 1 |
| **Carbon tetrachloride** | **0.065** | J | 0.20 | 0.038 | ppb v/v | | | 05/30/14 03:21 | 1 |

HVE 3 Jun 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

Client Sample ID: WAA-04-SU-DU-20140523

Lab Sample ID: 140-1432-5

Date Collected: 05/23/14 11:42
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/30/14 03:21 | 1 |
| **Chloroethane** | ~~0.067~~ | ~~J B~~ U | 0.20 | 0.035 | ppb v/v | | | 05/30/14 03:21 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/30/14 03:21 | 1 |
| **Chloromethane** | 0.68 | | 0.50 | 0.16 | ppb v/v | | | 05/30/14 03:21 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/30/14 03:21 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/30/14 03:21 | 1 |
| **Dichlorodifluoromethane** | 0.46 | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 03:21 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 03:21 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/30/14 03:21 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/30/14 03:21 | 1 |
| **Methylene Chloride** | ~~0.32~~ | ~~J B~~ U | 0.50 | 0.13 | ppb v/v | | | 05/30/14 03:21 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 03:21 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 03:21 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/30/14 03:21 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/30/14 03:21 | 1 |
| **Toluene** | 0.21 | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 03:21 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/30/14 03:21 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/30/14 03:21 | 1 |
| **Trichlorofluoromethane** | 0.21 | ~~B~~ J | 0.20 | 0.024 | ppb v/v | | | 05/30/14 03:21 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/30/14 03:21 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/30/14 03:21 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | 0.58 | J | 1.5 | 0.24 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/30/14 03:21 | 1 |
| **Benzene** | 0.26 | J | 0.64 | 0.18 | ug/m3 | | | 05/30/14 03:21 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/30/14 03:21 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/30/14 03:21 | 1 |
| **Carbon tetrachloride** | 0.41 | J | 1.3 | 0.24 | ug/m3 | | | 05/30/14 03:21 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/30/14 03:21 | 1 |
| **Chloroethane** | ~~0.18~~ | ~~J B~~ U | 0.53 | 0.092 | ug/m3 | | | 05/30/14 03:21 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/30/14 03:21 | 1 |
| **Chloromethane** | 1.4 | | 1.0 | 0.33 | ug/m3 | | | 05/30/14 03:21 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/30/14 03:21 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/30/14 03:21 | 1 |
| **Dichlorodifluoromethane** | 2.3 | | 0.99 | 0.34 | ug/m3 | | | 05/30/14 03:21 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-04-SU-DU-20140523

Lab Sample ID: 140-1432-5
Matrix: Air

Date Collected: 05/23/14 11:42
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/30/14 03:21 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/30/14 03:21 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/30/14 03:21 | 1 |
| **Methylene Chloride** | ~~1.1 JB~~ | 4 | 1.7 | 0.45 | ug/m3 | | | 05/30/14 03:21 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/30/14 03:21 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/30/14 03:21 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/30/14 03:21 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/30/14 03:21 | 1 |
| **Toluene** | **0.80** | | 0.75 | 0.45 | ug/m3 | | | 05/30/14 03:21 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/30/14 03:21 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/30/14 03:21 | 1 |
| **Trichlorofluoromethane** | **1.2** | ~~B~~ J | 1.1 | 0.13 | ug/m3 | | | 05/30/14 03:21 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/30/14 03:21 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *60 - 140* | | *05/30/14 03:21* | *1* |

## Client Sample ID: WAA-05-SU-PS-20140523

Lab Sample ID: 140-1432-6
Matrix: Air

Date Collected: 05/23/14 12:05
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 04:05 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.076** | J | 0.20 | 0.031 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/30/14 04:05 | 1 |
| **Benzene** | **0.088** | J | 0.20 | 0.056 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/30/14 04:05 | 1 |
| **Carbon tetrachloride** | **0.069** | J | 0.20 | 0.038 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/30/14 04:05 | 1 |
| **Chloroethane** | ~~0.036 JB~~ | 4 | 0.20 | 0.035 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/30/14 04:05 | 1 |
| **Chloromethane** | **0.58** | | 0.50 | 0.16 | ppb v/v | | | 05/30/14 04:05 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/30/14 04:05 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

**Client Sample ID: WAA-05-SU-PS-20140523**
Date Collected: 05/23/14 12:05
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1432-6**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/30/14 04:05 | 1 |
| **Dichlorodifluoromethane** | **0.47** | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/30/14 04:05 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/30/14 04:05 | 1 |
| **Methylene Chloride** | ~~0.31~~ ~~J B~~ U | | 0.50 | 0.13 | ppb v/v | | | 05/30/14 04:05 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 04:05 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/30/14 04:05 | 1 |
| **Toluene** | **0.27** | | 0.20 | 0.12 | ppb v/v | | | 05/30/14 04:05 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/30/14 04:05 | 1 |
| **Trichlorofluoromethane** | **0.21** | ~~B~~ J | 0.20 | 0.024 | ppb v/v | | | 05/30/14 04:05 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/30/14 04:05 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/30/14 04:05 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.58** | J | 1.5 | 0.24 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/30/14 04:05 | 1 |
| **Benzene** | **0.28** | J | 0.64 | 0.18 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/30/14 04:05 | 1 |
| **Carbon tetrachloride** | **0.44** | J | 1.3 | 0.24 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/30/14 04:05 | 1 |
| **Chloroethane** | ~~0.096~~ ~~J B~~ U | | 0.53 | 0.092 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/30/14 04:05 | 1 |
| **Chloromethane** | **1.2** | | 1.0 | 0.33 | ug/m3 | | | 05/30/14 04:05 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/30/14 04:05 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/30/14 04:05 | 1 |
| **Dichlorodifluoromethane** | **2.3** | | 0.99 | 0.34 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/30/14 04:05 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/30/14 04:05 | 1 |
| **Methylene Chloride** | ~~1.1~~ ~~J B~~ U | | 1.7 | 0.45 | ug/m3 | | | 05/30/14 04:05 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/30/14 04:05 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-05-SU-PS-20140523

Lab Sample ID: 140-1432-6
Matrix: Air

Date Collected: 05/23/14 12:05
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Toluene | 1.0 | | 0.75 | 0.45 | ug/m3 | | | 05/30/14 04:05 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Trichlorofluoromethane | 1.2 | ~~B~~ J | 1.1 | 0.13 | ug/m3 | | | 05/30/14 04:05 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/30/14 04:05 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *60 - 140* | | *05/30/14 04:05* | *1* |

## Client Sample ID: WAA-00-SU-TB-20140523

Lab Sample ID: 140-1432-7
Matrix: Air

Date Collected: 05/23/14 12:55
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 05/29/14 19:10 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/29/14 19:10 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/29/14 19:10 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Methylene Chloride | ~~0.21~~ ~~J B~~ | U | 0.50 | 0.13 | ppb v/v | | | 05/29/14 19:10 | 1 |

HVG 3 Jun 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

**Client Sample ID: WAA-00-SU-TB-20140523**
Date Collected: 05/23/14 12:55
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1432-7**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/29/14 19:10 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/29/14 19:10 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 05/29/14 19:10 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/29/14 19:10 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 05/29/14 19:10 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/29/14 19:10 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/29/14 19:10 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/29/14 19:10 | 1 |
| **Methylene Chloride** | ~~0.72~~ JB | 4 | 1.7 | 0.45 | ug/m3 | | | 05/29/14 19:10 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/29/14 19:10 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 05/29/14 19:10 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/29/14 19:10 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 05/29/14 19:10 | 1 |

HVG 3 Jun 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

**Client Sample ID: WAA-00-SU-TB-20140523**
Date Collected: 05/23/14 12:55
Date Received: 05/29/14 10:20
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1432-7**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/29/14 19:10 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *60 - 140* | | *05/29/14 19:10* | *1* |

HVG
3 June 2014

# Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | **Client Sample ID** | **BFB (60-140)** | | | | | | |
| 140-1432-1 | WAA-01-SU-PS-20140523 | 100 | | | | | | |
| 140-1432-2 | WAA-02-SU-PS-20140523 | 100 | | | | | | |
| 140-1432-3 | WAA-03-SU-PS-20140523 | 101 | | | | | | |
| 140-1432-4 | WAA-04-SU-PS-20140523 | 105 | | | | | | |
| 140-1432-5 | WAA-04-SU-DU-20140523 | 105 | | | | | | |
| 140-1432-6 | WAA-05-SU-PS-20140523 | 101 | | | | | | |
| 140-1432-7 | WAA-00-SU-TB-20140523 | 105 | | | | | | |
| LCS 140-1289/1002 | Lab Control Sample | 104 | | | | | | |
| MB 140-1289/8 | Method Blank | 104 | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-1289/8**
**Matrix: Air**
**Analysis Batch: 1289**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,1-Dichloroethane | 0.0299 | J | 0.20 | 0.026 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Chloroethane | 0.0409 | J | 0.20 | 0.035 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 05/29/14 18:24 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 05/29/14 18:24 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 05/29/14 18:24 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Methylene Chloride | 0.216 | J | 0.50 | 0.13 | ppb v/v | | | 05/29/14 18:24 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/29/14 18:24 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 05/29/14 18:24 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Trichlorofluoromethane | 0.0316 | J | 0.20 | 0.024 | ppb v/v | | | 05/29/14 18:24 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 05/29/14 18:24 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,1-Dichloroethane | 0.121 | J | 0.81 | 0.11 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 05/29/14 18:24 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1289/8**
**Matrix: Air**
**Analysis Batch: 1289**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Chloroethane | 0.108 | J | 0.53 | 0.092 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 05/29/14 18:24 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 05/29/14 18:24 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 05/29/14 18:24 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Methylene Chloride | 0.751 | J | 1.7 | 0.45 | ug/m3 | | | 05/29/14 18:24 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 05/29/14 18:24 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 05/29/14 18:24 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Trichlorofluoromethane | 0.178 | J | 1.1 | 0.13 | ug/m3 | | | 05/29/14 18:24 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 05/29/14 18:24 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *60 - 140* | | *05/29/14 18:24* | *1* |

**Lab Sample ID: LCS 140-1289/1002**
**Matrix: Air**
**Analysis Batch: 1289**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 2.00 | 2.17 | | ppb v/v | | 109 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 2.00 | 1.89 | | ppb v/v | | 94 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 2.00 | 2.14 | | ppb v/v | | 107 | 70 - 130 |
| 1,1,2-Trichloroethane | 2.00 | 1.90 | | ppb v/v | | 95 | 70 - 130 |
| 1,1-Dichloroethane | 2.00 | 2.18 | | ppb v/v | | 109 | 70 - 130 |
| 1,1-Dichloroethene | 2.00 | 2.12 | | ppb v/v | | 106 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1289/1002**
**Matrix: Air**
**Analysis Batch: 1289**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2.00 | 1.47 | | ppb v/v | | 74 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 2.00 | 1.84 | | ppb v/v | | 92 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00 | 2.27 | | ppb v/v | | 113 | 60 - 140 |
| 1,2-Dichlorobenzene | 2.00 | 1.58 | | ppb v/v | | 79 | 70 - 130 |
| 1,2-Dichloroethane | 2.00 | 2.09 | | ppb v/v | | 105 | 70 - 130 |
| 1,2-Dichloropropane | 2.00 | 2.06 | | ppb v/v | | 103 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 2.00 | 1.91 | | ppb v/v | | 95 | 70 - 130 |
| 1,3-Dichlorobenzene | 2.00 | 1.56 | | ppb v/v | | 78 | 70 - 130 |
| 1,4-Dichlorobenzene | 2.00 | 1.55 | | ppb v/v | | 78 | 70 - 130 |
| Benzene | 2.00 | 1.99 | | ppb v/v | | 100 | 70 - 130 |
| Benzyl chloride | 2.00 | 1.66 | | ppb v/v | | 83 | 70 - 130 |
| Bromomethane | 2.00 | 2.26 | | ppb v/v | | 113 | 70 - 130 |
| Carbon tetrachloride | 2.00 | 1.65 | | ppb v/v | | 83 | 70 - 130 |
| Chlorobenzene | 2.00 | 1.75 | | ppb v/v | | 88 | 70 - 130 |
| Chloroethane | 2.00 | 2.25 | | ppb v/v | | 113 | 70 - 130 |
| Chloroform | 2.00 | 2.14 | | ppb v/v | | 107 | 70 - 130 |
| Chloromethane | 2.00 | 2.25 | | ppb v/v | | 113 | 60 - 140 |
| cis-1,2-Dichloroethene | 2.00 | 2.10 | | ppb v/v | | 105 | 70 - 130 |
| cis-1,3-Dichloropropene | 2.00 | 1.89 | | ppb v/v | | 94 | 70 - 130 |
| Dichlorodifluoromethane | 2.00 | 2.32 | | ppb v/v | | 116 | 60 - 140 |
| Ethylbenzene | 2.00 | 1.90 | | ppb v/v | | 95 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 2.00 | 1.78 | | ppb v/v | | 89 | 70 - 130 |
| Hexachlorobutadiene | 2.00 | 1.44 | | ppb v/v | | 72 | 60 - 140 |
| Methylene Chloride | 2.00 | 1.94 | | ppb v/v | | 97 | 70 - 130 |
| m-Xylene & p-Xylene | 4.00 | 3.84 | | ppb v/v | | 96 | 70 - 130 |
| o-Xylene | 2.00 | 2.03 | | ppb v/v | | 102 | 70 - 130 |
| Styrene | 2.00 | 1.94 | | ppb v/v | | 97 | 70 - 130 |
| Tetrachloroethene | 2.00 | 1.83 | | ppb v/v | | 92 | 70 - 130 |
| Toluene | 2.00 | 1.87 | | ppb v/v | | 93 | 70 - 130 |
| trans-1,3-Dichloropropene | 2.00 | 1.80 | | ppb v/v | | 90 | 70 - 130 |
| Trichloroethene | 2.00 | 1.93 | | ppb v/v | | 96 | 70 - 130 |
| Trichlorofluoromethane | 2.00 | 2.11 | | ppb v/v | | 106 | 60 - 140 |
| Vinyl chloride | 2.00 | 2.21 | | ppb v/v | | 110 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 11.9 | | ug/m3 | | 109 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 12.9 | | ug/m3 | | 94 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 16.4 | | ug/m3 | | 107 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 10.4 | | ug/m3 | | 95 | 70 - 130 |
| 1,1-Dichloroethane | 8.1 | 8.82 | | ug/m3 | | 109 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 8.39 | | ug/m3 | | 106 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 10.9 | | ug/m3 | | 74 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.8 | 9.06 | | ug/m3 | | 92 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 15.9 | | ug/m3 | | 113 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 9.47 | | ug/m3 | | 79 | 70 - 130 |
| 1,2-Dichloroethane | 8.1 | 8.46 | | ug/m3 | | 105 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1289/1002**
**Matrix: Air**
**Analysis Batch: 1289**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 9.2 | 9.51 | | ug/m3 | | 103 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.8 | 9.39 | | ug/m3 | | 95 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 9.38 | | ug/m3 | | 78 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 9.33 | | ug/m3 | | 78 | 70 - 130 |
| Benzene | 6.4 | 6.37 | | ug/m3 | | 100 | 70 - 130 |
| Benzyl chloride | 10 | 8.59 | | ug/m3 | | 83 | 70 - 130 |
| Bromomethane | 7.8 | 8.76 | | ug/m3 | | 113 | 70 - 130 |
| Carbon tetrachloride | 13 | 10.4 | | ug/m3 | | 83 | 70 - 130 |
| Chlorobenzene | 9.2 | 8.07 | | ug/m3 | | 88 | 70 - 130 |
| Chloroethane | 5.3 | 5.95 | | ug/m3 | | 113 | 70 - 130 |
| Chloroform | 9.8 | 10.4 | | ug/m3 | | 107 | 70 - 130 |
| Chloromethane | 4.1 | 4.65 | | ug/m3 | | 113 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 8.33 | | ug/m3 | | 105 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.1 | 8.56 | | ug/m3 | | 94 | 70 - 130 |
| Dichlorodifluoromethane | 9.9 | 11.5 | | ug/m3 | | 116 | 60 - 140 |
| Ethylbenzene | 8.7 | 8.25 | | ug/m3 | | 95 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 13.7 | | ug/m3 | | 89 | 70 - 130 |
| Hexachlorobutadiene | 21 | 15.4 | | ug/m3 | | 72 | 60 - 140 |
| Methylene Chloride | 6.9 | 6.75 | | ug/m3 | | 97 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 16.7 | | ug/m3 | | 96 | 70 - 130 |
| o-Xylene | 8.7 | 8.82 | | ug/m3 | | 102 | 70 - 130 |
| Styrene | 8.5 | 8.27 | | ug/m3 | | 97 | 70 - 130 |
| Tetrachloroethene | 14 | 12.4 | | ug/m3 | | 92 | 70 - 130 |
| Toluene | 7.5 | 7.04 | | ug/m3 | | 93 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1 | 8.19 | | ug/m3 | | 90 | 70 - 130 |
| Trichloroethene | 11 | 10.4 | | ug/m3 | | 96 | 70 - 130 |
| Trichlorofluoromethane | 11 | 11.9 | | ug/m3 | | 106 | 60 - 140 |
| Vinyl chloride | 5.1 | 5.64 | | ug/m3 | | 110 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *60 - 140* |

# QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Air - GC/MS VOA

### Analysis Batch: 1289

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1432-1 | WAA-01-SU-PS-20140523 | Total/NA | Air | TO-15 | |
| 140-1432-2 | WAA-02-SU-PS-20140523 | Total/NA | Air | TO-15 | |
| 140-1432-3 | WAA-03-SU-PS-20140523 | Total/NA | Air | TO-15 | |
| 140-1432-4 | WAA-04-SU-PS-20140523 | Total/NA | Air | TO-15 | |
| 140-1432-5 | WAA-04-SU-DU-20140523 | Total/NA | Air | TO-15 | |
| 140-1432-6 | WAA-05-SU-PS-20140523 | Total/NA | Air | TO-15 | |
| 140-1432-7 | WAA-00-SU-TB-20140523 | Total/NA | Air | TO-15 | |
| LCS 140-1289/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1289/8 | Method Blank | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-01-SU-PS-20140523 — Lab Sample ID: 140-1432-1

**Date Collected: 05/23/14 10:06** — **Matrix: Air**
**Date Received: 05/29/14 10:20**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1289 | 05/30/14 00:19 | HMT | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-02-SU-PS-20140523 — Lab Sample ID: 140-1432-2

**Date Collected: 05/23/14 11:55** — **Matrix: Air**
**Date Received: 05/29/14 10:20**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1289 | 05/30/14 01:04 | HMT | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-03-SU-PS-20140523 — Lab Sample ID: 140-1432-3

**Date Collected: 05/23/14 11:30** — **Matrix: Air**
**Date Received: 05/29/14 10:20**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1289 | 05/30/14 01:51 | HMT | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-04-SU-PS-20140523 — Lab Sample ID: 140-1432-4

**Date Collected: 05/23/14 11:41** — **Matrix: Air**
**Date Received: 05/29/14 10:20**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1289 | 05/30/14 02:36 | HMT | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-04-SU-DU-20140523 — Lab Sample ID: 140-1432-5

**Date Collected: 05/23/14 11:42** — **Matrix: Air**
**Date Received: 05/29/14 10:20**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1289 | 05/30/14 03:21 | HMT | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-05-SU-PS-20140523 — Lab Sample ID: 140-1432-6

**Date Collected: 05/23/14 12:05** — **Matrix: Air**
**Date Received: 05/29/14 10:20**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1289 | 05/30/14 04:05 | HMT | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Client Sample ID: WAA-00-SU-TB-20140523

**Lab Sample ID: 140-1432-7**

**Date Collected: 05/23/14 12:55**

**Matrix: Air**

**Date Received: 05/29/14 10:20**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1289 | 05/29/14 19:10 | HMT | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

## Laboratory: TestAmerica Knoxville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | AFCEE | | N/A | |
| Arkansas DEQ | State Program | 6 | 88-0688 | 06-17-14 * |
| California | State Program | 9 | 2423 | 06-30-14 |
| Colorado | State Program | 8 | N/A | 02-28-15 |
| Connecticut | State Program | 1 | PH-0223 | 09-30-15 |
| Florida | NELAP | 4 | E87177 | 06-30-14 |
| Georgia | State Program | 4 | 906 | 06-13-14 * |
| Hawaii | State Program | 9 | N/A | 04-13-15 |
| Iowa | State Program | 7 | 375 | 08-01-14 |
| Kansas | NELAP | 7 | E-10349 | 10-31-14 |
| Kentucky (DW) | State Program | 4 | 90101 | 12-31-14 |
| L-A-B | DoD ELAP | | L2311 | 02-13-16 |
| Louisiana | NELAP | 6 | LA110001 | 12-31-14 |
| Maryland | State Program | 3 | 277 | 03-31-15 |
| Michigan | State Program | 5 | 9933 | 04-13-14 * |
| Nevada | State Program | 9 | TN00009 | 07-31-14 |
| New Jersey | NELAP | 2 | TN001 | 06-30-14 |
| New York | NELAP | 2 | 10781 | 03-31-15 |
| North Carolina DENR | State Program | 4 | 64 | 12-31-14 |
| North Carolina DHHS | State Program | 4 | 21705 | 07-31-14 |
| Ohio VAP | State Program | 5 | CL0059 | 03-26-15 |
| Oklahoma | State Program | 6 | 9415 | 08-31-14 |
| Pennsylvania | NELAP | 3 | 68-00576 | 12-31-14 |
| South Carolina | State Program | 4 | 84001 | 06-30-14 |
| Tennessee | State Program | 4 | 2014 | 04-13-17 |
| Texas | NELAP | 6 | T104704380-TX | 08-31-14 |
| USDA | Federal | | P330-13-00260 | 08-29-16 |
| Utah | NELAP | 8 | QUAN3 | 07-31-14 |
| Virginia | NELAP | 3 | 460176 | 09-14-14 |
| Virginia | State Program | 3 | 165 | 06-30-14 |
| Washington | State Program | 10 | C593 | 01-19-15 |
| West Virginia DEP | State Program | 3 | 345 | 04-30-15 |
| West Virginia DHHR | State Program | 3 | 9955C | 12-31-14 |
| Wisconsin | State Program | 5 | 998044300 | 08-31-14 |

* Expired certification is currently pending renewal and is considered valid.

# Method Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | TAL KNX |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1432-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 140-1432-1 | WAA-01-SU-PS-20140523 | Air | 05/23/14 10:06 | 05/29/14 10:20 |
| 140-1432-2 | WAA-02-SU-PS-20140523 | Air | 05/23/14 11:55 | 05/29/14 10:20 |
| 140-1432-3 | WAA-03-SU-PS-20140523 | Air | 05/23/14 11:30 | 05/29/14 10:20 |
| 140-1432-4 | WAA-04-SU-PS-20140523 | Air | 05/23/14 11:41 | 05/29/14 10:20 |
| 140-1432-5 | WAA-04-SU-DU-20140523 | Air | 05/23/14 11:42 | 05/29/14 10:20 |
| 140-1432-6 | WAA-05-SU-PS-20140523 | Air | 05/23/14 12:05 | 05/29/14 10:20 |
| 140-1432-7 | WAA-00-SU-TB-20140523 | Air | 05/23/14 12:55 | 05/29/14 10:20 |

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

| Client Contact Information | | Project Manager: Dave Kinroth | Sampled By: Dave Kinroth | 1 of 2 COCs |
|---|---|---|---|---|
| Company: Tetra Tech Inc. | | Phone: 314-517-6798 | | |
| Address: 415 oak street | | Site Contact: Same | | |
| City/State/Zip Kansescity Mo 64106 | | TAL Contact: Mike Franks | | |
| Phone: 816-412-1786 | | | | |
| FAX: 816-410-1748 | | | | |
| Project Name: Westlake Landfill | | Analysis Turnaround Time | | |
| Site/location: Bridgeton MO | | Standard (Specify) X 10 days | | |
| PO # 1105352 | | Rush (Specify) | | |

140-1432 Chain of Custody

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, "Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25C | ASTM D-1946 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-01-SU-PS-20140523 | 5-22-14 to 5-23-14 | 10:15 | 10:06 | -29.0 | -2.5 | 10200 | 10579 | X | | | | | | | | | | | |
| WAA-02-SU-PS-20140523 | ↓ | 12:18 | 11:55 | -29.1 | -3.0 | 10469 | 11014 | ↓ | | | | | | | | | | | |
| WAA-03-SU-PS-20140523 | ↓ | 11:40 | 11:30 | -29.0 | -3.0 | 10072 | 09965 | ↓ | | | | | | | | | | | |
| WAA-04-SU-PS-20140523 | ↓ | 12:00 | 11:41 | -29.0 | -1.0 | 09857 | 09977 | ↓ | | | | | | | | | | | |
| WAA-04-SU-DU-20140523 | ↓ | 12:00 | 11:42 | -29.1 | -3.0 | 10429 | 10032 | ↓ | | | | | | | | | | | |
| WAA-05-SU-PS-20140523 | ↓ | 1233 | 1205 | -29.0 | -2.5 | 10651 | 10701 | ↓ | | | | | | | | | | | |

**Sampled by :**

| Temperature (Fahrenheit) | Interior | Ambient |
|---|---|---|
| Start | | 73 |
| Stop | | 80 |

| Pressure (inches of Hg) | Interior | Ambient |
|---|---|---|
| Start | | 30.13 |
| Stop | | 30.13 |

Received @ ambient
custody seal intact
2 boxes
KW 5/29/14
FedEx PO
trk# 5399 0207 4058
" " 4047

**Special Instructions/QC Requirements & Comments:**

| Canisters Shipped by: | Date/Time: | Canisters Received by: | 7 cans |
|---|---|---|---|
| Samples Relinquished by: D. David Kinroth | Date/Time: 5-27-14 11:07 | Received by: [illegible] 1115 | 7 flows |
| Relinquished by: [illegible] Clark | Date/Time: 5.27.14 1200 | Received by: KW 5/29/14 1620 | 7 cc |





WLLFOIA4312 - 015 - 0155014

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

| Client Contact Information | | Project Manager: Dave Kinroth | Sampled By: Dave Kinroth | 2 of 2 COCs |
|---|---|---|---|---|
| Company: Tetra Tech Inc. | | Phone: 314-517-6798 | | |
| Address: 415 Oak Street | | Site Contact: same | | |
| City/State/Zip Kansas City MO 64106 | | TAL Contact: Mike Franks | | |
| Phone: 816-412-1786 | | | | |
| FAX: 816-410-1748 | | | | |
| Project Name: Westlake Landfill | | Analysis Turnaround Time | | |
| Site/location: Bridgeton MO | | Standard (Specify) X 10 days | | |
| PO # 110 5352 | | Rush (Specify) | | |

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, 'Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25C | ASTM D-1946 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-00-SU-TB-20140523 | 5-22-14 ~~5-23-14~~ | 10:15 | 10:15 | -29.0 | -29.0 | 09847 | 10849 | X | | | | | | | | | | | |
| END OF SHIPMENT | | | | | | | | | | | | | | | | | | | |
| Dave Kinroth 5-27-14 | | | | | | | | | | | | | | | | | | | |

| Sampled by : | Temperature (Fahrenheit) | | |
|---|---|---|---|
| | | Interior | Ambient |
| | Start | | 73 |
| | Stop | | 80 |

| | Pressure (inches of Hg) | | |
|---|---|---|---|
| | | Interior | Ambient |
| | Start | | 30.13 |
| | Stop | | 30.13 |

**Special Instructions/QC Requirements & Comments:**

| | | |
|---|---|---|
| Canisters Shipped by: | Date/Time: | Canisters Received by: |
| Samples Relinquished by: | Date/Time: | Received by: |
| Relinquished by: Jill Clark | Date/Time: 5.27.14 1200 | Received by: KW 5/29/14 1020 |

# Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1432-1

**Login Number: 1432**

**List Source: TestAmerica Knoxville**

**List Number: 1**

**Creator: Wilson, Ken**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | N/A | |
| Cooler Temperature is acceptable. | N/A | |
| Cooler Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | N/A | This is checked in the lab. |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

## TestAmerica Knoxville - Air Canister Initial Pressure Check

**Gauge ID:** G1

| Analyst | Date | Sample ID | 6 L | 1 L | Pressure @ Receipt (-in Hg or +psig) | Time | Comments |
|---|---|---|---|---|---|---|---|
| AFB | 5/28/2014 | 140-1432-A-1 | X | | -2.7 | 1300 | |
| AFB | 5/28/2014 | 140-1432-A-2 | X | | -3.7 | 1301 | |
| AFB | 5/28/2014 | 140-1432-A-3 | X | | -2.5 | 1302 | |
| AFB | 5/28/2014 | 140-1432-A-4 | X | | -2.2 | 1303 | |
| AFB | 5/28/2014 | 140-1432-A-5 | X | | -4.3 | 1304 | |
| AFB | 5/28/2014 | 140-1432-A-6 | X | | -3.2 | 1305 | |
| AFB | 5/28/2014 | 140-1432-A-7 | X | | -29.2 | 1306 | TRIP BLK (PRESSED TO 10) |

**Tetra Tech, Inc.**
**DATA VALIDATION REPORT**
**LEVEL II**

| | |
|---|---|
| Site: | West Lake Landfill Site, Bridgeton, Missouri |
| Laboratory: | TestAmerica Laboratories, Inc. (Knoxville, Tennessee) |
| Data Reviewer: | Harry Ellis, Tetra Tech, Inc. (Tetra Tech) |
| Review Date | June 16, 2014 |
| Sample Delivery Group (SDG): | J1462 |
| Sample Numbers: | WAA-01-SU-PS-20140530, WAA-02-SU-PS-20140530, WAA-03-SU-PS-20140530, WAA-04-SU-PS-20140530, WAA-04-SU-DU-20140530, WAA-05-SU-PS-20140530, and WAA-00-SU-TB-20140530 |
| Matrix / Number of Samples: | 5 Air Samples, 1 Field Duplicate, and 1 Trip Blank |

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

16 June 2014

Certified by Harry Ellis, Chemist

Date



WLLFOIA4312 - 015 - 0155018

## DATA VALIDATION QUALIFIERS

**U** — The analyte was not detected above the reported sample quantitation limit.

**J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.

**R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.



WLLFOIA4312 - 015 - 0155019

## DATA ASSESSMENT

Sample delivery group (SDG) J1462 included five (5) environmental air (passivated canister) samples and two (2) QC samples (1 field duplicate and 1 trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

## VOLATILE ORGANIC COMPOUND ANALYSIS

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. Satisfactory LCS and field duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

III. Blanks

The laboratory (method) blank yielded no detectable analytes, but the trip blank yielded a low concentration of tetrachloroethene. The similar concentration of this analyte in sample WAA-01-SU-PS-20140530 was qualified as nondetected and flagged "U" to indicate that. Other results for tetrachloroethene were either nondetected or much higher, so no further qualifications were applied.

IV. Laboratory Control Sample (LCS)

Almost all percent recoveries from the duplicate LCS analyses were within established control limits. The exceptions were 1,2-dichloroethane, with recoveries of 134 and 134 percent, versus QC limits of 70 to 130 percent. 1,2-Dichloroethane was not detected in any field samples so no qualifications were applied.

V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

VI. Comments

Many detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

VII. Overall Assessment of Data

Overall data quality is acceptable, with only one qualification applied. All data are usable as qualified for their intended purposes.



WLLFOIA4312 - 015 - 0155020

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

TestAmerica Job ID: 140-1462-1
Client Project/Site: West Lake Landfill

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

*Authorized for release by:*
*6/9/2014 12:37:29 PM*

Jamie McKinney, Senior Project Manager
(865)291-3000
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LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| * | LCS or LCSD exceeds the control limits |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| 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 |
| 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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Job ID: 140-1462-1

### Laboratory: TestAmerica Knoxville

**Narrative**

**Job Narrative**
**140-1462-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 6/3/2014 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Air - GC/MS VOA**
Method(s) TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified “zero air” as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of “zero air” by TestAmerica Knoxville.

Method(s) TO 15 LL, TO-14A, TO-15: The continuing calibration verification (CCV) associated with batch 1302 exhibited % difference of > 30% for the following analyte(s) 1,2-dichloroethane, however the results were within the LCS acceptance limits. The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria.

Method(s) TO 15 LL, TO-14A, TO-15: The following analyte(s) recovered outside control limits for the LCS associated with batch 1302: 1,2-dichloroethane. This is not indicative of a systematic control problem because these were random marginal exceedances. Qualified results have been reported.
No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



WLLFOIA4312 - 015 - 0155025

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-01-SU-PS-20140530 — Lab Sample ID: 140-1462-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.071 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.16 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.075 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.049 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.72 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.54 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.13 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.45 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.40 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.14 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Styrene | 0.064 | J | 0.20 | 0.058 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.069 | J | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 1.1 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.26 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.54 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.50 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.47 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.24 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.5 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.7 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.58 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.6 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.7 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.63 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Styrene | 0.27 | J | 0.85 | 0.25 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.47 | J | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 4.0 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.5 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-02-SU-PS-20140530 — Lab Sample ID: 140-1462-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.077 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,3-Dichlorobenzene | 0.085 | J | 0.20 | 0.065 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.16 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.047 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.87 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.55 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.31 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 13 | | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.53 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.062 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.26 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.59 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,3-Dichlorobenzene | 0.51 | J | 1.2 | 0.39 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.51 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.23 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.8 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-02-SU-PS-20140530 (Continued) — Lab Sample ID: 140-1462-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 2.7 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.1 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 86 | | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.0 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.33 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-03-SU-PS-20140530 — Lab Sample ID: 140-1462-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.069 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.065 | J | 0.20 | 0.063 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.20 | | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Bromomethane | 0.042 | J | 0.20 | 0.032 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.078 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.0 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.53 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.13 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.21 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.39 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.14 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Styrene | 0.067 | J | 0.20 | 0.058 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.86 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.53 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.32 | J | 0.98 | 0.31 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.64 | | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Bromomethane | 0.16 | J | 0.78 | 0.12 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.49 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 2.1 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.6 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.58 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.75 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.7 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.62 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Styrene | 0.29 | J | 0.85 | 0.25 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 3.2 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-PS-20140530 — Lab Sample ID: 140-1462-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.076 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.17 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.073 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.71 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.53 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.092 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.21 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-04-SU-PS-20140530 (Continued) — Lab Sample ID: 140-1462-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| m-Xylene & p-Xylene | 0.29 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.10 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Styrene | 0.097 | J | 0.20 | 0.058 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.78 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.58 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.55 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.46 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.5 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.6 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.40 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.74 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.2 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.43 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Styrene | 0.41 | J | 0.85 | 0.25 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.9 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-DU-20140530 — Lab Sample ID: 140-1462-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.076 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.066 | J | 0.20 | 0.063 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.17 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.076 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.90 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.51 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.14 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.22 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.41 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.14 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Styrene | 0.11 | J | 0.20 | 0.058 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.81 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.58 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.32 | J | 0.98 | 0.31 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.55 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.48 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.9 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.5 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.59 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.76 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.8 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.63 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Styrene | 0.48 | J | 0.85 | 0.25 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 3.0 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-05-SU-PS-20140530 — Lab Sample ID: 140-1462-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.075 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.096 | J | 0.20 | 0.063 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,4-Dichlorobenzene | 0.065 | J | 0.20 | 0.064 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.18 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.073 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.67 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.54 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.18 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.26 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.53 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.18 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Styrene | 0.064 | J | 0.20 | 0.058 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 1.4 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.040 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.28 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.57 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.47 | J | 0.98 | 0.31 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,4-Dichlorobenzene | 0.39 | J | 1.2 | 0.38 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.58 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.46 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.4 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.7 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.77 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.91 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 2.3 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.78 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Styrene | 0.27 | J | 0.85 | 0.25 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 5.4 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.22 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.6 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-00-SU-TB-20140530 — Lab Sample ID: 140-1462-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 0.076 | J | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | 0.52 | J | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

**Client Sample ID: WAA-01-SU-PS-20140530**
Date Collected: 05/30/14 16:20
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1462-1**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.071** | **J** | 0.20 | 0.031 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,2-Dichloroethane | ND | * | 0.20 | 0.047 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Benzene** | **0.16** | **J** | 0.20 | 0.056 | ppb v/v | | | 06/04/14 23:09 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/04/14 23:09 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Carbon tetrachloride** | **0.075** | **J** | 0.20 | 0.038 | ppb v/v | | | 06/04/14 23:09 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/04/14 23:09 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Chloroform** | **0.049** | **J** | 0.20 | 0.038 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Chloromethane** | **0.72** | | 0.50 | 0.16 | ppb v/v | | | 06/04/14 23:09 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/04/14 23:09 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Dichlorodifluoromethane** | **0.54** | | 0.20 | 0.068 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Ethylbenzene** | **0.13** | **J** | 0.20 | 0.068 | ppb v/v | | | 06/04/14 23:09 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/04/14 23:09 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Methylene Chloride** | **0.45** | **J** | 0.50 | 0.13 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **m-Xylene & p-Xylene** | **0.40** | | 0.20 | 0.12 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **o-Xylene** | **0.14** | **J** | 0.20 | 0.061 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Styrene** | **0.064** | **J** | 0.20 | 0.058 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Tetrachloroethene** | ~~**0.069**~~ | ~~**J**~~ 4 | 0.20 | 0.040 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Toluene** | **1.1** | | 0.20 | 0.12 | ppb v/v | | | 06/04/14 23:09 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/04/14 23:09 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/04/14 23:09 | 1 |
| **Trichlorofluoromethane** | **0.26** | | 0.20 | 0.024 | ppb v/v | | | 06/04/14 23:09 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/04/14 23:09 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.54** | **J** | 1.5 | 0.24 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/04/14 23:09 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-01-SU-PS-20140530

Lab Sample ID: 140-1462-1
Matrix: Air

Date Collected: 05/30/14 16:20
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,2-Dichloroethane | ND | * | 0.81 | 0.19 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Benzene** | **0.50** | J | 0.64 | 0.18 | ug/m3 | | | 06/04/14 23:09 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/04/14 23:09 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Carbon tetrachloride** | **0.47** | J | 1.3 | 0.24 | ug/m3 | | | 06/04/14 23:09 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/04/14 23:09 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Chloroform** | **0.24** | J | 0.98 | 0.19 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Chloromethane** | **1.5** | | 1.0 | 0.33 | ug/m3 | | | 06/04/14 23:09 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/04/14 23:09 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Dichlorodifluoromethane** | **2.7** | | 0.99 | 0.34 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Ethylbenzene** | **0.58** | J | 0.87 | 0.30 | ug/m3 | | | 06/04/14 23:09 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/04/14 23:09 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Methylene Chloride** | **1.6** | J | 1.7 | 0.45 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **m-Xylene & p-Xylene** | **1.7** | | 0.87 | 0.52 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **o-Xylene** | **0.63** | J | 0.87 | 0.26 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Styrene** | **0.27** | J | 0.85 | 0.25 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Tetrachloroethene** | ~~0.47~~ | ~~J~~ U | 1.4 | 0.27 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Toluene** | **4.0** | | 0.75 | 0.45 | ug/m3 | | | 06/04/14 23:09 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/04/14 23:09 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/04/14 23:09 | 1 |
| **Trichlorofluoromethane** | **1.5** | | 1.1 | 0.13 | ug/m3 | | | 06/04/14 23:09 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/04/14 23:09 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *60 - 140* | | *06/04/14 23:09* | *1* |

## Client Sample ID: WAA-02-SU-PS-20140530

Lab Sample ID: 140-1462-2
Matrix: Air

Date Collected: 05/30/14 14:47
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.077** | J | 0.20 | 0.031 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/05/14 00:04 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

**Client Sample ID: WAA-02-SU-PS-20140530**
Date Collected: 05/30/14 14:47
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1462-2**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,2-Dichloroethane | ND | * | 0.20 | 0.047 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **1,3-Dichlorobenzene** | **0.085** | J | 0.20 | 0.065 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **Benzene** | **0.16** | J | 0.20 | 0.056 | ppb v/v | | | 06/05/14 00:04 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/05/14 00:04 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/05/14 00:04 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 06/05/14 00:04 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/05/14 00:04 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **Chloroform** | **0.047** | J | 0.20 | 0.038 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **Chloromethane** | **0.87** | | 0.50 | 0.16 | ppb v/v | | | 06/05/14 00:04 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/05/14 00:04 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **Dichlorodifluoromethane** | **0.55** | | 0.20 | 0.068 | ppb v/v | | | 06/05/14 00:04 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/05/14 00:04 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/05/14 00:04 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **Methylene Chloride** | **0.31** | J | 0.50 | 0.13 | ppb v/v | | | 06/05/14 00:04 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 00:04 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/05/14 00:04 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **Tetrachloroethene** | **13** | | 0.20 | 0.040 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **Toluene** | **0.53** | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 00:04 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **Trichloroethene** | **0.062** | J | 0.20 | 0.036 | ppb v/v | | | 06/05/14 00:04 | 1 |
| **Trichlorofluoromethane** | **0.26** | | 0.20 | 0.024 | ppb v/v | | | 06/05/14 00:04 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/05/14 00:04 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.59** | J | 1.5 | 0.24 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,2-Dichloroethane | ND | * | 0.81 | 0.19 | ug/m3 | | | 06/05/14 00:04 | 1 |

HVE 16 Jun 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-02-SU-PS-20140530

Lab Sample ID: 140-1462-2
Matrix: Air

Date Collected: 05/30/14 14:47
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **1,3-Dichlorobenzene** | **0.51** | J | 1.2 | 0.39 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **Benzene** | **0.51** | J | 0.64 | 0.18 | ug/m3 | | | 06/05/14 00:04 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/05/14 00:04 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/05/14 00:04 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 06/05/14 00:04 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/05/14 00:04 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **Chloroform** | **0.23** | J | 0.98 | 0.19 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **Chloromethane** | **1.8** | | 1.0 | 0.33 | ug/m3 | | | 06/05/14 00:04 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/05/14 00:04 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **Dichlorodifluoromethane** | **2.7** | | 0.99 | 0.34 | ug/m3 | | | 06/05/14 00:04 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/05/14 00:04 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/05/14 00:04 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **Methylene Chloride** | **1.1** | J | 1.7 | 0.45 | ug/m3 | | | 06/05/14 00:04 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/05/14 00:04 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/05/14 00:04 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **Tetrachloroethene** | **86** | | 1.4 | 0.27 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **Toluene** | **2.0** | | 0.75 | 0.45 | ug/m3 | | | 06/05/14 00:04 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **Trichloroethene** | **0.33** | J | 1.1 | 0.19 | ug/m3 | | | 06/05/14 00:04 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 06/05/14 00:04 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/05/14 00:04 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *98* | | *60 - 140* | | *06/05/14 00:04* | *1* |

## Client Sample ID: WAA-03-SU-PS-20140530

Lab Sample ID: 140-1462-3
Matrix: Air

Date Collected: 05/30/14 15:51
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.069** | J | 0.20 | 0.031 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **1,2,4-Trimethylbenzene** | **0.065** | J | 0.20 | 0.063 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/05/14 00:57 | 1 |

HVE 16 Jun 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

**Client Sample ID: WAA-03-SU-PS-20140530**
Date Collected: 05/30/14 15:51
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1462-3**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,2-Dichloroethane | ND | * | 0.20 | 0.047 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Benzene** | **0.20** | | 0.20 | 0.056 | ppb v/v | | | 06/05/14 00:57 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Bromomethane** | **0.042** | J | 0.20 | 0.032 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Carbon tetrachloride** | **0.078** | J | 0.20 | 0.038 | ppb v/v | | | 06/05/14 00:57 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/05/14 00:57 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/05/14 00:57 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Chloromethane** | **1.0** | | 0.50 | 0.16 | ppb v/v | | | 06/05/14 00:57 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/05/14 00:57 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Dichlorodifluoromethane** | **0.53** | | 0.20 | 0.068 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Ethylbenzene** | **0.13** | J | 0.20 | 0.068 | ppb v/v | | | 06/05/14 00:57 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/05/14 00:57 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Methylene Chloride** | **0.21** | J | 0.50 | 0.13 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **m-Xylene & p-Xylene** | **0.39** | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **o-Xylene** | **0.14** | J | 0.20 | 0.061 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Styrene** | **0.067** | J | 0.20 | 0.058 | ppb v/v | | | 06/05/14 00:57 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Toluene** | **0.86** | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 00:57 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/05/14 00:57 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/05/14 00:57 | 1 |
| **Trichlorofluoromethane** | **0.25** | | 0.20 | 0.024 | ppb v/v | | | 06/05/14 00:57 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/05/14 00:57 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.53** | J | 1.5 | 0.24 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **1,2,4-Trimethylbenzene** | **0.32** | J | 0.98 | 0.31 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,2-Dichloroethane | ND | * | 0.81 | 0.19 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Benzene** | **0.64** | | 0.64 | 0.18 | ug/m3 | | | 06/05/14 00:57 | 1 |

HUE ~~16 Jun 9~~ 16 Jun 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-03-SU-PS-20140530

Lab Sample ID: 140-1462-3
Matrix: Air

Date Collected: 05/30/14 15:51
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Bromomethane** | **0.16** | **J** | 0.78 | 0.12 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Carbon tetrachloride** | **0.49** | **J** | 1.3 | 0.24 | ug/m3 | | | 06/05/14 00:57 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/05/14 00:57 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/05/14 00:57 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Chloromethane** | **2.1** | | 1.0 | 0.33 | ug/m3 | | | 06/05/14 00:57 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/05/14 00:57 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Dichlorodifluoromethane** | **2.6** | | 0.99 | 0.34 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Ethylbenzene** | **0.58** | **J** | 0.87 | 0.30 | ug/m3 | | | 06/05/14 00:57 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/05/14 00:57 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Methylene Chloride** | **0.75** | **J** | 1.7 | 0.45 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **m-Xylene & p-Xylene** | **1.7** | | 0.87 | 0.52 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **o-Xylene** | **0.62** | **J** | 0.87 | 0.26 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Styrene** | **0.29** | **J** | 0.85 | 0.25 | ug/m3 | | | 06/05/14 00:57 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Toluene** | **3.2** | | 0.75 | 0.45 | ug/m3 | | | 06/05/14 00:57 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/05/14 00:57 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/05/14 00:57 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 06/05/14 00:57 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/05/14 00:57 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *60 - 140* | | *06/05/14 00:57* | *1* |

## Client Sample ID: WAA-04-SU-PS-20140530

Lab Sample ID: 140-1462-4
Matrix: Air

Date Collected: 05/30/14 15:27
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.076** | **J** | 0.20 | 0.031 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/05/14 01:51 | 1 |

HUF 16 Jun 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

Client Sample ID: WAA-04-SU-PS-20140530
Date Collected: 05/30/14 15:27
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1462-4
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **Benzene** | **0.17** | J | 0.20 | 0.056 | ppb v/v | | | 06/05/14 01:51 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/05/14 01:51 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **Carbon tetrachloride** | **0.073** | J | 0.20 | 0.038 | ppb v/v | | | 06/05/14 01:51 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/05/14 01:51 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/05/14 01:51 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **Chloromethane** | **0.71** | | 0.50 | 0.16 | ppb v/v | | | 06/05/14 01:51 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/05/14 01:51 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **Dichlorodifluoromethane** | **0.53** | | 0.20 | 0.068 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **Ethylbenzene** | **0.092** | J | 0.20 | 0.068 | ppb v/v | | | 06/05/14 01:51 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/05/14 01:51 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **Methylene Chloride** | **0.21** | J | 0.50 | 0.13 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **m-Xylene & p-Xylene** | **0.29** | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **o-Xylene** | **0.10** | J | 0.20 | 0.061 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **Styrene** | **0.097** | J | 0.20 | 0.058 | ppb v/v | | | 06/05/14 01:51 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **Toluene** | **0.78** | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 01:51 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/05/14 01:51 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/05/14 01:51 | 1 |
| **Trichlorofluoromethane** | **0.25** | | 0.20 | 0.024 | ppb v/v | | | 06/05/14 01:51 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/05/14 01:51 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.58** | J | 1.5 | 0.24 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,2-Dichloroethane | ND | * | 0.81 | 0.19 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **Benzene** | **0.55** | J | 0.64 | 0.18 | ug/m3 | | | 06/05/14 01:51 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/05/14 01:51 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **Carbon tetrachloride** | **0.46** | J | 1.3 | 0.24 | ug/m3 | | | 06/05/14 01:51 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/05/14 01:51 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/05/14 01:51 | 1 |

HVE 16 Jun 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-04-SU-PS-20140530

Date Collected: 05/30/14 15:27
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1462-4
Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **Chloromethane** | 1.5 | | 1.0 | 0.33 | ug/m3 | | | 06/05/14 01:51 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/05/14 01:51 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **Dichlorodifluoromethane** | 2.6 | | 0.99 | 0.34 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **Ethylbenzene** | 0.40 | J | 0.87 | 0.30 | ug/m3 | | | 06/05/14 01:51 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/05/14 01:51 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **Methylene Chloride** | 0.74 | J | 1.7 | 0.45 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **m-Xylene & p-Xylene** | 1.2 | | 0.87 | 0.52 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **o-Xylene** | 0.43 | J | 0.87 | 0.26 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **Styrene** | 0.41 | J | 0.85 | 0.25 | ug/m3 | | | 06/05/14 01:51 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **Toluene** | 2.9 | | 0.75 | 0.45 | ug/m3 | | | 06/05/14 01:51 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/05/14 01:51 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/05/14 01:51 | 1 |
| **Trichlorofluoromethane** | 1.4 | | 1.1 | 0.13 | ug/m3 | | | 06/05/14 01:51 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/05/14 01:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *60 - 140* | | *06/05/14 01:51* | *1* |

## Client Sample ID: WAA-04-SU-DU-20140530

Date Collected: 05/30/14 15:27
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1462-5
Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | 0.076 | J | 0.20 | 0.031 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **1,2,4-Trimethylbenzene** | 0.066 | J | 0.20 | 0.063 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **Benzene** | 0.17 | J | 0.20 | 0.056 | ppb v/v | | | 06/05/14 02:46 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/05/14 02:46 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **Carbon tetrachloride** | 0.076 | J | 0.20 | 0.038 | ppb v/v | | | 06/05/14 02:46 | 1 |

HVE 16 Jun 14

TestAmerica Knoxville



6/9/2014

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

**Client Sample ID: WAA-04-SU-DU-20140530**
Date Collected: 05/30/14 15:27
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1462-5**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/05/14 02:46 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/05/14 02:46 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **Chloromethane** | **0.90** | | 0.50 | 0.16 | ppb v/v | | | 06/05/14 02:46 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/05/14 02:46 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **Dichlorodifluoromethane** | **0.51** | | 0.20 | 0.068 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **Ethylbenzene** | **0.14** | J | 0.20 | 0.068 | ppb v/v | | | 06/05/14 02:46 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/05/14 02:46 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **Methylene Chloride** | **0.22** | J | 0.50 | 0.13 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **m-Xylene & p-Xylene** | **0.41** | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **o-Xylene** | **0.14** | J | 0.20 | 0.061 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **Styrene** | **0.11** | J | 0.20 | 0.058 | ppb v/v | | | 06/05/14 02:46 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **Toluene** | **0.81** | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 02:46 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/05/14 02:46 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/05/14 02:46 | 1 |
| **Trichlorofluoromethane** | **0.25** | | 0.20 | 0.024 | ppb v/v | | | 06/05/14 02:46 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/05/14 02:46 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/05/14 02:46 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.58** | J | 1.5 | 0.24 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/05/14 02:46 | 1 |
| **1,2,4-Trimethylbenzene** | **0.32** | J | 0.98 | 0.31 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,2-Dichloroethane | ND | * | 0.81 | 0.19 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/05/14 02:46 | 1 |
| **Benzene** | **0.55** | J | 0.64 | 0.18 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/05/14 02:46 | 1 |
| **Carbon tetrachloride** | **0.48** | J | 1.3 | 0.24 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/05/14 02:46 | 1 |
| **Chloromethane** | **1.9** | | 1.0 | 0.33 | ug/m3 | | | 06/05/14 02:46 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/05/14 02:46 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/05/14 02:46 | 1 |
| **Dichlorodifluoromethane** | **2.5** | | 0.99 | 0.34 | ug/m3 | | | 06/05/14 02:46 | 1 |

HVG 16 Jun 14

TestAmerica Knoxville

## Client Sample ID: WAA-04-SU-DU-20140530

Lab Sample ID: 140-1462-5
Matrix: Air

Date Collected: 05/30/14 15:27
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 0.59 | J | 0.87 | 0.30 | ug/m3 | | | 06/05/14 02:46 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Methylene Chloride | 0.76 | J | 1.7 | 0.45 | ug/m3 | | | 06/05/14 02:46 | 1 |
| m-Xylene & p-Xylene | 1.8 | | 0.87 | 0.52 | ug/m3 | | | 06/05/14 02:46 | 1 |
| o-Xylene | 0.63 | J | 0.87 | 0.26 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Styrene | 0.48 | J | 0.85 | 0.25 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Toluene | 3.0 | | 0.75 | 0.45 | ug/m3 | | | 06/05/14 02:46 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | | | 06/05/14 02:46 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/05/14 02:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *60 - 140* | | *06/05/14 02:46* | *1* |

## Client Sample ID: WAA-05-SU-PS-20140530

Lab Sample ID: 140-1462-6
Matrix: Air

Date Collected: 05/30/14 15:00
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 0.075 | J | 0.20 | 0.031 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,2,4-Trimethylbenzene | 0.096 | J | 0.20 | 0.063 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,2-Dichloroethane | ND | * | 0.20 | 0.047 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,4-Dichlorobenzene | 0.065 | J | 0.20 | 0.064 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Benzene | 0.18 | J | 0.20 | 0.056 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Carbon tetrachloride | 0.073 | J | 0.20 | 0.038 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Chloromethane | 0.67 | | 0.50 | 0.16 | ppb v/v | | | 06/05/14 03:40 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/05/14 03:40 | 1 |

MVE 16 Jun 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

Client Sample ID: WAA-05-SU-PS-20140530

Lab Sample ID: 140-1462-6

Date Collected: 05/30/14 15:00
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/05/14 03:40 | 1 |
| **Dichlorodifluoromethane** | 0.54 | | 0.20 | 0.068 | ppb v/v | | | 06/05/14 03:40 | 1 |
| **Ethylbenzene** | 0.18 | J | 0.20 | 0.068 | ppb v/v | | | 06/05/14 03:40 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/05/14 03:40 | 1 |
| **Methylene Chloride** | 0.26 | J | 0.50 | 0.13 | ppb v/v | | | 06/05/14 03:40 | 1 |
| **m-Xylene & p-Xylene** | 0.53 | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 03:40 | 1 |
| **o-Xylene** | 0.18 | J | 0.20 | 0.061 | ppb v/v | | | 06/05/14 03:40 | 1 |
| **Styrene** | 0.064 | J | 0.20 | 0.058 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/05/14 03:40 | 1 |
| **Toluene** | 1.4 | | 0.20 | 0.12 | ppb v/v | | | 06/05/14 03:40 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/05/14 03:40 | 1 |
| **Trichloroethene** | 0.040 | J | 0.20 | 0.036 | ppb v/v | | | 06/05/14 03:40 | 1 |
| **Trichlorofluoromethane** | 0.28 | | 0.20 | 0.024 | ppb v/v | | | 06/05/14 03:40 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/05/14 03:40 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | 0.57 | J | 1.5 | 0.24 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **1,2,4-Trimethylbenzene** | 0.47 | J | 0.98 | 0.31 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,2-Dichloroethane | ND | * | 0.81 | 0.19 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **1,4-Dichlorobenzene** | 0.39 | J | 1.2 | 0.38 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **Benzene** | 0.58 | J | 0.64 | 0.18 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **Carbon tetrachloride** | 0.46 | J | 1.3 | 0.24 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **Chloromethane** | 1.4 | | 1.0 | 0.33 | ug/m3 | | | 06/05/14 03:40 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/05/14 03:40 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **Dichlorodifluoromethane** | 2.7 | | 0.99 | 0.34 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **Ethylbenzene** | 0.77 | J | 0.87 | 0.30 | ug/m3 | | | 06/05/14 03:40 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **Methylene Chloride** | 0.91 | J | 1.7 | 0.45 | ug/m3 | | | 06/05/14 03:40 | 1 |
| **m-Xylene & p-Xylene** | 2.3 | | 0.87 | 0.52 | ug/m3 | | | 06/05/14 03:40 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-05-SU-PS-20140530

Lab Sample ID: 140-1462-6
Matrix: Air

Date Collected: 05/30/14 15:00
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| o-Xylene | 0.78 | J | 0.87 | 0.26 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Styrene | 0.27 | J | 0.85 | 0.25 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Toluene | 5.4 | | 0.75 | 0.45 | ug/m3 | | | 06/05/14 03:40 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Trichloroethene | 0.22 | J | 1.1 | 0.19 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Trichlorofluoromethane | 1.6 | | 1.1 | 0.13 | ug/m3 | | | 06/05/14 03:40 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/05/14 03:40 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *100* | | *60 - 140* | | *06/05/14 03:40* | *1* |

## Client Sample ID: WAA-00-SU-TB-20140530

Lab Sample ID: 140-1462-7
Matrix: Air

Date Collected: 05/30/14 16:50
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,2-Dichloroethane | ND | * | 0.20 | 0.047 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 06/04/14 22:15 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/04/14 22:15 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/04/14 22:15 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 06/04/14 22:15 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-00-SU-TB-20140530

Lab Sample ID: 140-1462-7
Matrix: Air

Date Collected: 05/30/14 16:50
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/04/14 22:15 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/04/14 22:15 | 1 |
| **Tetrachloroethene** | **0.076** | **J** | 0.20 | 0.040 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/04/14 22:15 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 06/04/14 22:15 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/04/14 22:15 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 06/04/14 22:15 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/04/14 22:15 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/04/14 22:15 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 06/04/14 22:15 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/04/14 22:15 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/04/14 22:15 | 1 |
| **Tetrachloroethene** | **0.52** | **J** | 1.4 | 0.27 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 06/04/14 22:15 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/04/14 22:15 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 06/04/14 22:15 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

Client Sample ID: WAA-00-SU-TB-20140530
Date Collected: 05/30/14 16:50
Date Received: 06/03/14 10:15
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1462-7
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/04/14 22:15 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *60 - 140* | | *06/04/14 22:15* | *1* |

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# Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | **Client Sample ID** | **BFB (60-140)** | | | | | | |
| 140-1462-1 | WAA-01-SU-PS-20140530 | 103 | | | | | | |
| 140-1462-2 | WAA-02-SU-PS-20140530 | 98 | | | | | | |
| 140-1462-3 | WAA-03-SU-PS-20140530 | 103 | | | | | | |
| 140-1462-4 | WAA-04-SU-PS-20140530 | 103 | | | | | | |
| 140-1462-5 | WAA-04-SU-DU-20140530 | 104 | | | | | | |
| 140-1462-6 | WAA-05-SU-PS-20140530 | 100 | | | | | | |
| 140-1462-7 | WAA-00-SU-TB-20140530 | 103 | | | | | | |
| LCS 140-1302/1002 | Lab Control Sample | 109 | | | | | | |
| MB 140-1302/4 | Method Blank | 104 | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-1302/4**
**Matrix: Air**
**Analysis Batch: 1302**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 06/04/14 15:56 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/04/14 15:56 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/04/14 15:56 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 06/04/14 15:56 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/04/14 15:56 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/04/14 15:56 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 06/04/14 15:56 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/04/14 15:56 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/04/14 15:56 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1302/4**
**Matrix: Air**
**Analysis Batch: 1302**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 06/04/14 15:56 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/04/14 15:56 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/04/14 15:56 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 06/04/14 15:56 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/04/14 15:56 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 06/04/14 15:56 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 06/04/14 15:56 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/04/14 15:56 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *60 - 140* | | *06/04/14 15:56* | *1* |

**Lab Sample ID: LCS 140-1302/1002**
**Matrix: Air**
**Analysis Batch: 1302**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 2.00 | 2.46 | | ppb v/v | | 123 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 2.00 | 2.28 | | ppb v/v | | 114 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 2.00 | 2.26 | | ppb v/v | | 113 | 70 - 130 |
| 1,1,2-Trichloroethane | 2.00 | 2.36 | | ppb v/v | | 118 | 70 - 130 |
| 1,1-Dichloroethane | 2.00 | 2.48 | | ppb v/v | | 124 | 70 - 130 |
| 1,1-Dichloroethene | 2.00 | 2.13 | | ppb v/v | | 106 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1302/1002**
**Matrix: Air**
**Analysis Batch: 1302**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2.00 | 1.43 | | ppb v/v | | 71 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 2.00 | 2.18 | | ppb v/v | | 109 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00 | 2.27 | | ppb v/v | | 113 | 60 - 140 |
| 1,2-Dichlorobenzene | 2.00 | 1.76 | | ppb v/v | | 88 | 70 - 130 |
| 1,2-Dichloroethane | 2.00 | 2.67 | * | ppb v/v | | 134 | 70 - 130 |
| 1,2-Dichloropropane | 2.00 | 2.33 | | ppb v/v | | 116 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 2.00 | 2.06 | | ppb v/v | | 103 | 70 - 130 |
| 1,3-Dichlorobenzene | 2.00 | 1.74 | | ppb v/v | | 87 | 70 - 130 |
| 1,4-Dichlorobenzene | 2.00 | 1.68 | | ppb v/v | | 84 | 70 - 130 |
| Benzene | 2.00 | 2.24 | | ppb v/v | | 112 | 70 - 130 |
| Benzyl chloride | 2.00 | 2.07 | | ppb v/v | | 104 | 70 - 130 |
| Bromomethane | 2.00 | 2.07 | | ppb v/v | | 103 | 70 - 130 |
| Carbon tetrachloride | 2.00 | 1.80 | | ppb v/v | | 90 | 70 - 130 |
| Chlorobenzene | 2.00 | 2.06 | | ppb v/v | | 103 | 70 - 130 |
| Chloroethane | 2.00 | 2.04 | | ppb v/v | | 102 | 70 - 130 |
| Chloroform | 2.00 | 2.38 | | ppb v/v | | 119 | 70 - 130 |
| Chloromethane | 2.00 | 2.35 | | ppb v/v | | 118 | 60 - 140 |
| cis-1,2-Dichloroethene | 2.00 | 2.23 | | ppb v/v | | 111 | 70 - 130 |
| cis-1,3-Dichloropropene | 2.00 | 2.23 | | ppb v/v | | 112 | 70 - 130 |
| Dichlorodifluoromethane | 2.00 | 2.59 | | ppb v/v | | 129 | 60 - 140 |
| Ethylbenzene | 2.00 | 2.32 | | ppb v/v | | 116 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 2.00 | 2.28 | | ppb v/v | | 114 | 70 - 130 |
| Hexachlorobutadiene | 2.00 | 1.48 | | ppb v/v | | 74 | 60 - 140 |
| Methylene Chloride | 2.00 | 2.16 | | ppb v/v | | 108 | 70 - 130 |
| m-Xylene & p-Xylene | 4.00 | 4.56 | | ppb v/v | | 114 | 70 - 130 |
| o-Xylene | 2.00 | 2.35 | | ppb v/v | | 117 | 70 - 130 |
| Styrene | 2.00 | 2.22 | | ppb v/v | | 111 | 70 - 130 |
| Tetrachloroethene | 2.00 | 2.09 | | ppb v/v | | 104 | 70 - 130 |
| Toluene | 2.00 | 2.27 | | ppb v/v | | 113 | 70 - 130 |
| trans-1,3-Dichloropropene | 2.00 | 2.48 | | ppb v/v | | 124 | 70 - 130 |
| Trichloroethene | 2.00 | 2.08 | | ppb v/v | | 104 | 70 - 130 |
| Trichlorofluoromethane | 2.00 | 2.44 | | ppb v/v | | 122 | 60 - 140 |
| Vinyl chloride | 2.00 | 2.26 | | ppb v/v | | 113 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 13.4 | | ug/m3 | | 123 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 15.7 | | ug/m3 | | 114 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 17.3 | | ug/m3 | | 113 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 12.9 | | ug/m3 | | 118 | 70 - 130 |
| 1,1-Dichloroethane | 8.1 | 10.0 | | ug/m3 | | 124 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 8.44 | | ug/m3 | | 106 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 10.6 | | ug/m3 | | 71 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.8 | 10.7 | | ug/m3 | | 109 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 15.9 | | ug/m3 | | 113 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 10.6 | | ug/m3 | | 88 | 70 - 130 |
| 1,2-Dichloroethane | 8.1 | 10.8 | * | ug/m3 | | 134 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1302/1002**
**Matrix: Air**
**Analysis Batch: 1302**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 9.2 | 10.8 | | ug/m3 | | 116 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.8 | 10.1 | | ug/m3 | | 103 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 10.4 | | ug/m3 | | 87 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 10.1 | | ug/m3 | | 84 | 70 - 130 |
| Benzene | 6.4 | 7.14 | | ug/m3 | | 112 | 70 - 130 |
| Benzyl chloride | 10 | 10.7 | | ug/m3 | | 104 | 70 - 130 |
| Bromomethane | 7.8 | 8.03 | | ug/m3 | | 103 | 70 - 130 |
| Carbon tetrachloride | 13 | 11.3 | | ug/m3 | | 90 | 70 - 130 |
| Chlorobenzene | 9.2 | 9.46 | | ug/m3 | | 103 | 70 - 130 |
| Chloroethane | 5.3 | 5.39 | | ug/m3 | | 102 | 70 - 130 |
| Chloroform | 9.8 | 11.6 | | ug/m3 | | 119 | 70 - 130 |
| Chloromethane | 4.1 | 4.86 | | ug/m3 | | 118 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 8.82 | | ug/m3 | | 111 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.1 | 10.1 | | ug/m3 | | 112 | 70 - 130 |
| Dichlorodifluoromethane | 9.9 | 12.8 | | ug/m3 | | 129 | 60 - 140 |
| Ethylbenzene | 8.7 | 10.1 | | ug/m3 | | 116 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 17.5 | | ug/m3 | | 114 | 70 - 130 |
| Hexachlorobutadiene | 21 | 15.8 | | ug/m3 | | 74 | 60 - 140 |
| Methylene Chloride | 6.9 | 7.49 | | ug/m3 | | 108 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 19.8 | | ug/m3 | | 114 | 70 - 130 |
| o-Xylene | 8.7 | 10.2 | | ug/m3 | | 117 | 70 - 130 |
| Styrene | 8.5 | 9.47 | | ug/m3 | | 111 | 70 - 130 |
| Tetrachloroethene | 14 | 14.2 | | ug/m3 | | 104 | 70 - 130 |
| Toluene | 7.5 | 8.54 | | ug/m3 | | 113 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1 | 11.3 | | ug/m3 | | 124 | 70 - 130 |
| Trichloroethene | 11 | 11.2 | | ug/m3 | | 104 | 70 - 130 |
| Trichlorofluoromethane | 11 | 13.7 | | ug/m3 | | 122 | 60 - 140 |
| Vinyl chloride | 5.1 | 5.77 | | ug/m3 | | 113 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *109* | | *60 - 140* |

# QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Air - GC/MS VOA

### Analysis Batch: 1302

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1462-1 | WAA-01-SU-PS-20140530 | Total/NA | Air | TO-15 | |
| 140-1462-2 | WAA-02-SU-PS-20140530 | Total/NA | Air | TO-15 | |
| 140-1462-3 | WAA-03-SU-PS-20140530 | Total/NA | Air | TO-15 | |
| 140-1462-4 | WAA-04-SU-PS-20140530 | Total/NA | Air | TO-15 | |
| 140-1462-5 | WAA-04-SU-DU-20140530 | Total/NA | Air | TO-15 | |
| 140-1462-6 | WAA-05-SU-PS-20140530 | Total/NA | Air | TO-15 | |
| 140-1462-7 | WAA-00-SU-TB-20140530 | Total/NA | Air | TO-15 | |
| LCS 140-1302/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1302/4 | Method Blank | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-01-SU-PS-20140530 — Lab Sample ID: 140-1462-1

**Date Collected: 05/30/14 16:20** — **Matrix: Air**
**Date Received: 06/03/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1302 | 06/04/14 23:09 | HMT | TAL KNX |
| | Instrument ID: MJ | | | | | | | | | |

## Client Sample ID: WAA-02-SU-PS-20140530 — Lab Sample ID: 140-1462-2

**Date Collected: 05/30/14 14:47** — **Matrix: Air**
**Date Received: 06/03/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1302 | 06/05/14 00:04 | HMT | TAL KNX |
| | Instrument ID: MJ | | | | | | | | | |

## Client Sample ID: WAA-03-SU-PS-20140530 — Lab Sample ID: 140-1462-3

**Date Collected: 05/30/14 15:51** — **Matrix: Air**
**Date Received: 06/03/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1302 | 06/05/14 00:57 | HMT | TAL KNX |
| | Instrument ID: MJ | | | | | | | | | |

## Client Sample ID: WAA-04-SU-PS-20140530 — Lab Sample ID: 140-1462-4

**Date Collected: 05/30/14 15:27** — **Matrix: Air**
**Date Received: 06/03/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1302 | 06/05/14 01:51 | HMT | TAL KNX |
| | Instrument ID: MJ | | | | | | | | | |

## Client Sample ID: WAA-04-SU-DU-20140530 — Lab Sample ID: 140-1462-5

**Date Collected: 05/30/14 15:27** — **Matrix: Air**
**Date Received: 06/03/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1302 | 06/05/14 02:46 | HMT | TAL KNX |
| | Instrument ID: MJ | | | | | | | | | |

## Client Sample ID: WAA-05-SU-PS-20140530 — Lab Sample ID: 140-1462-6

**Date Collected: 05/30/14 15:00** — **Matrix: Air**
**Date Received: 06/03/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1302 | 06/05/14 03:40 | HMT | TAL KNX |
| | Instrument ID: MJ | | | | | | | | | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Client Sample ID: WAA-00-SU-TB-20140530

**Lab Sample ID: 140-1462-7**

**Date Collected: 05/30/14 16:50**

**Matrix: Air**

**Date Received: 06/03/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1302 | 06/04/14 22:15 | HMT | TAL KNX |
| | Instrument ID: MJ | | | | | | | | | |

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

## Laboratory: TestAmerica Knoxville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | AFCEE | | N/A | |
| Arkansas DEQ | State Program | 6 | 88-0688 | 06-17-14 * |
| California | State Program | 9 | 2423 | 06-30-14 |
| Colorado | State Program | 8 | N/A | 02-28-15 |
| Connecticut | State Program | 1 | PH-0223 | 09-30-15 |
| Florida | NELAP | 4 | E87177 | 06-30-14 |
| Georgia | State Program | 4 | 906 | 06-13-14 * |
| Hawaii | State Program | 9 | N/A | 04-13-15 |
| Iowa | State Program | 7 | 375 | 08-01-14 |
| Kansas | NELAP | 7 | E-10349 | 10-31-14 |
| Kentucky (DW) | State Program | 4 | 90101 | 12-31-14 |
| L-A-B | DoD ELAP | | L2311 | 02-13-16 |
| Louisiana | NELAP | 6 | LA110001 | 12-31-14 |
| Maryland | State Program | 3 | 277 | 03-31-15 |
| Michigan | State Program | 5 | 9933 | 04-13-17 |
| Nevada | State Program | 9 | TN00009 | 07-31-14 |
| New Jersey | NELAP | 2 | TN001 | 06-30-14 |
| New York | NELAP | 2 | 10781 | 03-31-15 |
| North Carolina DENR | State Program | 4 | 64 | 12-31-14 |
| North Carolina DHHS | State Program | 4 | 21705 | 07-31-14 |
| Ohio VAP | State Program | 5 | CL0059 | 03-26-15 |
| Oklahoma | State Program | 6 | 9415 | 08-31-14 |
| Pennsylvania | NELAP | 3 | 68-00576 | 12-31-14 |
| South Carolina | State Program | 4 | 84001 | 06-30-14 |
| Tennessee | State Program | 4 | 2014 | 04-13-17 |
| Texas | NELAP | 6 | T104704380-TX | 08-31-14 |
| USDA | Federal | | P330-13-00260 | 08-29-16 |
| Utah | NELAP | 8 | QUAN3 | 07-31-14 |
| Virginia | NELAP | 3 | 460176 | 09-14-14 |
| Virginia | State Program | 3 | 165 | 06-30-14 |
| Washington | State Program | 10 | C593 | 01-19-15 |
| West Virginia DEP | State Program | 3 | 345 | 04-30-15 |
| West Virginia DHHR | State Program | 3 | 9955C | 12-31-14 |
| Wisconsin | State Program | 5 | 998044300 | 08-31-14 |

* Certification renewal pending - certification considered valid.

# Method Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | TAL KNX |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1462-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 140-1462-1 | WAA-01-SU-PS-20140530 | Air | 05/30/14 16:20 | 06/03/14 10:15 |
| 140-1462-2 | WAA-02-SU-PS-20140530 | Air | 05/30/14 14:47 | 06/03/14 10:15 |
| 140-1462-3 | WAA-03-SU-PS-20140530 | Air | 05/30/14 15:51 | 06/03/14 10:15 |
| 140-1462-4 | WAA-04-SU-PS-20140530 | Air | 05/30/14 15:27 | 06/03/14 10:15 |
| 140-1462-5 | WAA-04-SU-DU-20140530 | Air | 05/30/14 15:27 | 06/03/14 10:15 |
| 140-1462-6 | WAA-05-SU-PS-20140530 | Air | 05/30/14 15:00 | 06/03/14 10:15 |
| 140-1462-7 | WAA-00-SU-TB-20140530 | Air | 05/30/14 16:50 | 06/03/14 10:15 |

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

| Client Contact Information | | | |
|---|---|---|---|
| Company: Tetra Tech Inc. | Project Manager: Dave Kinroth | Sampled By: Kinroth | 1 of 2 COCs |
| Address: 415 Oak Street | Phone: 314 517 6798 | | |
| City/State/Zip Kansas City MO 64106 | Site Contact: same | | |
| Phone: 816 412 1786 | TAL Contact: Mike Franks | | |
| FAX: 816 410-1748 | | | |
| Project Name: Westlake Landfill | Analysis Turnaround Time | | |
| Site/location: Bridgeton MO | Standard (Specify) | | |
| PO # 1105352 | Rush (Specify) | | |

140-1462 Chain of Custody

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, 'Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25C | ASTM D-1946 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-01-SU-PS-20140530 | 5-29 to 5-30-14 | 15:30 | 16:20 | -29.2 | -2.5 | 09841 | 10332 | X | | | | | | | | | | | |
| WAA-02-SU-PS-20140530 | ↓ | 14:46 | 14:46 | -29.2 | -4.5 | 10436 | 10101 | ↓ | | | | | | | | | | | |
| WAA-03-SU-PS-20140530 | ↓ | 15:15 | 15:51 | -29.2 | -1.5 | 09866 | 10542 | ↓ | | | | | | | | | | | |
| WAA-04-SU-PS-20140530 | ↓ | 15:06 | 15:27 | -29.2 | -2.5 | 10867 | 10807 | ↓ | | | | | | | | | | | |
| WAA-04-SU-DU-20140530 | ↓ | 15:06 | 15:27 | -29.2 | -3.0 | 10433 | 11047 | ↓ | | | | | | | | | | | |
| WAA-05-SU-PS-20140530 | ↓ | 14:56 | 1500 | -29.3 | -2.5 | 09648 | 10514 | ↓ | | | | | | | | | | | |

**Sampled by :**

| Temperature (Fahrenheit) | Interior | Ambient | |
|---|---|---|---|
| Start | | 85 | |
| Stop | | 83 | |

Received @ ambient custody seal intact
2 boxes
KW 6/3/14

| Pressure (inches of Hg) | Interior | Ambient | |
|---|---|---|---|
| Start | | ~~30.03~~ | 29.95 |
| Stop | | 30.03 | |

Fedex Po
tk# 5399 0207 4172
" " 4183

**Special Instructions/QC Requirements & Comments:**

| Canisters Shipped by: | Date/Time: 6/2/14 | Canisters Received by: |
|---|---|---|
| Samples Relinquished by: Greg Blattner | Date/Time: 6-2-14/1113 | Received by: 6/2/14 1113 |
| Relinquished by: 6/2/14 ~~5/2/14~~ 6/2/14 | Date/Time: 1700 | Received by: Ken Wilson 6/3/14 1015 |

7 cans
7 flows



6/9/2014

WLLFOIA4312 - 015 - 0155055

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

| | | | |
|---|---|---|---|
| **Client Contact Information** | **Project Manager:** Dave Kinroth | **Sampled By:** Kinroth | 2 of 2 COCs |
| Company: Tetra Tech Inc | **Phone:** 314-517-6798 | | |
| Address: 415 Oak street | **Site Contact:** same | | |
| City/State/Zip Kansas City mo 64106 | **TAL Contact:** Mike Franks | | |
| Phone: 816-412 1786 | | | |
| FAX: 816 410 1748 | | | |
| Project Name: | **Analysis Turnaround Time** | | |
| Site/location: | Standard (Specify) | | |
| PO # | Rush (Specify) | | |

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, 'Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25C | ASTM D-1946 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-00-SU-TB-20140530 | 5-29 to 5-30-14 | 14:46 | 1650 | -29.2 | -29.2 | 10152 | 10187 | X | | | | | | | | | | | |
| | END OF BATCH SHIPMENT | | | | | | | | | | | | | | | | | | |
| | | | | Dave Kinroth | | | | | | | | | | | | | | | |
| | | | | 5-30-14 | | | | | | | | | | | | | | | |

**Sampled by :**

| Temperature (Fahrenheit) | Interior | Ambient |
|---|---|---|
| Start | | 85 |
| Stop | | 83 |

| Pressure (inches of Hg) | Interior | Ambient |
|---|---|---|
| Start | | 29.95 |
| Stop | | 30.03 |

**Special Instructions/QC Requirements & Comments:**

| | | |
|---|---|---|
| Canisters Shipped by: | Date/Time: | Canisters Received by: |
| Samples Relinquished by: | Date/Time: | Received by: |
| Relinquished by: | Date/Time: | Received by: Ken Wilson 6/3/14 1015 |

# Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1462-1

**Login Number: 1462**

**List Source: TestAmerica Knoxville**

**List Number: 1**

**Creator: Wilson, Ken**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | True | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | N/A | |
| Cooler Temperature is acceptable. | N/A | |
| Cooler Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | N/A | This is checked in the lab. |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

## TestAmerica Knoxville - Air Canister Initial Pressure Check

**Gauge ID:** g1

| Analyst | Date | Sample ID | 6 L | 1 L | Pressure @ Receipt (-in Hg or +psig) | Time | Comments |
|---|---|---|---|---|---|---|---|
| hmt | 6/3/2014 | 140-1462-A-1 | x | | -2.7 | 14:40 | |
| hmt | 6/3/2014 | 140-1462-A-2 | x | | -3.5 | 14:41 | |
| hmt | 6/3/2014 | 140-1462-A-3 | x | | -2.7 | 14:42 | |
| hmt | 6/3/2014 | 140-1462-A-4 | x | | -2.8 | 14:43 | |
| hmt | 6/3/2014 | 140-1462-A-5 | x | | -3.0 | 14:44 | |
| hmt | 6/3/2014 | 140-1462-A-6 | x | | -2.7 | 14:45 | |
| afb | 6/3/2014 | 140-1462-A-7 | x | | -29.0 | 1439 | Trip BLK pressed to 10psi |



WLLFOIA4312 - 015 - 0155058

**Tetra Tech, Inc.**
**DATA VALIDATION REPORT**
**LEVEL II**

| | |
|---|---|
| Site: | West Lake Landfill Site, Bridgeton, Missouri |
| Laboratory: | TestAmerica Laboratories, Inc. (Knoxville, Tennessee) |
| Data Reviewer: | Harry Ellis, Tetra Tech, Inc. (Tetra Tech) |
| Review Date | June 16, 2014 |
| Sample Delivery Group (SDG): | J1495 |
| Sample Numbers: | WAA-01-SU-PS-20140606, WAA-02-SU-PS-20140606, WAA-03-SU-PS-20140606, WAA-04-SU-PS-20140606, WAA-04-SU-DU-20140606, WAA-05-SU-PS-20140606, and WAA-00-SU-TB-20140606 |
| Matrix / Number of Samples: | 5 Air Samples, 1 Field Duplicate, and 1 Trip Blank |

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

16 June 2014

Certified by Harry Ellis, Chemist

Date



WLLFOIA4312 - 015 - 0155059

## DATA VALIDATION QUALIFIERS

**U** — The analyte was not detected above the reported sample quantitation limit.

**J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.

**R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.



WLLFOIA4312 - 015 - 0155060

## DATA ASSESSMENT

Sample delivery group (SDG) J1495 included five (5) environmental air (passivated canister) samples and two (2) QC samples (1 field duplicate and 1 trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

## VOLATILE ORGANIC COMPOUND ANALYSIS

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. Satisfactory LCS and field duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

III. Blanks

The laboratory (method) blank and the trip blank yielded no detectable analytes. No qualifications were applied.

IV. Laboratory Control Sample (LCS)

All percent recoveries from the duplicate LCS analyses were within established control limits. No qualifications were applied.

V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

VI. Comments

Many detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

VII. Overall Assessment of Data

Overall data quality is acceptable, with no qualifications applied. All data are usable as reported for their intended purposes.



WLLFOIA4312 - 015 - 0155061

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

TestAmerica Job ID: 140-1495-1
Client Project/Site: West Lake Landfill

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

*Authorized for release by:*
*6/13/2014 10:05:51 AM*

Jamie McKinney, Senior Project Manager
(865)291-3000
jamie.mckinney@testamericainc.com

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| 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 |
| 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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Job ID: 140-1495-1

### Laboratory: TestAmerica Knoxville

**Narrative**

**Job Narrative**
**140-1495-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 6/10/2014 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Air - GC/MS VOA**
Method(s) TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified “zero air” as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of “zero air” by TestAmerica Knoxville.

Method(s) TO 15 LL, TO-15: The continuing calibration verification (CCV) associated with batch 1325 exhibited % difference of > 30% for the following analyte(s) hexachlorobutadiene and/or bromoform, however the results were within the LCS acceptance limits. The EPA method requires that all target analytes in the continuing calibration verification standard be within 30% difference from the initial calibration. According to the laboratory standard operating procedure, the continuing calibration is acceptable if it meets the laboratory control sample acceptance criteria.
No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



WLLFOIA4312 - 015 - 0155066

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-01-SU-PS-20140606 — Lab Sample ID: 140-1495-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.090 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.073 | J | 0.20 | 0.063 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.23 | | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.073 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.065 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.80 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.24 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.11 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.53 | | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.35 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.12 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Styrene | 0.14 | J | 0.20 | 0.058 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.065 | J | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.95 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.36 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.69 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.36 | J | 0.98 | 0.31 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.73 | | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.46 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.32 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.6 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.2 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.48 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.9 | | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.5 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.53 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Styrene | 0.59 | J | 0.85 | 0.25 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.44 | J | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 3.6 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 2.0 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-02-SU-PS-20140606 — Lab Sample ID: 140-1495-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.092 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.24 | | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.091 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.084 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.91 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.22 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.075 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.35 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.22 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.077 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.50 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.11 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.28 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.70 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-02-SU-PS-20140606 (Continued) — Lab Sample ID: 140-1495-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Benzene | 0.75 | | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.57 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.41 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.9 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.1 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.33 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.2 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.98 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.34 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.9 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.60 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.6 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-03-SU-PS-20140606 — Lab Sample ID: 140-1495-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.085 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.070 | J | 0.20 | 0.063 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.23 | | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.071 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.056 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.84 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.26 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.073 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.28 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.21 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.080 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.046 | J | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.56 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.30 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.65 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.34 | J | 0.98 | 0.31 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.74 | | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.44 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.27 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.7 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.3 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.32 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.98 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.91 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.35 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.31 | J | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.1 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.7 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-PS-20140606 — Lab Sample ID: 140-1495-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.090 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-04-SU-PS-20140606 (Continued) — Lab Sample ID: 140-1495-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | 0.072 | J | 0.20 | 0.063 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.23 | | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.076 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.054 | J | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.063 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.80 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.22 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.094 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.33 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.27 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.10 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.052 | J | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.76 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.32 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.69 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.35 | J | 0.98 | 0.31 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.72 | | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.48 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.14 | J | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.31 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.7 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.1 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.41 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.2 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.2 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.44 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.36 | J | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.9 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.8 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-02-SU-DU-20140606 — Lab Sample ID: 140-1495-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.094 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.20 | | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.078 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.085 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.84 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.29 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.082 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.35 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.25 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.089 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.52 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.11 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.30 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.72 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.63 | | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-02-SU-DU-20140606 (Continued) — Lab Sample ID: 140-1495-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | 0.49 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.42 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.7 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.4 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.35 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.2 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.1 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.39 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.0 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.59 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.7 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-05-SU-PS-20140606 — Lab Sample ID: 140-1495-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.071 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.19 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.052 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.053 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.65 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.20 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.075 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.34 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.23 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.084 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.71 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.24 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.54 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.61 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.33 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.26 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.98 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.33 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.2 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.98 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.36 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.7 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.3 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-00-SU-TB-20140606 — Lab Sample ID: 140-1495-7

No Detections.

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

Client Sample ID: WAA-01-SU-PS-20140606
Date Collected: 06/06/14 16:15
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1495-1
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.090** | **J** | 0.20 | 0.031 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **1,2,4-Trimethylbenzene** | **0.073** | **J** | 0.20 | 0.063 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Benzene** | **0.23** | | 0.20 | 0.056 | ppb v/v | | | 06/11/14 11:53 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/11/14 11:53 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Carbon tetrachloride** | **0.073** | **J** | 0.20 | 0.038 | ppb v/v | | | 06/11/14 11:53 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/11/14 11:53 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Chloroform** | **0.065** | **J** | 0.20 | 0.038 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Chloromethane** | **0.80** | | 0.50 | 0.16 | ppb v/v | | | 06/11/14 11:53 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/11/14 11:53 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Dichlorodifluoromethane** | **0.24** | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Ethylbenzene** | **0.11** | **J** | 0.20 | 0.068 | ppb v/v | | | 06/11/14 11:53 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/11/14 11:53 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Methylene Chloride** | **0.53** | | 0.50 | 0.13 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **m-Xylene & p-Xylene** | **0.35** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **o-Xylene** | **0.12** | **J** | 0.20 | 0.061 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Styrene** | **0.14** | **J** | 0.20 | 0.058 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Tetrachloroethene** | **0.065** | **J** | 0.20 | 0.040 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Toluene** | **0.95** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 11:53 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/11/14 11:53 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/11/14 11:53 | 1 |
| **Trichlorofluoromethane** | **0.36** | | 0.20 | 0.024 | ppb v/v | | | 06/11/14 11:53 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/11/14 11:53 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.69** | **J** | 1.5 | 0.24 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/11/14 11:53 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-01-SU-PS-20140606

Lab Sample ID: 140-1495-1
Matrix: Air

Date Collected: 06/06/14 16:15
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **1,2,4-Trimethylbenzene** | **0.36** | **J** | 0.98 | 0.31 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Benzene** | **0.73** | | 0.64 | 0.18 | ug/m3 | | | 06/11/14 11:53 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/11/14 11:53 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Carbon tetrachloride** | **0.46** | **J** | 1.3 | 0.24 | ug/m3 | | | 06/11/14 11:53 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/11/14 11:53 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Chloroform** | **0.32** | **J** | 0.98 | 0.19 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Chloromethane** | **1.6** | | 1.0 | 0.33 | ug/m3 | | | 06/11/14 11:53 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/11/14 11:53 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Dichlorodifluoromethane** | **1.2** | | 0.99 | 0.34 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Ethylbenzene** | **0.48** | **J** | 0.87 | 0.30 | ug/m3 | | | 06/11/14 11:53 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/11/14 11:53 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Methylene Chloride** | **1.9** | | 1.7 | 0.45 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **m-Xylene & p-Xylene** | **1.5** | | 0.87 | 0.52 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **o-Xylene** | **0.53** | **J** | 0.87 | 0.26 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Styrene** | **0.59** | **J** | 0.85 | 0.25 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Tetrachloroethene** | **0.44** | **J** | 1.4 | 0.27 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Toluene** | **3.6** | | 0.75 | 0.45 | ug/m3 | | | 06/11/14 11:53 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/11/14 11:53 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/11/14 11:53 | 1 |
| **Trichlorofluoromethane** | **2.0** | | 1.1 | 0.13 | ug/m3 | | | 06/11/14 11:53 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/11/14 11:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *98* | | *60 - 140* | | *06/11/14 11:53* | *1* |

## Client Sample ID: WAA-02-SU-PS-20140606

Lab Sample ID: 140-1495-2
Matrix: Air

Date Collected: 06/06/14 14:28
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.092** | **J** | 0.20 | 0.031 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/11/14 12:46 | 1 |

HVE 16 Jun 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-02-SU-PS-20140606

Lab Sample ID: 140-1495-2

Date Collected: 06/06/14 14:28
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Benzene** | **0.24** | | 0.20 | 0.056 | ppb v/v | | | 06/11/14 12:46 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/11/14 12:46 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Carbon tetrachloride** | **0.091** | **J** | 0.20 | 0.038 | ppb v/v | | | 06/11/14 12:46 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/11/14 12:46 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Chloroform** | **0.084** | **J** | 0.20 | 0.038 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Chloromethane** | **0.91** | | 0.50 | 0.16 | ppb v/v | | | 06/11/14 12:46 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/11/14 12:46 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Dichlorodifluoromethane** | **0.22** | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Ethylbenzene** | **0.075** | **J** | 0.20 | 0.068 | ppb v/v | | | 06/11/14 12:46 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/11/14 12:46 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Methylene Chloride** | **0.35** | **J** | 0.50 | 0.13 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **m-Xylene & p-Xylene** | **0.22** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **o-Xylene** | **0.077** | **J** | 0.20 | 0.061 | ppb v/v | | | 06/11/14 12:46 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/11/14 12:46 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Toluene** | **0.50** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 12:46 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Trichloroethene** | **0.11** | **J** | 0.20 | 0.036 | ppb v/v | | | 06/11/14 12:46 | 1 |
| **Trichlorofluoromethane** | **0.28** | | 0.20 | 0.024 | ppb v/v | | | 06/11/14 12:46 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/11/14 12:46 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | **0.70** | **J** | 1.5 | 0.24 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/11/14 12:46 | 1 |

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TestAmerica Knoxville



6/13/2014

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-02-SU-PS-20140606

Lab Sample ID: 140-1495-2
Matrix: Air

Date Collected: 06/06/14 14:28
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Benzene** | **0.75** | | 0.64 | 0.18 | ug/m3 | | | 06/11/14 12:46 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/11/14 12:46 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Carbon tetrachloride** | **0.57** | J | 1.3 | 0.24 | ug/m3 | | | 06/11/14 12:46 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/11/14 12:46 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Chloroform** | **0.41** | J | 0.98 | 0.19 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Chloromethane** | **1.9** | | 1.0 | 0.33 | ug/m3 | | | 06/11/14 12:46 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/11/14 12:46 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Dichlorodifluoromethane** | **1.1** | | 0.99 | 0.34 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Ethylbenzene** | **0.33** | J | 0.87 | 0.30 | ug/m3 | | | 06/11/14 12:46 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/11/14 12:46 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Methylene Chloride** | **1.2** | J | 1.7 | 0.45 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **m-Xylene & p-Xylene** | **0.98** | | 0.87 | 0.52 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **o-Xylene** | **0.34** | J | 0.87 | 0.26 | ug/m3 | | | 06/11/14 12:46 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/11/14 12:46 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Toluene** | **1.9** | | 0.75 | 0.45 | ug/m3 | | | 06/11/14 12:46 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Trichloroethene** | **0.60** | J | 1.1 | 0.19 | ug/m3 | | | 06/11/14 12:46 | 1 |
| **Trichlorofluoromethane** | **1.6** | | 1.1 | 0.13 | ug/m3 | | | 06/11/14 12:46 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/11/14 12:46 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *94* | | *60 - 140* | | *06/11/14 12:46* | *1* |

## Client Sample ID: WAA-03-SU-PS-20140606

Lab Sample ID: 140-1495-3
Matrix: Air

Date Collected: 06/06/14 12:43
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.085** | J | 0.20 | 0.031 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **1,2,4-Trimethylbenzene** | **0.070** | J | 0.20 | 0.063 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 13:39 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

Client Sample ID: WAA-03-SU-PS-20140606
Date Collected: 06/06/14 12:43
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1495-3
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Benzene** | **0.23** | | 0.20 | 0.056 | ppb v/v | | | 06/11/14 13:39 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/11/14 13:39 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Carbon tetrachloride** | **0.071** | J | 0.20 | 0.038 | ppb v/v | | | 06/11/14 13:39 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/11/14 13:39 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Chloroform** | **0.056** | J | 0.20 | 0.038 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Chloromethane** | **0.84** | | 0.50 | 0.16 | ppb v/v | | | 06/11/14 13:39 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/11/14 13:39 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Dichlorodifluoromethane** | **0.26** | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Ethylbenzene** | **0.073** | J | 0.20 | 0.068 | ppb v/v | | | 06/11/14 13:39 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/11/14 13:39 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Methylene Chloride** | **0.28** | J | 0.50 | 0.13 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **m-Xylene & p-Xylene** | **0.21** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **o-Xylene** | **0.080** | J | 0.20 | 0.061 | ppb v/v | | | 06/11/14 13:39 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Tetrachloroethene** | **0.046** | J | 0.20 | 0.040 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Toluene** | **0.56** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 13:39 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/11/14 13:39 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/11/14 13:39 | 1 |
| **Trichlorofluoromethane** | **0.30** | | 0.20 | 0.024 | ppb v/v | | | 06/11/14 13:39 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/11/14 13:39 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.65** | J | 1.5 | 0.24 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **1,2,4-Trimethylbenzene** | **0.34** | J | 0.98 | 0.31 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Benzene** | **0.74** | | 0.64 | 0.18 | ug/m3 | | | 06/11/14 13:39 | 1 |

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TestAmerica Knoxville



6/13/2014

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-03-SU-PS-20140606

Lab Sample ID: 140-1495-3
Matrix: Air

Date Collected: 06/06/14 12:43
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/11/14 13:39 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Carbon tetrachloride** | **0.44** | J | 1.3 | 0.24 | ug/m3 | | | 06/11/14 13:39 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/11/14 13:39 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Chloroform** | **0.27** | J | 0.98 | 0.19 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Chloromethane** | **1.7** | | 1.0 | 0.33 | ug/m3 | | | 06/11/14 13:39 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/11/14 13:39 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Dichlorodifluoromethane** | **1.3** | | 0.99 | 0.34 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Ethylbenzene** | **0.32** | J | 0.87 | 0.30 | ug/m3 | | | 06/11/14 13:39 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/11/14 13:39 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Methylene Chloride** | **0.98** | J | 1.7 | 0.45 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **m-Xylene & p-Xylene** | **0.91** | | 0.87 | 0.52 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **o-Xylene** | **0.35** | J | 0.87 | 0.26 | ug/m3 | | | 06/11/14 13:39 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Tetrachloroethene** | **0.31** | J | 1.4 | 0.27 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Toluene** | **2.1** | | 0.75 | 0.45 | ug/m3 | | | 06/11/14 13:39 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/11/14 13:39 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/11/14 13:39 | 1 |
| **Trichlorofluoromethane** | **1.7** | | 1.1 | 0.13 | ug/m3 | | | 06/11/14 13:39 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/11/14 13:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *100* | | *60 - 140* | | *06/11/14 13:39* | *1* |

## Client Sample ID: WAA-04-SU-PS-20140606

Lab Sample ID: 140-1495-4
Matrix: Air

Date Collected: 06/06/14 13:53
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.090** | J | 0.20 | 0.031 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **1,2,4-Trimethylbenzene** | **0.072** | J | 0.20 | 0.063 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 14:33 | 1 |

HVE 16 Jun 14

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

Client Sample ID: WAA-04-SU-PS-20140606
Date Collected: 06/06/14 13:53
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1495-4
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Benzene** | **0.23** | | 0.20 | 0.056 | ppb v/v | | | 06/11/14 14:33 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/11/14 14:33 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Carbon tetrachloride** | **0.076** | J | 0.20 | 0.038 | ppb v/v | | | 06/11/14 14:33 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Chloroethane** | **0.054** | J | 0.20 | 0.035 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Chloroform** | **0.063** | J | 0.20 | 0.038 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Chloromethane** | **0.80** | | 0.50 | 0.16 | ppb v/v | | | 06/11/14 14:33 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/11/14 14:33 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Dichlorodifluoromethane** | **0.22** | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Ethylbenzene** | **0.094** | J | 0.20 | 0.068 | ppb v/v | | | 06/11/14 14:33 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/11/14 14:33 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Methylene Chloride** | **0.33** | J | 0.50 | 0.13 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **m-Xylene & p-Xylene** | **0.27** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **o-Xylene** | **0.10** | J | 0.20 | 0.061 | ppb v/v | | | 06/11/14 14:33 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Tetrachloroethene** | **0.052** | J | 0.20 | 0.040 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Toluene** | **0.76** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 14:33 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/11/14 14:33 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/11/14 14:33 | 1 |
| **Trichlorofluoromethane** | **0.32** | | 0.20 | 0.024 | ppb v/v | | | 06/11/14 14:33 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/11/14 14:33 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/11/14 14:33 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.69** | J | 1.5 | 0.24 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/11/14 14:33 | 1 |
| **1,2,4-Trimethylbenzene** | **0.35** | J | 0.98 | 0.31 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/11/14 14:33 | 1 |
| **Benzene** | **0.72** | | 0.64 | 0.18 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/11/14 14:33 | 1 |
| **Carbon tetrachloride** | **0.48** | J | 1.3 | 0.24 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/11/14 14:33 | 1 |
| **Chloroethane** | **0.14** | J | 0.53 | 0.092 | ug/m3 | | | 06/11/14 14:33 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-04-SU-PS-20140606

Lab Sample ID: 140-1495-4
Matrix: Air

Date Collected: 06/06/14 13:53
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | 0.31 | J | 0.98 | 0.19 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Chloromethane | 1.7 | | 1.0 | 0.33 | ug/m3 | | | 06/11/14 14:33 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/11/14 14:33 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Dichlorodifluoromethane | 1.1 | | 0.99 | 0.34 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Ethylbenzene | 0.41 | J | 0.87 | 0.30 | ug/m3 | | | 06/11/14 14:33 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Methylene Chloride | 1.2 | J | 1.7 | 0.45 | ug/m3 | | | 06/11/14 14:33 | 1 |
| m-Xylene & p-Xylene | 1.2 | | 0.87 | 0.52 | ug/m3 | | | 06/11/14 14:33 | 1 |
| o-Xylene | 0.44 | J | 0.87 | 0.26 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Tetrachloroethene | 0.36 | J | 1.4 | 0.27 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Toluene | 2.9 | | 0.75 | 0.45 | ug/m3 | | | 06/11/14 14:33 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Trichlorofluoromethane | 1.8 | | 1.1 | 0.13 | ug/m3 | | | 06/11/14 14:33 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/11/14 14:33 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *102* | | *60 - 140* | | *06/11/14 14:33* | *1* |

## Client Sample ID: WAA-02-SU-DU-20140606

Lab Sample ID: 140-1495-5
Matrix: Air

Date Collected: 06/06/14 14:28
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.094 | J | 0.20 | 0.031 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/11/14 15:26 | 1 |
| Benzene | 0.20 | | 0.20 | 0.056 | ppb v/v | | | 06/11/14 15:26 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/11/14 15:26 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 15:26 | 1 |
| Carbon tetrachloride | 0.078 | J | 0.20 | 0.038 | ppb v/v | | | 06/11/14 15:26 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

**Client Sample ID: WAA-02-SU-DU-20140606**
Date Collected: 06/06/14 14:28
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1495-5**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/11/14 15:26 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **Chloroform** | **0.085** | J | 0.20 | 0.038 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **Chloromethane** | **0.84** | | 0.50 | 0.16 | ppb v/v | | | 06/11/14 15:26 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/11/14 15:26 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **Dichlorodifluoromethane** | **0.29** | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **Ethylbenzene** | **0.082** | J | 0.20 | 0.068 | ppb v/v | | | 06/11/14 15:26 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/11/14 15:26 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **Methylene Chloride** | **0.35** | J | 0.50 | 0.13 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **m-Xylene & p-Xylene** | **0.25** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **o-Xylene** | **0.089** | J | 0.20 | 0.061 | ppb v/v | | | 06/11/14 15:26 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/11/14 15:26 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **Toluene** | **0.52** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 15:26 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **Trichloroethene** | **0.11** | J | 0.20 | 0.036 | ppb v/v | | | 06/11/14 15:26 | 1 |
| **Trichlorofluoromethane** | **0.30** | | 0.20 | 0.024 | ppb v/v | | | 06/11/14 15:26 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/11/14 15:26 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/11/14 15:26 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.72** | J | 1.5 | 0.24 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/11/14 15:26 | 1 |
| **Benzene** | **0.63** | | 0.64 | 0.18 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/11/14 15:26 | 1 |
| **Carbon tetrachloride** | **0.49** | J | 1.3 | 0.24 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/11/14 15:26 | 1 |
| **Chloroform** | **0.42** | J | 0.98 | 0.19 | ug/m3 | | | 06/11/14 15:26 | 1 |
| **Chloromethane** | **1.7** | | 1.0 | 0.33 | ug/m3 | | | 06/11/14 15:26 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/11/14 15:26 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/11/14 15:26 | 1 |
| **Dichlorodifluoromethane** | **1.4** | | 0.99 | 0.34 | ug/m3 | | | 06/11/14 15:26 | 1 |

HVG 16 Jun 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-02-SU-DU-20140606

Lab Sample ID: 140-1495-5
Matrix: Air

Date Collected: 06/06/14 14:28
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | 0.35 | J | 0.87 | 0.30 | ug/m3 | | | 06/11/14 15:26 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Methylene Chloride | 1.2 | J | 1.7 | 0.45 | ug/m3 | | | 06/11/14 15:26 | 1 |
| m-Xylene & p-Xylene | 1.1 | | 0.87 | 0.52 | ug/m3 | | | 06/11/14 15:26 | 1 |
| o-Xylene | 0.39 | J | 0.87 | 0.26 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Toluene | 2.0 | | 0.75 | 0.45 | ug/m3 | | | 06/11/14 15:26 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Trichloroethene | 0.59 | J | 1.1 | 0.19 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Trichlorofluoromethane | 1.7 | | 1.1 | 0.13 | ug/m3 | | | 06/11/14 15:26 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/11/14 15:26 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *60 - 140* | | *06/11/14 15:26* | *1* |

## Client Sample ID: WAA-05-SU-PS-20140606

Lab Sample ID: 140-1495-6
Matrix: Air

Date Collected: 06/06/14 14:59
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.071 | J | 0.20 | 0.031 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Benzene | 0.19 | J | 0.20 | 0.056 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Carbon tetrachloride | 0.052 | J | 0.20 | 0.038 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Chloroform | 0.053 | J | 0.20 | 0.038 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Chloromethane | 0.65 | | 0.50 | 0.16 | ppb v/v | | | 06/11/14 16:21 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/11/14 16:21 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

**Client Sample ID: WAA-05-SU-PS-20140606**
Date Collected: 06/06/14 14:59
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1495-6**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/11/14 16:21 | 1 |
| **Dichlorodifluoromethane** | **0.20** | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 16:21 | 1 |
| **Ethylbenzene** | **0.075** | J | 0.20 | 0.068 | ppb v/v | | | 06/11/14 16:21 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/11/14 16:21 | 1 |
| **Methylene Chloride** | **0.34** | J | 0.50 | 0.13 | ppb v/v | | | 06/11/14 16:21 | 1 |
| **m-Xylene & p-Xylene** | **0.23** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 16:21 | 1 |
| **o-Xylene** | **0.084** | J | 0.20 | 0.061 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/11/14 16:21 | 1 |
| **Toluene** | **0.71** | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 16:21 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/11/14 16:21 | 1 |
| **Trichlorofluoromethane** | **0.24** | | 0.20 | 0.024 | ppb v/v | | | 06/11/14 16:21 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/11/14 16:21 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/11/14 16:21 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.54** | J | 1.5 | 0.24 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/11/14 16:21 | 1 |
| **Benzene** | **0.61** | J | 0.64 | 0.18 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/11/14 16:21 | 1 |
| **Carbon tetrachloride** | **0.33** | J | 1.3 | 0.24 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/11/14 16:21 | 1 |
| **Chloroform** | **0.26** | J | 0.98 | 0.19 | ug/m3 | | | 06/11/14 16:21 | 1 |
| **Chloromethane** | **1.3** | | 1.0 | 0.33 | ug/m3 | | | 06/11/14 16:21 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/11/14 16:21 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/11/14 16:21 | 1 |
| **Dichlorodifluoromethane** | **0.98** | | 0.99 | 0.34 | ug/m3 | | | 06/11/14 16:21 | 1 |
| **Ethylbenzene** | **0.33** | J | 0.87 | 0.30 | ug/m3 | | | 06/11/14 16:21 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/11/14 16:21 | 1 |
| **Methylene Chloride** | **1.2** | J | 1.7 | 0.45 | ug/m3 | | | 06/11/14 16:21 | 1 |
| **m-Xylene & p-Xylene** | **0.98** | | 0.87 | 0.52 | ug/m3 | | | 06/11/14 16:21 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-05-SU-PS-20140606

Lab Sample ID: 140-1495-6
Matrix: Air

Date Collected: 06/06/14 14:59
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| o-Xylene | 0.36 | J | 0.87 | 0.26 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Toluene | 2.7 | | 0.75 | 0.45 | ug/m3 | | | 06/11/14 16:21 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Trichlorofluoromethane | 1.3 | | 1.1 | 0.13 | ug/m3 | | | 06/11/14 16:21 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/11/14 16:21 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *60 - 140* | | *06/11/14 16:21* | *1* |

## Client Sample ID: WAA-00-SU-TB-20140606

Lab Sample ID: 140-1495-7
Matrix: Air

Date Collected: 06/06/14 17:47
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 06/11/14 18:54 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/11/14 18:54 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 18:54 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 06/11/14 18:54 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-00-SU-TB-20140606

Lab Sample ID: 140-1495-7

Date Collected: 06/06/14 17:47
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 18:54 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 18:54 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 06/11/14 18:54 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/11/14 18:54 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 06/11/14 18:54 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/11/14 18:54 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/11/14 18:54 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 06/11/14 18:54 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/11/14 18:54 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 06/11/14 18:54 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/11/14 18:54 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 06/11/14 18:54 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

**Client Sample ID: WAA-00-SU-TB-20140606**

**Lab Sample ID: 140-1495-7**

Date Collected: 06/06/14 17:47
Date Received: 06/10/14 10:00
Sample Container: Summa Canister 6L

Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/11/14 18:54 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *91* | | *60 - 140* | | *06/11/14 18:54* | *1* |

1AUG
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# Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | **Client Sample ID** | **BFB (60-140)** | | | | | | |
| 140-1495-1 | WAA-01-SU-PS-20140606 | 98 | | | | | | |
| 140-1495-2 | WAA-02-SU-PS-20140606 | 94 | | | | | | |
| 140-1495-3 | WAA-03-SU-PS-20140606 | 100 | | | | | | |
| 140-1495-4 | WAA-04-SU-PS-20140606 | 102 | | | | | | |
| 140-1495-5 | WAA-02-SU-DU-20140606 | 101 | | | | | | |
| 140-1495-6 | WAA-05-SU-PS-20140606 | 103 | | | | | | |
| 140-1495-7 | WAA-00-SU-TB-20140606 | 91 | | | | | | |
| LCS 140-1325/1002 | Lab Control Sample | 96 | | | | | | |
| MB 140-1325/4 | Method Blank | 93 | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-1325/4**
**Matrix: Air**
**Analysis Batch: 1325**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 06/11/14 10:10 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/11/14 10:10 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/11/14 10:10 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 06/11/14 10:10 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 10:10 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/11/14 10:10 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 06/11/14 10:10 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/11/14 10:10 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/11/14 10:10 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1325/4**
**Matrix: Air**
**Analysis Batch: 1325**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 06/11/14 10:10 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/11/14 10:10 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/11/14 10:10 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 06/11/14 10:10 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/11/14 10:10 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 06/11/14 10:10 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 06/11/14 10:10 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/11/14 10:10 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *93* | | *60 - 140* | | *06/11/14 10:10* | *1* |

**Lab Sample ID: LCS 140-1325/1002**
**Matrix: Air**
**Analysis Batch: 1325**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 2.00 | 2.17 | | ppb v/v | | 108 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 2.00 | 2.04 | | ppb v/v | | 102 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 2.00 | 2.40 | | ppb v/v | | 120 | 70 - 130 |
| 1,1,2-Trichloroethane | 2.00 | 2.13 | | ppb v/v | | 106 | 70 - 130 |
| 1,1-Dichloroethane | 2.00 | 2.29 | | ppb v/v | | 114 | 70 - 130 |
| 1,1-Dichloroethene | 2.00 | 2.35 | | ppb v/v | | 118 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1325/1002**
**Matrix: Air**
**Analysis Batch: 1325**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2.00 | 1.47 | | ppb v/v | | 73 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 2.00 | 1.83 | | ppb v/v | | 91 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00 | 2.04 | | ppb v/v | | 102 | 60 - 140 |
| 1,2-Dichlorobenzene | 2.00 | 1.62 | | ppb v/v | | 81 | 70 - 130 |
| 1,2-Dichloroethane | 2.00 | 2.08 | | ppb v/v | | 104 | 70 - 130 |
| 1,2-Dichloropropane | 2.00 | 2.26 | | ppb v/v | | 113 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 2.00 | 1.88 | | ppb v/v | | 94 | 70 - 130 |
| 1,3-Dichlorobenzene | 2.00 | 1.64 | | ppb v/v | | 82 | 70 - 130 |
| 1,4-Dichlorobenzene | 2.00 | 1.69 | | ppb v/v | | 84 | 70 - 130 |
| Benzene | 2.00 | 2.20 | | ppb v/v | | 110 | 70 - 130 |
| Benzyl chloride | 2.00 | 1.99 | | ppb v/v | | 100 | 70 - 130 |
| Bromomethane | 2.00 | 1.96 | | ppb v/v | | 98 | 70 - 130 |
| Carbon tetrachloride | 2.00 | 1.96 | | ppb v/v | | 98 | 70 - 130 |
| Chlorobenzene | 2.00 | 2.01 | | ppb v/v | | 101 | 70 - 130 |
| Chloroethane | 2.00 | 2.10 | | ppb v/v | | 105 | 70 - 130 |
| Chloroform | 2.00 | 2.24 | | ppb v/v | | 112 | 70 - 130 |
| Chloromethane | 2.00 | 2.21 | | ppb v/v | | 111 | 60 - 140 |
| cis-1,2-Dichloroethene | 2.00 | 2.28 | | ppb v/v | | 114 | 70 - 130 |
| cis-1,3-Dichloropropene | 2.00 | 2.35 | | ppb v/v | | 118 | 70 - 130 |
| Dichlorodifluoromethane | 2.00 | 2.45 | | ppb v/v | | 123 | 60 - 140 |
| Ethylbenzene | 2.00 | 2.10 | | ppb v/v | | 105 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 2.00 | 2.07 | | ppb v/v | | 104 | 70 - 130 |
| Hexachlorobutadiene | 2.00 | 1.30 | | ppb v/v | | 65 | 60 - 140 |
| Methylene Chloride | 2.00 | 2.35 | | ppb v/v | | 118 | 70 - 130 |
| m-Xylene & p-Xylene | 4.00 | 4.01 | | ppb v/v | | 100 | 70 - 130 |
| o-Xylene | 2.00 | 2.00 | | ppb v/v | | 100 | 70 - 130 |
| Styrene | 2.00 | 2.11 | | ppb v/v | | 105 | 70 - 130 |
| Tetrachloroethene | 2.00 | 1.98 | | ppb v/v | | 99 | 70 - 130 |
| Toluene | 2.00 | 2.15 | | ppb v/v | | 108 | 70 - 130 |
| trans-1,3-Dichloropropene | 2.00 | 2.25 | | ppb v/v | | 112 | 70 - 130 |
| Trichloroethene | 2.00 | 2.05 | | ppb v/v | | 103 | 70 - 130 |
| Trichlorofluoromethane | 2.00 | 1.94 | | ppb v/v | | 97 | 60 - 140 |
| Vinyl chloride | 2.00 | 2.22 | | ppb v/v | | 111 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 11.8 | | ug/m3 | | 108 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 14.0 | | ug/m3 | | 102 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 18.4 | | ug/m3 | | 120 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 11.6 | | ug/m3 | | 106 | 70 - 130 |
| 1,1-Dichloroethane | 8.1 | 9.25 | | ug/m3 | | 114 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 9.34 | | ug/m3 | | 118 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 10.9 | | ug/m3 | | 73 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.8 | 8.98 | | ug/m3 | | 91 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 14.3 | | ug/m3 | | 102 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 9.72 | | ug/m3 | | 81 | 70 - 130 |
| 1,2-Dichloroethane | 8.1 | 8.41 | | ug/m3 | | 104 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1325/1002**
**Matrix: Air**
**Analysis Batch: 1325**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 9.2 | 10.5 | | ug/m3 | | 113 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.8 | 9.22 | | ug/m3 | | 94 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 9.87 | | ug/m3 | | 82 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 10.1 | | ug/m3 | | 84 | 70 - 130 |
| Benzene | 6.4 | 7.03 | | ug/m3 | | 110 | 70 - 130 |
| Benzyl chloride | 10 | 10.3 | | ug/m3 | | 100 | 70 - 130 |
| Bromomethane | 7.8 | 7.61 | | ug/m3 | | 98 | 70 - 130 |
| Carbon tetrachloride | 13 | 12.3 | | ug/m3 | | 98 | 70 - 130 |
| Chlorobenzene | 9.2 | 9.26 | | ug/m3 | | 101 | 70 - 130 |
| Chloroethane | 5.3 | 5.55 | | ug/m3 | | 105 | 70 - 130 |
| Chloroform | 9.8 | 10.9 | | ug/m3 | | 112 | 70 - 130 |
| Chloromethane | 4.1 | 4.56 | | ug/m3 | | 111 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 9.05 | | ug/m3 | | 114 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.1 | 10.7 | | ug/m3 | | 118 | 70 - 130 |
| Dichlorodifluoromethane | 9.9 | 12.1 | | ug/m3 | | 123 | 60 - 140 |
| Ethylbenzene | 8.7 | 9.12 | | ug/m3 | | 105 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 15.9 | | ug/m3 | | 104 | 70 - 130 |
| Hexachlorobutadiene | 21 | 13.9 | | ug/m3 | | 65 | 60 - 140 |
| Methylene Chloride | 6.9 | 8.17 | | ug/m3 | | 118 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 17.4 | | ug/m3 | | 100 | 70 - 130 |
| o-Xylene | 8.7 | 8.67 | | ug/m3 | | 100 | 70 - 130 |
| Styrene | 8.5 | 8.97 | | ug/m3 | | 105 | 70 - 130 |
| Tetrachloroethene | 14 | 13.4 | | ug/m3 | | 99 | 70 - 130 |
| Toluene | 7.5 | 8.12 | | ug/m3 | | 108 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1 | 10.2 | | ug/m3 | | 112 | 70 - 130 |
| Trichloroethene | 11 | 11.0 | | ug/m3 | | 103 | 70 - 130 |
| Trichlorofluoromethane | 11 | 10.9 | | ug/m3 | | 97 | 60 - 140 |
| Vinyl chloride | 5.1 | 5.68 | | ug/m3 | | 111 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *96* | | *60 - 140* |

# QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Air - GC/MS VOA

### Analysis Batch: 1325

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1495-1 | WAA-01-SU-PS-20140606 | Total/NA | Air | TO-15 | |
| 140-1495-2 | WAA-02-SU-PS-20140606 | Total/NA | Air | TO-15 | |
| 140-1495-3 | WAA-03-SU-PS-20140606 | Total/NA | Air | TO-15 | |
| 140-1495-4 | WAA-04-SU-PS-20140606 | Total/NA | Air | TO-15 | |
| 140-1495-5 | WAA-02-SU-DU-20140606 | Total/NA | Air | TO-15 | |
| 140-1495-6 | WAA-05-SU-PS-20140606 | Total/NA | Air | TO-15 | |
| 140-1495-7 | WAA-00-SU-TB-20140606 | Total/NA | Air | TO-15 | |
| LCS 140-1325/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1325/4 | Method Blank | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-01-SU-PS-20140606 — Lab Sample ID: 140-1495-1

**Date Collected: 06/06/14 16:15** — **Matrix: Air**
**Date Received: 06/10/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1325 | 06/11/14 11:53 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-02-SU-PS-20140606 — Lab Sample ID: 140-1495-2

**Date Collected: 06/06/14 14:28** — **Matrix: Air**
**Date Received: 06/10/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1325 | 06/11/14 12:46 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-03-SU-PS-20140606 — Lab Sample ID: 140-1495-3

**Date Collected: 06/06/14 12:43** — **Matrix: Air**
**Date Received: 06/10/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1325 | 06/11/14 13:39 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-04-SU-PS-20140606 — Lab Sample ID: 140-1495-4

**Date Collected: 06/06/14 13:53** — **Matrix: Air**
**Date Received: 06/10/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1325 | 06/11/14 14:33 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-02-SU-DU-20140606 — Lab Sample ID: 140-1495-5

**Date Collected: 06/06/14 14:28** — **Matrix: Air**
**Date Received: 06/10/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1325 | 06/11/14 15:26 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-05-SU-PS-20140606 — Lab Sample ID: 140-1495-6

**Date Collected: 06/06/14 14:59** — **Matrix: Air**
**Date Received: 06/10/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1325 | 06/11/14 16:21 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Client Sample ID: WAA-00-SU-TB-20140606

**Lab Sample ID: 140-1495-7**

**Date Collected: 06/06/14 17:47**

**Matrix: Air**

**Date Received: 06/10/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1325 | 06/11/14 18:54 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

## Laboratory: TestAmerica Knoxville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | AFCEE | | N/A | |
| Arkansas DEQ | State Program | 6 | 88-0688 | 06-17-14 * |
| California | State Program | 9 | 2423 | 06-30-14 |
| Colorado | State Program | 8 | N/A | 02-28-15 |
| Connecticut | State Program | 1 | PH-0223 | 09-30-15 |
| Florida | NELAP | 4 | E87177 | 06-30-14 |
| Georgia | State Program | 4 | 906 | 06-13-14 * |
| Hawaii | State Program | 9 | N/A | 04-13-15 |
| Iowa | State Program | 7 | 375 | 08-01-14 |
| Kansas | NELAP | 7 | E-10349 | 10-31-14 |
| Kentucky (DW) | State Program | 4 | 90101 | 12-31-14 |
| L-A-B | DoD ELAP | | L2311 | 02-13-16 |
| Louisiana | NELAP | 6 | LA110001 | 12-31-14 |
| Maryland | State Program | 3 | 277 | 03-31-15 |
| Michigan | State Program | 5 | 9933 | 04-13-17 |
| Nevada | State Program | 9 | TN00009 | 07-31-14 |
| New Jersey | NELAP | 2 | TN001 | 06-30-14 |
| New York | NELAP | 2 | 10781 | 03-31-15 |
| North Carolina DENR | State Program | 4 | 64 | 12-31-14 |
| North Carolina DHHS | State Program | 4 | 21705 | 07-31-14 |
| Ohio VAP | State Program | 5 | CL0059 | 03-26-15 |
| Oklahoma | State Program | 6 | 9415 | 08-31-14 |
| Pennsylvania | NELAP | 3 | 68-00576 | 12-31-14 |
| South Carolina | State Program | 4 | 84001 | 06-30-14 |
| Tennessee | State Program | 4 | 2014 | 04-13-17 |
| Texas | NELAP | 6 | T104704380-TX | 08-31-14 |
| USDA | Federal | | P330-13-00260 | 08-29-16 |
| Utah | NELAP | 8 | QUAN3 | 07-31-14 |
| Virginia | NELAP | 3 | 460176 | 09-14-14 |
| Virginia | State Program | 3 | 165 | 06-30-14 |
| Washington | State Program | 10 | C593 | 01-19-15 |
| West Virginia DEP | State Program | 3 | 345 | 04-30-15 |
| West Virginia DHHR | State Program | 3 | 9955C | 12-31-14 |
| Wisconsin | State Program | 5 | 998044300 | 08-31-14 |

* Certification renewal pending - certification considered valid.

# Method Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | TAL KNX |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1495-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 140-1495-1 | WAA-01-SU-PS-20140606 | Air | 06/06/14 16:15 | 06/10/14 10:00 |
| 140-1495-2 | WAA-02-SU-PS-20140606 | Air | 06/06/14 14:28 | 06/10/14 10:00 |
| 140-1495-3 | WAA-03-SU-PS-20140606 | Air | 06/06/14 12:43 | 06/10/14 10:00 |
| 140-1495-4 | WAA-04-SU-PS-20140606 | Air | 06/06/14 13:53 | 06/10/14 10:00 |
| 140-1495-5 | WAA-02-SU-DU-20140606 | Air | 06/06/14 14:28 | 06/10/14 10:00 |
| 140-1495-6 | WAA-05-SU-PS-20140606 | Air | 06/06/14 14:59 | 06/10/14 10:00 |
| 140-1495-7 | WAA-00-SU-TB-20140606 | Air | 06/06/14 17:47 | 06/10/14 10:00 |

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

**Client Contact Information**
Company: Tetra Tech Inc.
Address: 415 Oak Street
City/State/Zip: Kansas City, MO 64106
Phone: 816-412-1786
FAX: 816-410-1748
Project Name: Westlake Landfill
Site/location: Bridgeton, MO
PO #: 1105352

Project Manager: Dave Kinroth
Phone: 314-517-6798
Site Contact: Same
TAL Contact: Mike Franks

Sampled By: Blattner

1 of 2 COCs

140-1495 Chain of Custody

**Analysis Turnaround Time**
Standard (Specify)
Rush (Specify)

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, 'Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25C | ASTM D-1946 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-01-SU-PS-20140606 | 6-5-14 to 6-6-14 | 1541 | 1615 | -28.0 | -3.0 | 10149 | 10530 | X | | | | | | | | | | | |
| WAA-02-SU-PS-20140606 | | 1501 | 1428 | -27.0 | -1.0 | 09553 | 10226 | | | | | | | | | | | | |
| WAA-03-SU-PS-20140606 | | 1303 | 1243 | -30.0 | -2.0 | 10146 | 10427 | | | | | | | | | | | | |
| WAA-04-SU-PS-20140606 | | 1356 | 1353 | -30.0 | -1.0 | 10451 | 09514 | | | | | | | | | | | | |
| WAA-02-SU-DU-20140606 | | ~~1436~~ 1501 | ~~1459~~ 1428 | -25.0 | 0 | 10144 | 10578 | | | | | | | | | | | | |
| WAA-05-SU-PS-20140606 | | 1436 | 1459 | -29.0 | -2.0 | 10461 | 09967 | | | | | | | | | | | | |

**Sampled by :**

| Temperature (Fahrenheit) | Interior | Ambient |
|---|---|---|
| Start | | 70.~~84~~°F |
| Stop | | 82°F |

| Pressure (inches of Hg) | Interior | Ambient |
|---|---|---|
| Start | | 29.93 |
| Stop | | 29.90 |

Received @ ambient
No custody seal
2 boxes
KV 6/10/14
Fedex Po
tr#S399 0207 4334
" " 4323

**Special Instructions/QC Requirements & Comments:**

| Canisters Shipped by: | Date/Time: | Canisters Received by: |
|---|---|---|
| Samples Relinquished by: Dave Kinroth | Date/Time: 6-9-14 1313 | Received by: [signature] 6.9.14 1313 |
| Relinquished by: [signature] | Date/Time: 6.9.14 1530 | Received by: [signature] Ken Wilson 6/10/14 1000 |

7 cans
7 flows
8 cc





WLLFOIA4312 - 015 - 0155096

**TAL Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865-291-3000 fax 865-584-4315

# Canister Samples Chain of Custody Record

*TestAmerica assumes no liability with respect to the collection and shipment of these samples.*

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

**Client Contact Information**
Company: Tetra Tech Inc.
Address: 415 Oak Street
City/State/Zip: Kansas City, MO 64106
Phone: 816-412-1786
FAX: 816-410-1748
Project Name: Westlake Landfill
Site/location: Bridgeton, MO
PO #: 1105352

**Project Manager:** Dave Kinroth
**Phone:** 314-517-6798
**Site Contact:** Same
**TAL Contact:** Mike Franks

**Analysis Turnaround Time**
Standard (Specify)
Rush (Specify)

**Sampled By:** Blattner

2 of 2 COCs

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, "Hg (Start) | Canister Vacuum in Field, 'Hg (Stop) | Flow Controller ID | Canister ID | TO-15 | TO-14A | EPA 3C | EPA 25C | ASTM D-1946 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-00-SU-TB-20140606 | 06-05-14 to 06-06-14 | 1230 | 1747 | -29.3 | -29.3 | 09845 | 10040 | X | | | | | | | | | | | |

End of batch shipment
Greg Blattner
6-6-14

**Sampled by :**

| Temperature (Fahrenheit) | Interior | Ambient |
|---|---|---|
| Start | | ~~84~~ 70 |
| Stop | | ~~85~~ 87 |

| Pressure (inches of Hg) | Interior | Ambient |
|---|---|---|
| Start | | 29.93 |
| Stop | | 29.90 |

**Special Instructions/QC Requirements & Comments:**

| Canisters Shipped by: | Date/Time: | Canisters Received by: |
|---|---|---|
| Samples Relinquished by: Dave Kinroth | Date/Time: 6-9-14 13:13 | Received by: [signature] 6-9-14 1313 |
| Relinquished by: [signature] | Date/Time: 6-9-14 1530 | Received by: [signature] Ken Wilson 6/10/14 1000 |

# Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1495-1

**Login Number: 1495**

**List Source: TestAmerica Knoxville**

**List Number: 1**

**Creator: Wilson, Ken**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | N/A | |
| Cooler Temperature is acceptable. | N/A | |
| Cooler Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | N/A | This is checked in the lab. |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

## TestAmerica Knoxville - Air Canister Initial Pressure Check

**Gauge ID:** G1

| Analyst | Date | Sample ID | 6 L | 1 L | Pressure @ Receipt (-in Hg or +psig) | Time | Comments |
|---|---|---|---|---|---|---|---|
| AFB | 6/10/2014 | 140-1495-a-1 | X | | -3.4 | 1250 | |
| AFB | 6/10/2014 | 140-1495-a-2 | X | | -3.4 | 1251 | |
| AFB | 6/10/2014 | 140-1495-a-3 | X | | -3.6 | 1252 | |
| AFB | 6/10/2014 | 140-1495-a-4 | X | | -1.8 | 1253 | |
| AFB | 6/10/2014 | 140-1495-a-5 | X | | -2.6 | 1254 | |
| AFB | 6/10/2014 | 140-1495-a-6 | X | | -2.4 | 1255 | |
| AFB | 6/10/2014 | 140-1495-a-7 | X | | -29.2 | 1305 | TRIP BLK pressed to 10psi |

**Tetra Tech, Inc.**
**DATA VALIDATION REPORT**
**LEVEL II**

| | |
|---|---|
| Site: | West Lake Landfill Site, Bridgeton, Missouri |
| Laboratory: | TestAmerica Laboratories, Inc. (Knoxville, Tennessee) |
| Data Reviewer: | Harry Ellis, Tetra Tech, Inc. (Tetra Tech) |
| Review Date | July 3, 2014 |
| Sample Delivery Group (SDG): | J1572 |
| Sample Numbers: | WAA-01-SU-PS-20140618, WAA-02-SU-PS-20140619, WAA-03-SU-PS-20140619, WAA-04-SU-PS-20140619, WAA-05-SU-PS-20140619, WAA-01-SU-PS-20140619, and WAA-00-SU-TB-20140619 |
| Matrix / Number of Samples: | 6 Air Samples and 1 Trip Blank |

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

3 July 2014

Certified by Harry Ellis, Chemist

Date



WLLFOIA4312 - 015 - 0155100

## DATA VALIDATION QUALIFIERS

**U** — The analyte was not detected above the reported sample quantitation limit.

**J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.

**R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.



WLLFOIA4312 - 015 - 0155101

## DATA ASSESSMENT

Sample delivery group (SDG) J1572 included six (6) environmental air (passivated canister) samples and one (1) QC sample (a trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

## VOLATILE ORGANIC COMPOUND ANALYSIS

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. Satisfactory LCS and field duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

III. Blanks

The laboratory (method) blank yielded no detectable analytes. However, the trip blank yielded a concentration of the common laboratory contaminant toluene almost 4 times the reporting limit. Lower concentrations of toluene in some samples were qualified as handling artifacts and flagged "U". Higher concentrations of toluene in the other samples were qualified as estimated (flagged "J") since they may be, in part, artifactual.

IV. Laboratory Control Sample (LCS)

All percent recoveries from the LCS analysis were within established control limits. No qualifications were applied.

V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

VI. Comments

Many detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

VII. Overall Assessment of Data

Overall data quality is acceptable, with only a few qualifications applied. All data are usable as qualified for their intended purposes.



WLLFOIA4312 - 015 - 0155102

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

TestAmerica Job ID: 140-1572-1
Client Project/Site: West Lake Landfill

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

*Authorized for release by:*
*6/27/2014 10:35:18 AM*

Jamie McKinney, Senior Project Manager
(865)291-3000
jamie.mckinney@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*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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WLLFOIA4312 - 015 - 0155105

# Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| 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 |
| 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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Job ID: 140-1572-1

### Laboratory: TestAmerica Knoxville

**Narrative**

**Job Narrative**
**140-1572-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 6/24/2014 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Air - GC/MS VOA**
Method(s) TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified “zero air” as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of “zero air” by TestAmerica Knoxville.

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



WLLFOIA4312 - 015 - 0155107

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-01-SU-PS-20140618 — Lab Sample ID: 140-1572-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.084 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.12 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.073 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.55 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.16 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.24 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.17 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 1.4 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.26 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.64 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.37 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.46 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.1 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.81 | J | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.83 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.74 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 5.2 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.5 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-02-SU-PS-20140619 — Lab Sample ID: 140-1572-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.083 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.11 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Bromomethane | 0.040 | J | 0.20 | 0.032 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.088 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.20 | | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.066 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.2 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.17 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.5 | | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.25 | | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 2.6 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.083 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.24 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.64 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.36 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Bromomethane | 0.16 | J | 0.78 | 0.12 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.55 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.54 | | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.32 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 2.4 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.83 | J | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 5.1 | | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 1.7 | | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 9.8 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.44 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-03-SU-PS-20140619 — Lab Sample ID: 140-1572-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.078 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.092 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.071 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.042 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.59 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.16 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.13 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.26 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.22 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.60 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.29 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.45 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.21 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.2 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.82 | J | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.46 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.98 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.2 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-PS-20140619 — Lab Sample ID: 140-1572-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.086 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.10 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Bromomethane | 0.036 | J | 0.20 | 0.032 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.076 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.70 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.22 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.19 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.38 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.35 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.66 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.33 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Bromomethane | 0.14 | J | 0.78 | 0.12 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.48 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.4 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.1 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.66 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.4 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 2.0 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-05-SU-PS-20140619 — Lab Sample ID: 140-1572-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.086 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.083 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.081 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.62 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-05-SU-PS-20140619 (Continued) — Lab Sample ID: 140-1572-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 0.19 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.19 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.39 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.66 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.27 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.51 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.93 | J | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.66 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.5 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-01-SU-PS-20140619 — Lab Sample ID: 140-1572-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.073 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.12 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.064 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.63 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.16 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.091 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.22 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.35 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.072 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Styrene | 0.059 | J | 0.20 | 0.058 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 1.6 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.56 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.37 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.40 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.81 | J | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.40 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.77 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.5 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.31 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Styrene | 0.25 | J | 0.85 | 0.25 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 6.1 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-00-SU-TB-20140619 — Lab Sample ID: 140-1572-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Toluene | 0.78 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Toluene | 2.9 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

Client Sample ID: WAA-01-SU-PS-20140618
Date Collected: 06/18/14 16:50
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1572-1
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 19:01 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.084** | **J** | 0.20 | 0.031 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/24/14 19:01 | 1 |
| **Benzene** | **0.12** | **J** | 0.20 | 0.056 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 19:01 | 1 |
| **Carbon tetrachloride** | **0.073** | **J** | 0.20 | 0.038 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/24/14 19:01 | 1 |
| **Chloromethane** | **0.55** | | 0.50 | 0.16 | ppb v/v | | | 06/24/14 19:01 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/24/14 19:01 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/24/14 19:01 | 1 |
| **Dichlorodifluoromethane** | **0.16** | **J** | 0.20 | 0.068 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/24/14 19:01 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/24/14 19:01 | 1 |
| **Methylene Chloride** | **0.24** | **J** | 0.50 | 0.13 | ppb v/v | | | 06/24/14 19:01 | 1 |
| **m-Xylene & p-Xylene** | **0.17** | **J** | 0.20 | 0.12 | ppb v/v | | | 06/24/14 19:01 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/24/14 19:01 | 1 |
| **Toluene** | **1.4** | J | 0.20 | 0.12 | ppb v/v | | | 06/24/14 19:01 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/24/14 19:01 | 1 |
| **Trichlorofluoromethane** | **0.26** | | 0.20 | 0.024 | ppb v/v | | | 06/24/14 19:01 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/24/14 19:01 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/24/14 19:01 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.64** | **J** | 1.5 | 0.24 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/24/14 19:01 | 1 |

HVE 3 July 2014

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-01-SU-PS-20140618

Lab Sample ID: 140-1572-1
Matrix: Air

Date Collected: 06/18/14 16:50
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/24/14 19:01 | 1 |
| **Benzene** | **0.37** | J | 0.64 | 0.18 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/24/14 19:01 | 1 |
| **Carbon tetrachloride** | **0.46** | J | 1.3 | 0.24 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/24/14 19:01 | 1 |
| **Chloromethane** | **1.1** | | 1.0 | 0.33 | ug/m3 | | | 06/24/14 19:01 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/24/14 19:01 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/24/14 19:01 | 1 |
| **Dichlorodifluoromethane** | **0.81** | J | 0.99 | 0.34 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/24/14 19:01 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/24/14 19:01 | 1 |
| **Methylene Chloride** | **0.83** | J | 1.7 | 0.45 | ug/m3 | | | 06/24/14 19:01 | 1 |
| **m-Xylene & p-Xylene** | **0.74** | J | 0.87 | 0.52 | ug/m3 | | | 06/24/14 19:01 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/24/14 19:01 | 1 |
| **Toluene** | **5.2** | J | 0.75 | 0.45 | ug/m3 | | | 06/24/14 19:01 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/24/14 19:01 | 1 |
| **Trichlorofluoromethane** | **1.5** | | 1.1 | 0.13 | ug/m3 | | | 06/24/14 19:01 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/24/14 19:01 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *108* | | *60 - 140* | | *06/24/14 19:01* | *1* |

## Client Sample ID: WAA-02-SU-PS-20140619

Lab Sample ID: 140-1572-2
Matrix: Air

Date Collected: 06/19/14 10:43
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.083 | J | 0.20 | 0.031 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/24/14 19:55 | 1 |

HUG 3 Jul 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

**Client Sample ID: WAA-02-SU-PS-20140619**

**Lab Sample ID: 140-1572-2**

Date Collected: 06/19/14 10:43
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Benzene** | **0.11** | J | 0.20 | 0.056 | ppb v/v | | | 06/24/14 19:55 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Bromomethane** | **0.040** | J | 0.20 | 0.032 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Carbon tetrachloride** | **0.088** | J | 0.20 | 0.038 | ppb v/v | | | 06/24/14 19:55 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Chloroethane** | **0.20** | | 0.20 | 0.035 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Chloroform** | **0.066** | J | 0.20 | 0.038 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Chloromethane** | **1.2** | | 0.50 | 0.16 | ppb v/v | | | 06/24/14 19:55 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/24/14 19:55 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Dichlorodifluoromethane** | **0.17** | J | 0.20 | 0.068 | ppb v/v | | | 06/24/14 19:55 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/24/14 19:55 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/24/14 19:55 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Methylene Chloride** | **1.5** | | 0.50 | 0.13 | ppb v/v | | | 06/24/14 19:55 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/24/14 19:55 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 19:55 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Tetrachloroethene** | **0.25** | | 0.20 | 0.040 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Toluene** | **2.6** | J | 0.20 | 0.12 | ppb v/v | | | 06/24/14 19:55 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Trichloroethene** | **0.083** | J | 0.20 | 0.036 | ppb v/v | | | 06/24/14 19:55 | 1 |
| **Trichlorofluoromethane** | **0.24** | | 0.20 | 0.024 | ppb v/v | | | 06/24/14 19:55 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/24/14 19:55 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.64** | J | 1.5 | 0.24 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/24/14 19:55 | 1 |

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TestAmerica Knoxville



6/27/2014

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-02-SU-PS-20140619

Lab Sample ID: 140-1572-2
Matrix: Air

Date Collected: 06/19/14 10:43
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Benzene** | **0.36** | J | 0.64 | 0.18 | ug/m3 | | | 06/24/14 19:55 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Bromomethane** | **0.16** | J | 0.78 | 0.12 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Carbon tetrachloride** | **0.55** | J | 1.3 | 0.24 | ug/m3 | | | 06/24/14 19:55 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Chloroethane** | **0.54** | | 0.53 | 0.092 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Chloroform** | **0.32** | J | 0.98 | 0.19 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Chloromethane** | **2.4** | | 1.0 | 0.33 | ug/m3 | | | 06/24/14 19:55 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/24/14 19:55 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Dichlorodifluoromethane** | **0.83** | J | 0.99 | 0.34 | ug/m3 | | | 06/24/14 19:55 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/24/14 19:55 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/24/14 19:55 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Methylene Chloride** | **5.1** | | 1.7 | 0.45 | ug/m3 | | | 06/24/14 19:55 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/24/14 19:55 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/24/14 19:55 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Tetrachloroethene** | **1.7** | | 1.4 | 0.27 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Toluene** | **9.8** | J | 0.75 | 0.45 | ug/m3 | | | 06/24/14 19:55 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Trichloroethene** | **0.44** | J | 1.1 | 0.19 | ug/m3 | | | 06/24/14 19:55 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 06/24/14 19:55 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/24/14 19:55 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *06/24/14 19:55* | *1* |

## Client Sample ID: WAA-03-SU-PS-20140619

Lab Sample ID: 140-1572-3
Matrix: Air

Date Collected: 06/19/14 10:22
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 20:49 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.078** | J | 0.20 | 0.031 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 20:49 | 1 |

HVE 3 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

**Client Sample ID: WAA-03-SU-PS-20140619**

**Lab Sample ID: 140-1572-3**

Date Collected: 06/19/14 10:22
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/24/14 20:49 | 1 |
| **Benzene** | **0.092** | **J** | 0.20 | 0.056 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 20:49 | 1 |
| **Carbon tetrachloride** | **0.071** | **J** | 0.20 | 0.038 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/24/14 20:49 | 1 |
| **Chloroform** | **0.042** | **J** | 0.20 | 0.038 | ppb v/v | | | 06/24/14 20:49 | 1 |
| **Chloromethane** | **0.59** | | 0.50 | 0.16 | ppb v/v | | | 06/24/14 20:49 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/24/14 20:49 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/24/14 20:49 | 1 |
| **Dichlorodifluoromethane** | **0.16** | **J** | 0.20 | 0.068 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/24/14 20:49 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/24/14 20:49 | 1 |
| **Methylene Chloride** | **0.13** | **J** | 0.50 | 0.13 | ppb v/v | | | 06/24/14 20:49 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/24/14 20:49 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/24/14 20:49 | 1 |
| **Toluene** | **0.26** | U | 0.20 | 0.12 | ppb v/v | | | 06/24/14 20:49 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/24/14 20:49 | 1 |
| **Trichlorofluoromethane** | **0.22** | | 0.20 | 0.024 | ppb v/v | | | 06/24/14 20:49 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/24/14 20:49 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/24/14 20:49 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.60** | **J** | 1.5 | 0.24 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Benzene | 0.29 | J | 0.64 | 0.18 | ug/m3 | | | 06/24/14 20:49 | 1 |

HVG 3 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-03-SU-PS-20140619

Lab Sample ID: 140-1572-3
Matrix: Air

Date Collected: 06/19/14 10:22
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/24/14 20:49 | 1 |
| **Carbon tetrachloride** | **0.45** | J | 1.3 | 0.24 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/24/14 20:49 | 1 |
| **Chloroform** | **0.21** | J | 0.98 | 0.19 | ug/m3 | | | 06/24/14 20:49 | 1 |
| **Chloromethane** | **1.2** | | 1.0 | 0.33 | ug/m3 | | | 06/24/14 20:49 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/24/14 20:49 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/24/14 20:49 | 1 |
| **Dichlorodifluoromethane** | **0.82** | J | 0.99 | 0.34 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/24/14 20:49 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/24/14 20:49 | 1 |
| **Methylene Chloride** | **0.46** | J | 1.7 | 0.45 | ug/m3 | | | 06/24/14 20:49 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/24/14 20:49 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/24/14 20:49 | 1 |
| **Toluene** | **0.98** | U | 0.75 | 0.45 | ug/m3 | | | 06/24/14 20:49 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/24/14 20:49 | 1 |
| **Trichlorofluoromethane** | **1.2** | | 1.1 | 0.13 | ug/m3 | | | 06/24/14 20:49 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/24/14 20:49 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *06/24/14 20:49* | *1* |

## Client Sample ID: WAA-04-SU-PS-20140619

Lab Sample ID: 140-1572-4
Matrix: Air

Date Collected: 06/19/14 10:32
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 21:43 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.086** | J | 0.20 | 0.031 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 21:43 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-04-SU-PS-20140619

Lab Sample ID: 140-1572-4
Matrix: Air

Date Collected: 06/19/14 10:32
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/24/14 21:43 | 1 |
| **Benzene** | **0.10** | J | 0.20 | 0.056 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/24/14 21:43 | 1 |
| **Bromomethane** | **0.036** | J | 0.20 | 0.032 | ppb v/v | | | 06/24/14 21:43 | 1 |
| **Carbon tetrachloride** | **0.076** | J | 0.20 | 0.038 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/24/14 21:43 | 1 |
| **Chloromethane** | **0.70** | | 0.50 | 0.16 | ppb v/v | | | 06/24/14 21:43 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/24/14 21:43 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/24/14 21:43 | 1 |
| **Dichlorodifluoromethane** | **0.22** | | 0.20 | 0.068 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/24/14 21:43 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/24/14 21:43 | 1 |
| **Methylene Chloride** | **0.19** | J | 0.50 | 0.13 | ppb v/v | | | 06/24/14 21:43 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/24/14 21:43 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/24/14 21:43 | 1 |
| **Toluene** | **0.38** | U | 0.20 | 0.12 | ppb v/v | | | 06/24/14 21:43 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/24/14 21:43 | 1 |
| **Trichlorofluoromethane** | **0.35** | | 0.20 | 0.024 | ppb v/v | | | 06/24/14 21:43 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/24/14 21:43 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/24/14 21:43 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.66** | J | 1.5 | 0.24 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Benzene | **0.33** | J | 0.64 | 0.18 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Bromomethane | **0.14** | J | 0.78 | 0.12 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Carbon tetrachloride | **0.48** | J | 1.3 | 0.24 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/24/14 21:43 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-04-SU-PS-20140619

Lab Sample ID: 140-1572-4
Matrix: Air

Date Collected: 06/19/14 10:32
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Chloromethane | 1.4 | | 1.0 | 0.33 | ug/m3 | | | 06/24/14 21:43 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/24/14 21:43 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Dichlorodifluoromethane | 1.1 | | 0.99 | 0.34 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/24/14 21:43 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Methylene Chloride | 0.66 | J | 1.7 | 0.45 | ug/m3 | | | 06/24/14 21:43 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/24/14 21:43 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Toluene | 1.4 | U | 0.75 | 0.45 | ug/m3 | | | 06/24/14 21:43 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Trichlorofluoromethane | 2.0 | | 1.1 | 0.13 | ug/m3 | | | 06/24/14 21:43 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/24/14 21:43 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *112* | | *60 - 140* | | *06/24/14 21:43* | *1* |

## Client Sample ID: WAA-05-SU-PS-20140619

Lab Sample ID: 140-1572-5
Matrix: Air

Date Collected: 06/19/14 10:52
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.086 | J | 0.20 | 0.031 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Benzene | 0.083 | J | 0.20 | 0.056 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Carbon tetrachloride | 0.081 | J | 0.20 | 0.038 | ppb v/v | | | 06/24/14 22:38 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-05-SU-PS-20140619

Lab Sample ID: 140-1572-5
Matrix: Air

Date Collected: 06/19/14 10:52
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/24/14 22:38 | 1 |
| **Chloromethane** | **0.62** | | 0.50 | 0.16 | ppb v/v | | | 06/24/14 22:38 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/24/14 22:38 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/24/14 22:38 | 1 |
| **Dichlorodifluoromethane** | **0.19** | J | 0.20 | 0.068 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/24/14 22:38 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/24/14 22:38 | 1 |
| **Methylene Chloride** | **0.19** | J | 0.50 | 0.13 | ppb v/v | | | 06/24/14 22:38 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/24/14 22:38 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/24/14 22:38 | 1 |
| **Toluene** | **0.39** | U | 0.20 | 0.12 | ppb v/v | | | 06/24/14 22:38 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/24/14 22:38 | 1 |
| **Trichlorofluoromethane** | **0.25** | | 0.20 | 0.024 | ppb v/v | | | 06/24/14 22:38 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/24/14 22:38 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/24/14 22:38 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.66** | J | 1.5 | 0.24 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/24/14 22:38 | 1 |
| **Benzene** | **0.27** | J | 0.64 | 0.18 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/24/14 22:38 | 1 |
| **Carbon tetrachloride** | **0.51** | J | 1.3 | 0.24 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | | | 06/24/14 22:38 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/24/14 22:38 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Dichlorodifluoromethane | 0.93 | J | 0.99 | 0.34 | ug/m3 | | | 06/24/14 22:38 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-05-SU-PS-20140619

Lab Sample ID: 140-1572-5
Matrix: Air

Date Collected: 06/19/14 10:52
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/24/14 22:38 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/24/14 22:38 | 1 |
| **Methylene Chloride** | **0.66** | J | 1.7 | 0.45 | ug/m3 | | | 06/24/14 22:38 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/24/14 22:38 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/24/14 22:38 | 1 |
| **Toluene** | **1.5** | U | 0.75 | 0.45 | ug/m3 | | | 06/24/14 22:38 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/24/14 22:38 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 06/24/14 22:38 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/24/14 22:38 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *60 - 140* | | *06/24/14 22:38* | *1* |

## Client Sample ID: WAA-01-SU-PS-20140619

Lab Sample ID: 140-1572-6
Matrix: Air

Date Collected: 06/19/14 10:10
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 23:32 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.073** | J | 0.20 | 0.031 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/24/14 23:32 | 1 |
| **Benzene** | **0.12** | J | 0.20 | 0.056 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 23:32 | 1 |
| **Carbon tetrachloride** | **0.064** | J | 0.20 | 0.038 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/24/14 23:32 | 1 |
| **Chloromethane** | **0.63** | | 0.50 | 0.16 | ppb v/v | | | 06/24/14 23:32 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/24/14 23:32 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

Client Sample ID: WAA-01-SU-PS-20140619
Date Collected: 06/19/14 10:10
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1572-6
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Dichlorodifluoromethane | 0.16 | J | 0.20 | 0.068 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Ethylbenzene | 0.091 | J | 0.20 | 0.068 | ppb v/v | | | 06/24/14 23:32 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Methylene Chloride | 0.22 | J | 0.50 | 0.13 | ppb v/v | | | 06/24/14 23:32 | 1 |
| m-Xylene & p-Xylene | 0.35 | | 0.20 | 0.12 | ppb v/v | | | 06/24/14 23:32 | 1 |
| o-Xylene | 0.072 | J | 0.20 | 0.061 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Styrene | 0.059 | J | 0.20 | 0.058 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Toluene | 1.6 | J | 0.20 | 0.12 | ppb v/v | | | 06/24/14 23:32 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | | | 06/24/14 23:32 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/24/14 23:32 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.56 | J | 1.5 | 0.24 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Benzene | 0.37 | J | 0.64 | 0.18 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Carbon tetrachloride | 0.40 | J | 1.3 | 0.24 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | | | 06/24/14 23:32 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/24/14 23:32 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Dichlorodifluoromethane | 0.81 | J | 0.99 | 0.34 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Ethylbenzene | 0.40 | J | 0.87 | 0.30 | ug/m3 | | | 06/24/14 23:32 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Methylene Chloride | 0.77 | J | 1.7 | 0.45 | ug/m3 | | | 06/24/14 23:32 | 1 |
| m-Xylene & p-Xylene | 1.5 | | 0.87 | 0.52 | ug/m3 | | | 06/24/14 23:32 | 1 |

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TestAmerica Knoxville



6/27/2014

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-01-SU-PS-20140619

Lab Sample ID: 140-1572-6
Matrix: Air

Date Collected: 06/19/14 10:10
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| o-Xylene | 0.31 | J | 0.87 | 0.26 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Styrene | 0.25 | J | 0.85 | 0.25 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Toluene | 6.1 | J | 0.75 | 0.45 | ug/m3 | | | 06/24/14 23:32 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | | | 06/24/14 23:32 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/24/14 23:32 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *60 - 140* | | *06/24/14 23:32* | *1* |

## Client Sample ID: WAA-00-SU-TB-20140619

Lab Sample ID: 140-1572-7
Matrix: Air

Date Collected: 06/19/14 10:52
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 06/25/14 00:25 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/25/14 00:25 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/25/14 00:25 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 06/25/14 00:25 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

Client Sample ID: WAA-00-SU-TB-20140619
Date Collected: 06/19/14 10:52
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1572-7
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/25/14 00:25 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Toluene | 0.78 | | 0.20 | 0.12 | ppb v/v | | | 06/25/14 00:25 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 06/25/14 00:25 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/25/14 00:25 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 06/25/14 00:25 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/25/14 00:25 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/25/14 00:25 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 06/25/14 00:25 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/25/14 00:25 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Toluene | 2.9 | | 0.75 | 0.45 | ug/m3 | | | 06/25/14 00:25 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/25/14 00:25 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 06/25/14 00:25 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-00-SU-TB-20140619

Lab Sample ID: 140-1572-7

Date Collected: 06/19/14 10:52
Date Received: 06/24/14 10:15
Sample Container: Summa Canister 6L

Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/25/14 00:25 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *102* | | *60 - 140* | | *06/25/14 00:25* | *1* |

HUE
3 Jul 14

# Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | **Client Sample ID** | **BFB (60-140)** | | | | | | |
| 140-1572-1 | WAA-01-SU-PS-20140618 | 108 | | | | | | |
| 140-1572-2 | WAA-02-SU-PS-20140619 | 107 | | | | | | |
| 140-1572-3 | WAA-03-SU-PS-20140619 | 107 | | | | | | |
| 140-1572-4 | WAA-04-SU-PS-20140619 | 112 | | | | | | |
| 140-1572-5 | WAA-05-SU-PS-20140619 | 105 | | | | | | |
| 140-1572-6 | WAA-01-SU-PS-20140619 | 104 | | | | | | |
| 140-1572-7 | WAA-00-SU-TB-20140619 | 102 | | | | | | |
| LCS 140-1377/1002 | Lab Control Sample | 104 | | | | | | |
| MB 140-1377/4 | Method Blank | 101 | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-1377/4**
**Matrix: Air**
**Analysis Batch: 1377**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 06/24/14 15:30 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 06/24/14 15:30 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 06/24/14 15:30 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 06/24/14 15:30 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/24/14 15:30 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 06/24/14 15:30 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 06/24/14 15:30 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 06/24/14 15:30 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 06/24/14 15:30 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1377/4**
**Matrix: Air**
**Analysis Batch: 1377**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 06/24/14 15:30 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 06/24/14 15:30 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 06/24/14 15:30 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 06/24/14 15:30 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 06/24/14 15:30 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 06/24/14 15:30 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 06/24/14 15:30 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 06/24/14 15:30 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *101* | | *60 - 140* | | *06/24/14 15:30* | *1* |

**Lab Sample ID: LCS 140-1377/1002**
**Matrix: Air**
**Analysis Batch: 1377**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 1.98 | 2.34 | | ppb v/v | | 118 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 1.98 | 2.35 | | ppb v/v | | 119 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 1.98 | 2.49 | | ppb v/v | | 126 | 70 - 130 |
| 1,1,2-Trichloroethane | 1.98 | 2.32 | | ppb v/v | | 117 | 70 - 130 |
| 1,1-Dichloroethane | 1.98 | 2.45 | | ppb v/v | | 124 | 70 - 130 |
| 1,1-Dichloroethene | 1.98 | 2.39 | | ppb v/v | | 121 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1377/1002**
**Matrix: Air**
**Analysis Batch: 1377**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 1.98 | 1.86 | | ppb v/v | | 94 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 1.98 | 2.23 | | ppb v/v | | 113 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 1.98 | 1.94 | | ppb v/v | | 98 | 60 - 140 |
| 1,2-Dichlorobenzene | 1.98 | 2.02 | | ppb v/v | | 102 | 70 - 130 |
| 1,2-Dichloroethane | 1.98 | 2.33 | | ppb v/v | | 118 | 70 - 130 |
| 1,2-Dichloropropane | 1.98 | 2.30 | | ppb v/v | | 116 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 1.98 | 2.18 | | ppb v/v | | 110 | 70 - 130 |
| 1,3-Dichlorobenzene | 1.98 | 2.04 | | ppb v/v | | 103 | 70 - 130 |
| 1,4-Dichlorobenzene | 1.98 | 2.08 | | ppb v/v | | 105 | 70 - 130 |
| Benzene | 1.98 | 2.26 | | ppb v/v | | 114 | 70 - 130 |
| Benzyl chloride | 1.98 | 2.50 | | ppb v/v | | 126 | 70 - 130 |
| Bromomethane | 1.98 | 1.87 | | ppb v/v | | 94 | 70 - 130 |
| Carbon tetrachloride | 1.98 | 2.25 | | ppb v/v | | 114 | 70 - 130 |
| Chlorobenzene | 1.98 | 2.12 | | ppb v/v | | 107 | 70 - 130 |
| Chloroethane | 1.98 | 2.02 | | ppb v/v | | 102 | 70 - 130 |
| Chloroform | 1.98 | 2.41 | | ppb v/v | | 122 | 70 - 130 |
| Chloromethane | 1.98 | 1.99 | | ppb v/v | | 101 | 60 - 140 |
| cis-1,2-Dichloroethene | 1.98 | 2.31 | | ppb v/v | | 116 | 70 - 130 |
| cis-1,3-Dichloropropene | 1.98 | 2.34 | | ppb v/v | | 118 | 70 - 130 |
| Dichlorodifluoromethane | 1.98 | 2.23 | | ppb v/v | | 113 | 60 - 140 |
| Ethylbenzene | 1.98 | 2.24 | | ppb v/v | | 113 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 1.98 | 2.22 | | ppb v/v | | 112 | 70 - 130 |
| Hexachlorobutadiene | 1.98 | 1.66 | | ppb v/v | | 84 | 60 - 140 |
| Methylene Chloride | 1.98 | 2.40 | | ppb v/v | | 121 | 70 - 130 |
| m-Xylene & p-Xylene | 3.96 | 4.48 | | ppb v/v | | 113 | 70 - 130 |
| o-Xylene | 1.98 | 2.20 | | ppb v/v | | 111 | 70 - 130 |
| Styrene | 1.98 | 2.27 | | ppb v/v | | 115 | 70 - 130 |
| Tetrachloroethene | 1.98 | 2.19 | | ppb v/v | | 110 | 70 - 130 |
| Toluene | 1.98 | 2.35 | | ppb v/v | | 119 | 70 - 130 |
| trans-1,3-Dichloropropene | 1.98 | 2.49 | | ppb v/v | | 126 | 70 - 130 |
| Trichloroethene | 1.98 | 2.05 | | ppb v/v | | 103 | 70 - 130 |
| Trichlorofluoromethane | 1.98 | 2.19 | | ppb v/v | | 111 | 60 - 140 |
| Vinyl chloride | 1.98 | 2.06 | | ppb v/v | | 104 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 12.8 | | ug/m3 | | 118 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 16.2 | | ug/m3 | | 119 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 19.1 | | ug/m3 | | 126 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 12.6 | | ug/m3 | | 117 | 70 - 130 |
| 1,1-Dichloroethane | 8.0 | 9.93 | | ug/m3 | | 124 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 9.48 | | ug/m3 | | 121 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 13.8 | | ug/m3 | | 94 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.7 | 11.0 | | ug/m3 | | 113 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 13.5 | | ug/m3 | | 98 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 12.1 | | ug/m3 | | 102 | 70 - 130 |
| 1,2-Dichloroethane | 8.0 | 9.44 | | ug/m3 | | 118 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1377/1002**
**Matrix: Air**
**Analysis Batch: 1377**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 9.2 | 10.6 | | ug/m3 | | 116 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.7 | 10.7 | | ug/m3 | | 110 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 12.3 | | ug/m3 | | 103 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 12.5 | | ug/m3 | | 105 | 70 - 130 |
| Benzene | 6.3 | 7.23 | | ug/m3 | | 114 | 70 - 130 |
| Benzyl chloride | 10 | 12.9 | | ug/m3 | | 126 | 70 - 130 |
| Bromomethane | 7.7 | 7.24 | | ug/m3 | | 94 | 70 - 130 |
| Carbon tetrachloride | 12 | 14.2 | | ug/m3 | | 114 | 70 - 130 |
| Chlorobenzene | 9.1 | 9.74 | | ug/m3 | | 107 | 70 - 130 |
| Chloroethane | 5.2 | 5.32 | | ug/m3 | | 102 | 70 - 130 |
| Chloroform | 9.7 | 11.8 | | ug/m3 | | 122 | 70 - 130 |
| Chloromethane | 4.1 | 4.12 | | ug/m3 | | 101 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 9.14 | | ug/m3 | | 116 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.0 | 10.6 | | ug/m3 | | 118 | 70 - 130 |
| Dichlorodifluoromethane | 9.8 | 11.0 | | ug/m3 | | 113 | 60 - 140 |
| Ethylbenzene | 8.6 | 9.74 | | ug/m3 | | 113 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 17.0 | | ug/m3 | | 112 | 70 - 130 |
| Hexachlorobutadiene | 21 | 17.7 | | ug/m3 | | 84 | 60 - 140 |
| Methylene Chloride | 6.9 | 8.34 | | ug/m3 | | 121 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 19.5 | | ug/m3 | | 113 | 70 - 130 |
| o-Xylene | 8.6 | 9.57 | | ug/m3 | | 111 | 70 - 130 |
| Styrene | 8.4 | 9.69 | | ug/m3 | | 115 | 70 - 130 |
| Tetrachloroethene | 13 | 14.8 | | ug/m3 | | 110 | 70 - 130 |
| Toluene | 7.5 | 8.85 | | ug/m3 | | 119 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.0 | 11.3 | | ug/m3 | | 126 | 70 - 130 |
| Trichloroethene | 11 | 11.0 | | ug/m3 | | 103 | 70 - 130 |
| Trichlorofluoromethane | 11 | 12.3 | | ug/m3 | | 111 | 60 - 140 |
| Vinyl chloride | 5.1 | 5.27 | | ug/m3 | | 104 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *60 - 140* |

# QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Air - GC/MS VOA

### Analysis Batch: 1377

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1572-1 | WAA-01-SU-PS-20140618 | Total/NA | Air | TO-15 | |
| 140-1572-2 | WAA-02-SU-PS-20140619 | Total/NA | Air | TO-15 | |
| 140-1572-3 | WAA-03-SU-PS-20140619 | Total/NA | Air | TO-15 | |
| 140-1572-4 | WAA-04-SU-PS-20140619 | Total/NA | Air | TO-15 | |
| 140-1572-5 | WAA-05-SU-PS-20140619 | Total/NA | Air | TO-15 | |
| 140-1572-6 | WAA-01-SU-PS-20140619 | Total/NA | Air | TO-15 | |
| 140-1572-7 | WAA-00-SU-TB-20140619 | Total/NA | Air | TO-15 | |
| LCS 140-1377/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1377/4 | Method Blank | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-01-SU-PS-20140618 — Lab Sample ID: 140-1572-1

**Date Collected: 06/18/14 16:50** — **Matrix: Air**
**Date Received: 06/24/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1377 | 06/24/14 19:01 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-02-SU-PS-20140619 — Lab Sample ID: 140-1572-2

**Date Collected: 06/19/14 10:43** — **Matrix: Air**
**Date Received: 06/24/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1377 | 06/24/14 19:55 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-03-SU-PS-20140619 — Lab Sample ID: 140-1572-3

**Date Collected: 06/19/14 10:22** — **Matrix: Air**
**Date Received: 06/24/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1377 | 06/24/14 20:49 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-04-SU-PS-20140619 — Lab Sample ID: 140-1572-4

**Date Collected: 06/19/14 10:32** — **Matrix: Air**
**Date Received: 06/24/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1377 | 06/24/14 21:43 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-05-SU-PS-20140619 — Lab Sample ID: 140-1572-5

**Date Collected: 06/19/14 10:52** — **Matrix: Air**
**Date Received: 06/24/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1377 | 06/24/14 22:38 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

## Client Sample ID: WAA-01-SU-PS-20140619 — Lab Sample ID: 140-1572-6

**Date Collected: 06/19/14 10:10** — **Matrix: Air**
**Date Received: 06/24/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1377 | 06/24/14 23:32 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Client Sample ID: WAA-00-SU-TB-20140619

**Lab Sample ID: 140-1572-7**

**Date Collected: 06/19/14 10:52**

**Matrix: Air**

**Date Received: 06/24/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1377 | 06/25/14 00:25 | HMT | TAL KNX |
| | Instrument ID: MR | | | | | | | | | |

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

## Laboratory: TestAmerica Knoxville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | AFCEE | | N/A | |
| Arkansas DEQ | State Program | 6 | 88-0688 | 06-17-15 |
| California | State Program | 9 | 2423 | 06-30-16 |
| Colorado | State Program | 8 | N/A | 02-28-15 |
| Connecticut | State Program | 1 | PH-0223 | 09-30-15 |
| Florida | NELAP | 4 | E87177 | 06-30-15 |
| Georgia | State Program | 4 | 906 | 06-13-14 * |
| Hawaii | State Program | 9 | N/A | 04-13-15 |
| Iowa | State Program | 7 | 375 | 08-01-14 |
| Kansas | NELAP | 7 | E-10349 | 10-31-14 |
| Kentucky (DW) | State Program | 4 | 90101 | 12-31-14 |
| L-A-B | DoD ELAP | | L2311 | 02-13-16 |
| Louisiana | NELAP | 6 | LA110001 | 12-31-14 |
| Maryland | State Program | 3 | 277 | 03-31-15 |
| Michigan | State Program | 5 | 9933 | 04-13-17 |
| Nevada | State Program | 9 | TN00009 | 07-31-14 |
| New Jersey | NELAP | 2 | TN001 | 06-30-15 |
| New York | NELAP | 2 | 10781 | 03-31-15 |
| North Carolina (DW) | State Program | 4 | 21705 | 07-31-14 |
| North Carolina (WW/SW) | State Program | 4 | 64 | 12-31-14 |
| Ohio VAP | State Program | 5 | CL0059 | 03-26-15 |
| Oklahoma | State Program | 6 | 9415 | 08-31-14 |
| Pennsylvania | NELAP | 3 | 68-00576 | 12-31-14 |
| South Carolina | State Program | 4 | 84001 | 06-30-14 * |
| Tennessee | State Program | 4 | 2014 | 04-13-17 |
| Texas | NELAP | 6 | T104704380-TX | 08-31-14 |
| USDA | Federal | | P330-13-00260 | 08-29-16 |
| Utah | NELAP | 8 | QUAN3 | 07-31-14 |
| Virginia | NELAP | 3 | 460176 | 09-14-14 |
| Virginia | State Program | 3 | 165 | 06-30-15 |
| Washington | State Program | 10 | C593 | 01-19-15 |
| West Virginia (DW) | State Program | 3 | 9955C | 12-31-14 |
| West Virginia DEP | State Program | 3 | 345 | 04-30-15 |
| Wisconsin | State Program | 5 | 998044300 | 08-31-14 |

* Certification renewal pending - certification considered valid.

# Method Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | TAL KNX |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1572-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 140-1572-1 | WAA-01-SU-PS-20140618 | Air | 06/18/14 16:50 | 06/24/14 10:15 |
| 140-1572-2 | WAA-02-SU-PS-20140619 | Air | 06/19/14 10:43 | 06/24/14 10:15 |
| 140-1572-3 | WAA-03-SU-PS-20140619 | Air | 06/19/14 10:22 | 06/24/14 10:15 |
| 140-1572-4 | WAA-04-SU-PS-20140619 | Air | 06/19/14 10:32 | 06/24/14 10:15 |
| 140-1572-5 | WAA-05-SU-PS-20140619 | Air | 06/19/14 10:52 | 06/24/14 10:15 |
| 140-1572-6 | WAA-01-SU-PS-20140619 | Air | 06/19/14 10:10 | 06/24/14 10:15 |
| 140-1572-7 | WAA-00-SU-TB-20140619 | Air | 06/19/14 10:52 | 06/24/14 10:15 |

**TestAmerica Knoxville**
5815 Middlebrook Pike
Knoxville, TN 37921
phone 865.291.3000 fax 865.584.4315

# Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

| Client Contact Information | Project Manager: Dave Kinroth | Samples Collected By: Dave Kinroth | COC No: |
|---|---|---|---|
| Company Name: Tetra Tech Inc. | Phone: 314-517-6798 | | _____ of _____ COCs |
| Address: 415 Oak Street | Email: davekinroth@charter.net | | |
| City/State/Zip Kansas City, MO 64106 | | | For Lab Use Only: |
| Phone: 816-412-1786 | Site Contact: Dave Kinroth | | Walk-in Client: |
| FAX: 816-410-1748 | TA Contact: Mike Franks | | Lab Sampling: |
| Project Name: Wsetlake Landfill Site | Anaylsis Turnaround Time | | |
| Site/Location: Bridgeton, MO | Standard (Specific): 10 days | | Job / SDG No.: |
| P O # 1105352 | Rush (Specifiy): | | (See below for Add'l Items) |

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, 'Hg (Start)' | Canister Vacuum in Field, 'Hg (Stop)' | Flow Controller ID | Canister ID | TO-15 (Med / Std / Low / SIM) | MA-APH | EPA 3C | EPA 25C / 25.3 | ASTM D-1946 / 1945 / 3588 | EPA 15/16 | TO-3 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) | Sample Specific Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-01-SU-PS-20140618 | 6/18/14 - 6/18/14 | 10:15 | 16:50 | -29.0 | -0.5 | 09857 | 10214 | X | | | | | | | | | | X | | | | Faulty Regulator collected in 6 hours |
| WAA-02-SU-PS-20140619 | 6/18/14 - 6/19/14 | 10:53 | 10:43 | -28.9 | -1.5 | 09866 | 09544 | X | | | | | | | | | | X | | | | |
| WAA-03-SU-PS-20140619 | 6/18/14 - 6/19/14 | 10:30 | 10:22 | -28.9 | -4.0 | 09848 | 10310 | X | | | | | | | | | | X | | | | |
| WAA-04-SU-PS-20140619 | 6/18/14 - 6/19/14 | 10:40 | 10:32 | -29.0 | -0.5 | 10442 | 10403 | X | | | | | | | | | | X | | | | Received @ ambient |
| WAA-05-SU-PS-20140619 | 6/18/14 - 6/19/14 | 11:03 | 10:52 | -28.9 | -2.0 | 10867 | 10382 | X | | | | | | | | | | X | | | | No custody seal |
| WAA-01-SU-PS-20140619 | 6/18/14 - 6/19/14 | 10:15 | 10:10 | -28.9 | -3.5 | 09847 | 10100 | X | | | | | | | | | | X | | | | 2 boxes |
| WAA-00-SU-TB-20140619 | 6/18/14 - 6/19/14 | 10:15 | 10:52 | -29.0 | -29 | 10436 | 10366 | X | | | | | | | | | | X | | | | KW 6/24/14 |
| | | | | | | | | | | | | | | | | | | | | | | Fedex Po |
| | | | | | | | | | | | | | | | | | | | | | | tk# 5399 0208 3607 |
| | | | | | | | | | | | | | | | | | | | | | | " " 3648 |

| Temperature (Fahrenheit) | Interior | Ambient | |
|---|---|---|---|
| Start | | 87 | |
| Stop | | 86 | |

| Pressure (inches of Hg) | Interior | Ambient | |
|---|---|---|---|
| Start | | 30 | |
| Stop | | 30.07 | |

140-1572 Chain of Custody

**Special Instructions/QC Requirements & Comments:**

| Samples Shipped by: | Date / Time: | Samples Received by: | 7 cans |
|---|---|---|---|
| Samples Relinquished by: David Kinroth | Date / Time: 6-23-14 12:15 | Received by: [illegible] TestAmerica 6.23.14 1255 | 7 flows |
| Relinquished by: Jill Clark | Date / Time: 6-23-14 1315 | Received by: | 7 CC |
| Lab Use Only: Shipper Name: | Opened by: | Condition: | |

Form No. CA-C-WI-003, Rev. 1.1, dated 05/14/2013



WLLFOIA4312 - 015 - 0155136
6/27/2014

# Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1572-1

**Login Number: 1572**

**List Source: TestAmerica Knoxville**

**List Number: 1**

**Creator: Wilson, Ken**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | N/A | |
| Cooler Temperature is acceptable. | N/A | |
| Cooler Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | N/A | This is checked in the lab. |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

## TestAmerica Knoxville - Air Canister Initial Pressure Check

**Gauge ID:** G1

| Analyst | Date | Sample ID | 6 L | 1 L | Pressure @ Receipt (-in Hg or +psig) | Time | Comments |
|---|---|---|---|---|---|---|---|
| hmt | 6/24/2014 | 140-1572-A-1 | X | | -1.8 | 13:28 | |
| hmt | 6/25/2014 | 140-1572-A-2 | X | | -3.1 | 13:29 | |
| hmt | 6/26/2014 | 140-1572-A-3 | X | | -4.0 | 13:30 | |
| hmt | 6/27/2014 | 140-1572-A-4 | X | | -3.4 | 13:31 | |
| hmt | 6/28/2014 | 140-1572-A-5 | X | | -3.9 | 13:32 | |
| hmt | 6/29/2014 | 140-1572-A-6 | X | | -3.7 | 13:33 | |
| AFB | 6/24/2014 | 140-1572-A-7 | X | | -29.1 | 1315 | TRIP BLK pressed to 10psi |



WLLFOIA4312 - 015 - 0155138

**Tetra Tech, Inc.**
**DATA VALIDATION REPORT**
**LEVEL II**

| | |
|---|---|
| Site: | West Lake Landfill Site, Bridgeton, Missouri |
| Laboratory: | TestAmerica Laboratories, Inc. (Knoxville, Tennessee) |
| Data Reviewer: | Harry Ellis, Tetra Tech, Inc. (Tetra Tech) |
| Review Date | July 8, 2014 |
| Sample Delivery Group (SDG): | J1610 |
| Sample Numbers: | WAA-01-SU-PS-20140626, WAA-01-SU-DU-20140626, WAA-02-SU-PS-20140626, WAA-03-SU-PS-20140626, WAA-04-SU-PS-20140626, WAA-05-SU-PS-20140626, and WAA-00-SU-TB-20140626 |
| Matrix / Number of Samples: | 5 Air Samples, 1 Field Duplicate, and 1 Trip Blank |

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

7 July 2014

Certified by Harry Ellis, Chemist

Date



WLLFOIA4312 - 015 - 0155139

## DATA VALIDATION QUALIFIERS

**U** — The analyte was not detected above the reported sample quantitation limit.

**J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.

**R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.



WLLFOIA4312 - 015 - 0155140

## DATA ASSESSMENT

Sample delivery group (SDG) J1610 included five () environmental air (passivated canister) samples and two (2) QC samples (a field duplicate and a trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

## VOLATILE ORGANIC COMPOUND ANALYSIS

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. Satisfactory LCS and field duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

III. Blanks

The laboratory (method) blank and trip blank yielded no detectable analytes. No qualifications were applied.

IV. Laboratory Control Sample (LCS)

All percent recoveries from the LCS analysis were within established control limits. No qualifications were applied.

V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

VI. Comments

Most detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

VII. Overall Assessment of Data

Overall data quality is acceptable, with no qualifications added. All data are usable as reported for their intended purposes.



WLLFOIA4312 - 015 - 0155141

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TestAmerica

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# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

TestAmerica Job ID: 140-1610-1
Client Project/Site: West Lake Landfill
Revision: 1

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

*Authorized for release by:*
*7/7/2014 9:52:45 AM*

Jamie McKinney, Senior Project Manager
(865)291-3000
jamie.mckinney@testamericainc.com

LINKS

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*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*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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WLLFOIA4312 - 015 - 0155144

# Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| 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 |
| 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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Job ID: 140-1610-1

### Laboratory: TestAmerica Knoxville

**Narrative**

**Job Narrative**
**140-1610-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 7/1/2014 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Air - GC/MS VOA**
Method(s) TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified “zero air” as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of “zero air” by TestAmerica Knoxville.

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



WLLFOIA4312 - 015 - 0155146

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-01-SU-PS-20140626 — Lab Sample ID: 140-1610-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.061 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.12 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.042 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.038 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.45 | J | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.37 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.26 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.047 | J | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.82 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.26 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.47 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.40 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.27 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.19 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.93 | J | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.8 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.92 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.32 | J | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 3.1 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-02-SU-PS-20140626 — Lab Sample ID: 140-1610-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.065 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.060 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.063 | J | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.080 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.97 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.39 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.079 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.73 | | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.23 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.077 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.81 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.093 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.24 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.45 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.38 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.17 | J | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.39 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 2.0 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.0 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.34 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 2.5 | | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 1.0 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-02-SU-PS-20140626 (Continued) — Lab Sample ID: 140-1610-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| o-Xylene | 0.34 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 3.1 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.50 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-03-SU-PS-20140626 — Lab Sample ID: 140-1610-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.058 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.069 | J | 0.20 | 0.063 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.13 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.053 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.044 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.49 | J | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.36 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.071 | J | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.19 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.22 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.083 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.42 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.19 | J | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.44 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| 1,2,4-Trimethylbenzene | 0.34 | J | 0.98 | 0.31 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.43 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.33 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.21 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.0 | J | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.8 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Ethylbenzene | 0.31 | J | 0.87 | 0.30 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.67 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.95 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.36 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.6 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.0 | J | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-PS-20140626 — Lab Sample ID: 140-1610-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.062 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.058 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.044 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.49 | J | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.39 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.23 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.19 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.063 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.50 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.24 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-04-SU-PS-20140626 (Continued) — Lab Sample ID: 140-1610-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.48 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.44 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.37 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.0 | J | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.9 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.79 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.82 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.27 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.9 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-05-SU-PS-20140626 — Lab Sample ID: 140-1610-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.069 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.062 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.042 | J | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.074 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.61 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.43 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.19 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.21 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.064 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.30 | | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.54 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.054 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.21 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.53 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.44 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.39 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.11 | J | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.36 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.1 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.65 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.91 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.28 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 2.0 | | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.1 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.29 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.2 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-01-SU-DU-20140626 — Lab Sample ID: 140-1610-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.068 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-01-SU-DU-20140626 (Continued) — Lab Sample ID: 140-1610-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | 0.055 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.050 | J | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.044 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.50 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.41 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.26 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.21 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.075 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Styrene | 0.099 | J | 0.20 | 0.058 | ppb v/v | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.050 | J | 0.20 | 0.040 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.60 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.29 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.52 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.44 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.34 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.13 | J | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.0 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.0 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.91 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.91 | | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.33 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Styrene | 0.42 | J | 0.85 | 0.25 | ug/m3 | 1 | | TO-15 | Total/NA |
| Tetrachloroethene | 0.34 | J | 1.4 | 0.27 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.3 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.6 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-00-SU-TB-20140626 — Lab Sample ID: 140-1610-7

No Detections.

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-01-SU-PS-20140626

**Lab Sample ID: 140-1610-1**

**Date Collected: 06/26/14 16:44**
**Date Received: 07/01/14 10:00**
**Sample Container: Summa Canister 6L**

**Matrix: Air**

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.061 | J | 0.20 | 0.031 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Benzene | 0.12 | J | 0.20 | 0.056 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Carbon tetrachloride | 0.042 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Chloroform | 0.038 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Chloromethane | 0.45 | J | 0.50 | 0.16 | ppb v/v | | | 07/01/14 17:39 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/01/14 17:39 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Dichlorodifluoromethane | 0.37 | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 17:39 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Methylene Chloride | 0.26 | J | 0.50 | 0.13 | ppb v/v | | | 07/01/14 17:39 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 17:39 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Tetrachloroethene | 0.047 | J | 0.20 | 0.040 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Toluene | 0.82 | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 17:39 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Trichlorofluoromethane | 0.26 | | 0.20 | 0.024 | ppb v/v | | | 07/01/14 17:39 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/01/14 17:39 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.47 | J | 1.5 | 0.24 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/01/14 17:39 | 1 |

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-01-SU-PS-20140626

Lab Sample ID: 140-1610-1
Matrix: Air

Date Collected: 06/26/14 16:44
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/01/14 17:39 | 1 |
| **Benzene** | **0.40** | **J** | 0.64 | 0.18 | ug/m3 | | | 07/01/14 17:39 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/01/14 17:39 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/01/14 17:39 | 1 |
| **Carbon tetrachloride** | **0.27** | **J** | 1.3 | 0.24 | ug/m3 | | | 07/01/14 17:39 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/01/14 17:39 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/01/14 17:39 | 1 |
| **Chloroform** | **0.19** | **J** | 0.98 | 0.19 | ug/m3 | | | 07/01/14 17:39 | 1 |
| **Chloromethane** | **0.93** | **J** | 1.0 | 0.33 | ug/m3 | | | 07/01/14 17:39 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/01/14 17:39 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/01/14 17:39 | 1 |
| **Dichlorodifluoromethane** | **1.8** | | 0.99 | 0.34 | ug/m3 | | | 07/01/14 17:39 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/01/14 17:39 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/01/14 17:39 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/01/14 17:39 | 1 |
| **Methylene Chloride** | **0.92** | **J** | 1.7 | 0.45 | ug/m3 | | | 07/01/14 17:39 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 07/01/14 17:39 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/01/14 17:39 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/01/14 17:39 | 1 |
| **Tetrachloroethene** | **0.32** | **J** | 1.4 | 0.27 | ug/m3 | | | 07/01/14 17:39 | 1 |
| **Toluene** | **3.1** | | 0.75 | 0.45 | ug/m3 | | | 07/01/14 17:39 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/01/14 17:39 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/01/14 17:39 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 07/01/14 17:39 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/01/14 17:39 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *07/01/14 17:39* | *1* |

## Client Sample ID: WAA-02-SU-PS-20140626

Lab Sample ID: 140-1610-2
Matrix: Air

Date Collected: 06/26/14 15:20
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.065 | J | 0.20 | 0.031 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/01/14 18:23 | 1 |

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# Client Sample Results

Client. Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

Client Sample ID: WAA-02-SU-PS-20140626
Date Collected: 06/26/14 15:20
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1610-2
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Carbon tetrachloride | 0.060 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Chloroethane | 0.063 | J | 0.20 | 0.035 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Chloroform | 0.080 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Chloromethane | 0.97 | | 0.50 | 0.16 | ppb v/v | | | 07/01/14 18:23 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/01/14 18:23 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Dichlorodifluoromethane | 0.39 | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Ethylbenzene | 0.079 | J | 0.20 | 0.068 | ppb v/v | | | 07/01/14 18:23 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Methylene Chloride | 0.73 | | 0.50 | 0.13 | ppb v/v | | | 07/01/14 18:23 | 1 |
| m-Xylene & p-Xylene | 0.23 | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 18:23 | 1 |
| o-Xylene | 0.077 | J | 0.20 | 0.061 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Toluene | 0.81 | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 18:23 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Trichloroethene | 0.093 | J | 0.20 | 0.036 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Trichlorofluoromethane | 0.24 | | 0.20 | 0.024 | ppb v/v | | | 07/01/14 18:23 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/01/14 18:23 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.50 | J | 1.5 | 0.24 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/01/14 18:23 | 1 |

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7/7/2014

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-02-SU-PS-20140626

Lab Sample ID: 140-1610-2
Matrix: Air

Date Collected: 06/26/14 15:20
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Benzene** | **0.45** | **J** | 0.64 | 0.18 | ug/m3 | | | 07/01/14 18:23 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/01/14 18:23 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Carbon tetrachloride** | **0.38** | **J** | 1.3 | 0.24 | ug/m3 | | | 07/01/14 18:23 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Chloroethane** | **0.17** | **J** | 0.53 | 0.092 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Chloroform** | **0.39** | **J** | 0.98 | 0.19 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Chloromethane** | **2.0** | | 1.0 | 0.33 | ug/m3 | | | 07/01/14 18:23 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/01/14 18:23 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Dichlorodifluoromethane** | **2.0** | | 0.99 | 0.34 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Ethylbenzene** | **0.34** | **J** | 0.87 | 0.30 | ug/m3 | | | 07/01/14 18:23 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/01/14 18:23 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Methylene Chloride** | **2.5** | | 1.7 | 0.45 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **m-Xylene & p-Xylene** | **1.0** | | 0.87 | 0.52 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **o-Xylene** | **0.34** | **J** | 0.87 | 0.26 | ug/m3 | | | 07/01/14 18:23 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/01/14 18:23 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Toluene** | **3.1** | | 0.75 | 0.45 | ug/m3 | | | 07/01/14 18:23 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Trichloroethene** | **0.50** | **J** | 1.1 | 0.19 | ug/m3 | | | 07/01/14 18:23 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 07/01/14 18:23 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/01/14 18:23 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *07/01/14 18:23* | *1* |

## Client Sample ID: WAA-03-SU-PS-20140626

Lab Sample ID: 140-1610-3
Matrix: Air

Date Collected: 06/26/14 16:46
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.058** | **J** | 0.20 | 0.031 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **1,2,4-Trimethylbenzene** | **0.069** | **J** | 0.20 | 0.063 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 19:07 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

Client Sample ID: WAA-03-SU-PS-20140626
Date Collected: 06/26/14 16:46
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1610-3
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **Benzene** | **0.13** | J | 0.20 | 0.056 | ppb v/v | | | 07/01/14 19:07 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/01/14 19:07 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **Carbon tetrachloride** | **0.053** | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 19:07 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/01/14 19:07 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **Chloroform** | **0.044** | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **Chloromethane** | **0.49** | J | 0.50 | 0.16 | ppb v/v | | | 07/01/14 19:07 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/01/14 19:07 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **Dichlorodifluoromethane** | **0.36** | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **Ethylbenzene** | **0.071** | J | 0.20 | 0.068 | ppb v/v | | | 07/01/14 19:07 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/01/14 19:07 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **Methylene Chloride** | **0.19** | J | 0.50 | 0.13 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **m-Xylene & p-Xylene** | **0.22** | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **o-Xylene** | **0.083** | J | 0.20 | 0.061 | ppb v/v | | | 07/01/14 19:07 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/01/14 19:07 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **Toluene** | **0.42** | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 19:07 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/01/14 19:07 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/01/14 19:07 | 1 |
| **Trichlorofluoromethane** | **0.19** | J | 0.20 | 0.024 | ppb v/v | | | 07/01/14 19:07 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/01/14 19:07 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.44** | J | 1.5 | 0.24 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **1,2,4-Trimethylbenzene** | **0.34** | J | 0.98 | 0.31 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/01/14 19:07 | 1 |
| Benzene | 0.43 | J | 0.64 | 0.18 | ug/m3 | | | 07/01/14 19:07 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-03-SU-PS-20140626

Lab Sample ID: 140-1610-3
Matrix: Air

Date Collected: 06/26/14 16:46
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/01/14 19:07 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **Carbon tetrachloride** | **0.33** | J | 1.3 | 0.24 | ug/m3 | | | 07/01/14 19:07 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/01/14 19:07 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **Chloroform** | **0.21** | J | 0.98 | 0.19 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **Chloromethane** | **1.0** | J | 1.0 | 0.33 | ug/m3 | | | 07/01/14 19:07 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/01/14 19:07 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **Dichlorodifluoromethane** | **1.8** | | 0.99 | 0.34 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **Ethylbenzene** | **0.31** | J | 0.87 | 0.30 | ug/m3 | | | 07/01/14 19:07 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/01/14 19:07 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **Methylene Chloride** | **0.67** | J | 1.7 | 0.45 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **m-Xylene & p-Xylene** | **0.95** | | 0.87 | 0.52 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **o-Xylene** | **0.36** | J | 0.87 | 0.26 | ug/m3 | | | 07/01/14 19:07 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/01/14 19:07 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **Toluene** | **1.6** | | 0.75 | 0.45 | ug/m3 | | | 07/01/14 19:07 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/01/14 19:07 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/01/14 19:07 | 1 |
| **Trichlorofluoromethane** | **1.0** | J | 1.1 | 0.13 | ug/m3 | | | 07/01/14 19:07 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/01/14 19:07 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *104* | | *60 - 140* | | *07/01/14 19:07* | *1* |

## Client Sample ID: WAA-04-SU-PS-20140626

Lab Sample ID: 140-1610-4
Matrix: Air

Date Collected: 06/26/14 16:30
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 19:50 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.062** | J | 0.20 | 0.031 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 19:50 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

**Client Sample ID: WAA-04-SU-PS-20140626**
Date Collected: 06/26/14 16:30
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1610-4**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Carbon tetrachloride | 0.058 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Chloroform | 0.044 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Chloromethane | 0.49 | J | 0.50 | 0.16 | ppb v/v | | | 07/01/14 19:50 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/01/14 19:50 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Dichlorodifluoromethane | 0.39 | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 19:50 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Methylene Chloride | 0.23 | J | 0.50 | 0.13 | ppb v/v | | | 07/01/14 19:50 | 1 |
| m-Xylene & p-Xylene | 0.19 | J | 0.20 | 0.12 | ppb v/v | | | 07/01/14 19:50 | 1 |
| o-Xylene | 0.063 | J | 0.20 | 0.061 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Toluene | 0.50 | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 19:50 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Trichlorofluoromethane | 0.24 | | 0.20 | 0.024 | ppb v/v | | | 07/01/14 19:50 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/01/14 19:50 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.48 | J | 1.5 | 0.24 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Benzene | 0.44 | J | 0.64 | 0.18 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Carbon tetrachloride | 0.37 | J | 1.3 | 0.24 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/01/14 19:50 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-04-SU-PS-20140626

Lab Sample ID: 140-1610-4
Matrix: Air

Date Collected: 06/26/14 16:30
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Chloromethane | 1.0 | J | 1.0 | 0.33 | ug/m3 | | | 07/01/14 19:50 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/01/14 19:50 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Dichlorodifluoromethane | 1.9 | | 0.99 | 0.34 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/01/14 19:50 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Methylene Chloride | 0.79 | J | 1.7 | 0.45 | ug/m3 | | | 07/01/14 19:50 | 1 |
| m-Xylene & p-Xylene | 0.82 | J | 0.87 | 0.52 | ug/m3 | | | 07/01/14 19:50 | 1 |
| o-Xylene | 0.27 | J | 0.87 | 0.26 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Toluene | 1.9 | | 0.75 | 0.45 | ug/m3 | | | 07/01/14 19:50 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | | | 07/01/14 19:50 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/01/14 19:50 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *07/01/14 19:50* | *1* |

## Client Sample ID: WAA-05-SU-PS-20140626

Lab Sample ID: 140-1610-5
Matrix: Air

Date Collected: 06/26/14 16:24
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.069 | J | 0.20 | 0.031 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Carbon tetrachloride | 0.062 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 20:34 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

Client Sample ID: WAA-05-SU-PS-20140626
Date Collected: 06/26/14 16:24
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1610-5
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Chloroethane | 0.042 | J | 0.20 | 0.035 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Chloroform | 0.074 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Chloromethane | 0.61 | | 0.50 | 0.16 | ppb v/v | | | 07/01/14 20:34 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/01/14 20:34 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Dichlorodifluoromethane | 0.43 | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 20:34 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Methylene Chloride | 0.19 | J | 0.50 | 0.13 | ppb v/v | | | 07/01/14 20:34 | 1 |
| m-Xylene & p-Xylene | 0.21 | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 20:34 | 1 |
| o-Xylene | 0.064 | J | 0.20 | 0.061 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Tetrachloroethene | 0.30 | | 0.20 | 0.040 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Toluene | 0.54 | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 20:34 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Trichloroethene | 0.054 | J | 0.20 | 0.036 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Trichlorofluoromethane | 0.21 | | 0.20 | 0.024 | ppb v/v | | | 07/01/14 20:34 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/01/14 20:34 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.53 | J | 1.5 | 0.24 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Benzene | 0.44 | J | 0.64 | 0.18 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Carbon tetrachloride | 0.39 | J | 1.3 | 0.24 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Chloroethane | 0.11 | J | 0.53 | 0.092 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Chloroform | 0.36 | J | 0.98 | 0.19 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | | | 07/01/14 20:34 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/01/14 20:34 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Dichlorodifluoromethane | 2.1 | | 0.99 | 0.34 | ug/m3 | | | 07/01/14 20:34 | 1 |

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TestAmerica Knoxville



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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-05-SU-PS-20140626

Lab Sample ID: 140-1610-5
Matrix: Air

Date Collected: 06/26/14 16:24
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/01/14 20:34 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Methylene Chloride | 0.65 | J | 1.7 | 0.45 | ug/m3 | | | 07/01/14 20:34 | 1 |
| m-Xylene & p-Xylene | 0.91 | | 0.87 | 0.52 | ug/m3 | | | 07/01/14 20:34 | 1 |
| o-Xylene | 0.28 | J | 0.87 | 0.26 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Tetrachloroethene | 2.0 | | 1.4 | 0.27 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Toluene | 2.1 | | 0.75 | 0.45 | ug/m3 | | | 07/01/14 20:34 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Trichloroethene | 0.29 | J | 1.1 | 0.19 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Trichlorofluoromethane | 1.2 | | 1.1 | 0.13 | ug/m3 | | | 07/01/14 20:34 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/01/14 20:34 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *60 - 140* | | *07/01/14 20:34* | *1* |

## Client Sample ID: WAA-01-SU-DU-20140626

Lab Sample ID: 140-1610-6
Matrix: Air

Date Collected: 06/26/14 16:43
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.068 | J | 0.20 | 0.031 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Carbon tetrachloride | 0.055 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Chloroethane | 0.050 | J | 0.20 | 0.035 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Chloroform | 0.044 | J | 0.20 | 0.038 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Chloromethane | 0.50 | | 0.50 | 0.16 | ppb v/v | | | 07/01/14 21:18 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/01/14 21:18 | 1 |

HUG 8 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

Client Sample ID: WAA-01-SU-DU-20140626
Date Collected: 06/26/14 16:43
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1610-6
Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Dichlorodifluoromethane | 0.41 | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 21:18 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Methylene Chloride | 0.26 | J | 0.50 | 0.13 | ppb v/v | | | 07/01/14 21:18 | 1 |
| m-Xylene & p-Xylene | 0.21 | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 21:18 | 1 |
| o-Xylene | 0.075 | J | 0.20 | 0.061 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Styrene | 0.099 | J | 0.20 | 0.058 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Tetrachloroethene | 0.050 | J | 0.20 | 0.040 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Toluene | 0.60 | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 21:18 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Trichlorofluoromethane | 0.29 | | 0.20 | 0.024 | ppb v/v | | | 07/01/14 21:18 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/01/14 21:18 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 0.52 | J | 1.5 | 0.24 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Benzene | 0.44 | J | 0.64 | 0.18 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Carbon tetrachloride | 0.34 | J | 1.3 | 0.24 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Chloroethane | 0.13 | J | 0.53 | 0.092 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Chloromethane | 1.0 | | 1.0 | 0.33 | ug/m3 | | | 07/01/14 21:18 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/01/14 21:18 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Dichlorodifluoromethane | 2.0 | | 0.99 | 0.34 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/01/14 21:18 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Methylene Chloride | 0.91 | J | 1.7 | 0.45 | ug/m3 | | | 07/01/14 21:18 | 1 |
| m-Xylene & p-Xylene | 0.91 | | 0.87 | 0.52 | ug/m3 | | | 07/01/14 21:18 | 1 |

HVE 8 Jul 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-01-SU-DU-20140626

Lab Sample ID: 140-1610-6
Matrix: Air

Date Collected: 06/26/14 16:43
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| o-Xylene | 0.33 | J | 0.87 | 0.26 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Styrene | 0.42 | J | 0.85 | 0.25 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Tetrachloroethene | 0.34 | J | 1.4 | 0.27 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Toluene | 2.3 | | 0.75 | 0.45 | ug/m3 | | | 07/01/14 21:18 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Trichlorofluoromethane | 1.6 | | 1.1 | 0.13 | ug/m3 | | | 07/01/14 21:18 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/01/14 21:18 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *108* | | *60 - 140* | | *07/01/14 21:18* | *1* |

## Client Sample ID: WAA-00-SU-TB-20140626

Lab Sample ID: 140-1610-7
Matrix: Air

Date Collected: 06/26/14 16:44
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 07/01/14 16:53 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/01/14 16:53 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 16:53 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 07/01/14 16:53 | 1 |

HVG 8 Jul 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-00-SU-TB-20140626

Lab Sample ID: 140-1610-7
Matrix: Air

Date Collected: 06/26/14 16:44
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 16:53 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 16:53 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 07/01/14 16:53 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/01/14 16:53 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 07/01/14 16:53 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/01/14 16:53 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/01/14 16:53 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 07/01/14 16:53 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 07/01/14 16:53 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 07/01/14 16:53 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/01/14 16:53 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 07/01/14 16:53 | 1 |

HUG 8 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

Client Sample ID: WAA-00-SU-TB-20140626

Lab Sample ID: 140-1610-7

Date Collected: 06/26/14 16:44
Date Received: 07/01/14 10:00
Sample Container: Summa Canister 6L

Matrix: Air

Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/01/14 16:53 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *60 - 140* | | *07/01/14 16:53* | *1* |

HOE
8 Jul 14

# Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | **Client Sample ID** | **BFB (60-140)** | | | | | | |
| 140-1610-1 | WAA-01-SU-PS-20140626 | 107 | | | | | | |
| 140-1610-2 | WAA-02-SU-PS-20140626 | 107 | | | | | | |
| 140-1610-3 | WAA-03-SU-PS-20140626 | 104 | | | | | | |
| 140-1610-4 | WAA-04-SU-PS-20140626 | 107 | | | | | | |
| 140-1610-5 | WAA-05-SU-PS-20140626 | 105 | | | | | | |
| 140-1610-6 | WAA-01-SU-DU-20140626 | 108 | | | | | | |
| 140-1610-7 | WAA-00-SU-TB-20140626 | 106 | | | | | | |
| LCS 140-1405/1002 | Lab Control Sample | 110 | | | | | | |
| MB 140-1405/9 | Method Blank | 107 | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-1405/9**
**Matrix: Air**
**Analysis Batch: 1405**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 07/01/14 16:05 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/01/14 16:05 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/01/14 16:05 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 07/01/14 16:05 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 16:05 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/01/14 16:05 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 07/01/14 16:05 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/01/14 16:05 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/01/14 16:05 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1405/9**
**Matrix: Air**
**Analysis Batch: 1405**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 07/01/14 16:05 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/01/14 16:05 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/01/14 16:05 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 07/01/14 16:05 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 07/01/14 16:05 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 07/01/14 16:05 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 07/01/14 16:05 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/01/14 16:05 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *07/01/14 16:05* | *1* |

**Lab Sample ID: LCS 140-1405/1002**
**Matrix: Air**
**Analysis Batch: 1405**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 2.00 | 2.14 | | ppb v/v | | 107 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 2.00 | 1.93 | | ppb v/v | | 96 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 2.00 | 1.95 | | ppb v/v | | 97 | 70 - 130 |
| 1,1,2-Trichloroethane | 2.00 | 1.85 | | ppb v/v | | 92 | 70 - 130 |
| 1,1-Dichloroethane | 2.00 | 1.98 | | ppb v/v | | 99 | 70 - 130 |
| 1,1-Dichloroethene | 2.00 | 1.91 | | ppb v/v | | 95 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1405/1002**
**Matrix: Air**
**Analysis Batch: 1405**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2.00 | 1.49 | | ppb v/v | | 75 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 2.00 | 1.99 | | ppb v/v | | 100 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00 | 2.21 | | ppb v/v | | 111 | 60 - 140 |
| 1,2-Dichlorobenzene | 2.00 | 1.85 | | ppb v/v | | 92 | 70 - 130 |
| 1,2-Dichloroethane | 2.00 | 1.72 | | ppb v/v | | 86 | 70 - 130 |
| 1,2-Dichloropropane | 2.00 | 1.78 | | ppb v/v | | 89 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 2.00 | 1.91 | | ppb v/v | | 96 | 70 - 130 |
| 1,3-Dichlorobenzene | 2.00 | 1.74 | | ppb v/v | | 87 | 70 - 130 |
| 1,4-Dichlorobenzene | 2.00 | 1.75 | | ppb v/v | | 88 | 70 - 130 |
| Benzene | 2.00 | 1.72 | | ppb v/v | | 86 | 70 - 130 |
| Benzyl chloride | 2.00 | 1.91 | | ppb v/v | | 96 | 70 - 130 |
| Bromomethane | 2.00 | 2.46 | | ppb v/v | | 123 | 70 - 130 |
| Carbon tetrachloride | 2.00 | 1.85 | | ppb v/v | | 92 | 70 - 130 |
| Chlorobenzene | 2.00 | 1.76 | | ppb v/v | | 88 | 70 - 130 |
| Chloroethane | 2.00 | 2.18 | | ppb v/v | | 109 | 70 - 130 |
| Chloroform | 2.00 | 2.18 | | ppb v/v | | 109 | 70 - 130 |
| Chloromethane | 2.00 | 1.87 | | ppb v/v | | 94 | 60 - 140 |
| cis-1,2-Dichloroethene | 2.00 | 2.01 | | ppb v/v | | 100 | 70 - 130 |
| cis-1,3-Dichloropropene | 2.00 | 1.93 | | ppb v/v | | 97 | 70 - 130 |
| Dichlorodifluoromethane | 2.00 | 1.97 | | ppb v/v | | 99 | 60 - 140 |
| Ethylbenzene | 2.00 | 1.87 | | ppb v/v | | 93 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 2.00 | 1.95 | | ppb v/v | | 98 | 70 - 130 |
| Hexachlorobutadiene | 2.00 | 1.90 | | ppb v/v | | 95 | 60 - 140 |
| Methylene Chloride | 2.00 | 1.72 | | ppb v/v | | 86 | 70 - 130 |
| m-Xylene & p-Xylene | 4.00 | 3.87 | | ppb v/v | | 97 | 70 - 130 |
| o-Xylene | 2.00 | 1.88 | | ppb v/v | | 94 | 70 - 130 |
| Styrene | 2.00 | 2.19 | | ppb v/v | | 110 | 70 - 130 |
| Tetrachloroethene | 2.00 | 1.65 | | ppb v/v | | 83 | 70 - 130 |
| Toluene | 2.00 | 1.68 | | ppb v/v | | 84 | 70 - 130 |
| trans-1,3-Dichloropropene | 2.00 | 1.85 | | ppb v/v | | 93 | 70 - 130 |
| Trichloroethene | 2.00 | 1.66 | | ppb v/v | | 83 | 70 - 130 |
| Trichlorofluoromethane | 2.00 | 2.03 | | ppb v/v | | 102 | 60 - 140 |
| Vinyl chloride | 2.00 | 1.96 | | ppb v/v | | 98 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 11.7 | | ug/m3 | | 107 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 13.2 | | ug/m3 | | 96 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 14.9 | | ug/m3 | | 97 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 10.1 | | ug/m3 | | 92 | 70 - 130 |
| 1,1-Dichloroethane | 8.1 | 8.00 | | ug/m3 | | 99 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 7.56 | | ug/m3 | | 95 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 11.1 | | ug/m3 | | 75 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.8 | 9.81 | | ug/m3 | | 100 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 15.5 | | ug/m3 | | 111 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 11.1 | | ug/m3 | | 92 | 70 - 130 |
| 1,2-Dichloroethane | 8.1 | 6.95 | | ug/m3 | | 86 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1405/1002**
**Matrix: Air**
**Analysis Batch: 1405**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 9.2 | 8.23 | | ug/m3 | | 89 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.8 | 9.40 | | ug/m3 | | 96 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 10.5 | | ug/m3 | | 87 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 10.5 | | ug/m3 | | 88 | 70 - 130 |
| Benzene | 6.4 | 5.51 | | ug/m3 | | 86 | 70 - 130 |
| Benzyl chloride | 10 | 9.90 | | ug/m3 | | 96 | 70 - 130 |
| Bromomethane | 7.8 | 9.54 | | ug/m3 | | 123 | 70 - 130 |
| Carbon tetrachloride | 13 | 11.6 | | ug/m3 | | 92 | 70 - 130 |
| Chlorobenzene | 9.2 | 8.12 | | ug/m3 | | 88 | 70 - 130 |
| Chloroethane | 5.3 | 5.76 | | ug/m3 | | 109 | 70 - 130 |
| Chloroform | 9.8 | 10.6 | | ug/m3 | | 109 | 70 - 130 |
| Chloromethane | 4.1 | 3.86 | | ug/m3 | | 94 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 7.95 | | ug/m3 | | 100 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.1 | 8.77 | | ug/m3 | | 97 | 70 - 130 |
| Dichlorodifluoromethane | 9.9 | 9.75 | | ug/m3 | | 99 | 60 - 140 |
| Ethylbenzene | 8.7 | 8.10 | | ug/m3 | | 93 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 15.0 | | ug/m3 | | 98 | 70 - 130 |
| Hexachlorobutadiene | 21 | 20.2 | | ug/m3 | | 95 | 60 - 140 |
| Methylene Chloride | 6.9 | 5.98 | | ug/m3 | | 86 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 16.8 | | ug/m3 | | 97 | 70 - 130 |
| o-Xylene | 8.7 | 8.17 | | ug/m3 | | 94 | 70 - 130 |
| Styrene | 8.5 | 9.34 | | ug/m3 | | 110 | 70 - 130 |
| Tetrachloroethene | 14 | 11.2 | | ug/m3 | | 83 | 70 - 130 |
| Toluene | 7.5 | 6.34 | | ug/m3 | | 84 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1 | 8.41 | | ug/m3 | | 93 | 70 - 130 |
| Trichloroethene | 11 | 8.95 | | ug/m3 | | 83 | 70 - 130 |
| Trichlorofluoromethane | 11 | 11.4 | | ug/m3 | | 102 | 60 - 140 |
| Vinyl chloride | 5.1 | 5.00 | | ug/m3 | | 98 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *110* | | *60 - 140* |

# QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Air - GC/MS VOA

### Analysis Batch: 1405

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1610-1 | WAA-01-SU-PS-20140626 | Total/NA | Air | TO-15 | |
| 140-1610-2 | WAA-02-SU-PS-20140626 | Total/NA | Air | TO-15 | |
| 140-1610-3 | WAA-03-SU-PS-20140626 | Total/NA | Air | TO-15 | |
| 140-1610-4 | WAA-04-SU-PS-20140626 | Total/NA | Air | TO-15 | |
| 140-1610-5 | WAA-05-SU-PS-20140626 | Total/NA | Air | TO-15 | |
| 140-1610-6 | WAA-01-SU-DU-20140626 | Total/NA | Air | TO-15 | |
| 140-1610-7 | WAA-00-SU-TB-20140626 | Total/NA | Air | TO-15 | |
| LCS 140-1405/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1405/9 | Method Blank | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-01-SU-PS-20140626 — Lab Sample ID: 140-1610-1

**Date Collected: 06/26/14 16:44** — **Matrix: Air**
**Date Received: 07/01/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1405 | 07/01/14 17:39 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-02-SU-PS-20140626 — Lab Sample ID: 140-1610-2

**Date Collected: 06/26/14 15:20** — **Matrix: Air**
**Date Received: 07/01/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1405 | 07/01/14 18:23 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-03-SU-PS-20140626 — Lab Sample ID: 140-1610-3

**Date Collected: 06/26/14 16:46** — **Matrix: Air**
**Date Received: 07/01/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1405 | 07/01/14 19:07 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-04-SU-PS-20140626 — Lab Sample ID: 140-1610-4

**Date Collected: 06/26/14 16:30** — **Matrix: Air**
**Date Received: 07/01/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1405 | 07/01/14 19:50 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-05-SU-PS-20140626 — Lab Sample ID: 140-1610-5

**Date Collected: 06/26/14 16:24** — **Matrix: Air**
**Date Received: 07/01/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1405 | 07/01/14 20:34 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-01-SU-DU-20140626 — Lab Sample ID: 140-1610-6

**Date Collected: 06/26/14 16:43** — **Matrix: Air**
**Date Received: 07/01/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1405 | 07/01/14 21:18 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Client Sample ID: WAA-00-SU-TB-20140626

**Lab Sample ID: 140-1610-7**

**Date Collected: 06/26/14 16:44**

**Matrix: Air**

**Date Received: 07/01/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1405 | 07/01/14 16:53 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

## Laboratory: TestAmerica Knoxville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | AFCEE | | N/A | |
| Arkansas DEQ | State Program | 6 | 88-0688 | 06-17-15 |
| California | State Program | 9 | 2423 | 06-30-16 |
| Colorado | State Program | 8 | N/A | 02-28-15 |
| Connecticut | State Program | 1 | PH-0223 | 09-30-15 |
| Florida | NELAP | 4 | E87177 | 06-30-15 |
| Georgia | State Program | 4 | 906 | 06-13-14 * |
| Hawaii | State Program | 9 | N/A | 04-13-15 |
| Iowa | State Program | 7 | 375 | 08-01-14 |
| Kansas | NELAP | 7 | E-10349 | 10-31-14 |
| Kentucky (DW) | State Program | 4 | 90101 | 12-31-14 |
| L-A-B | DoD ELAP | | L2311 | 02-13-16 |
| Louisiana | NELAP | 6 | LA110001 | 12-31-14 |
| Maryland | State Program | 3 | 277 | 03-31-15 |
| Michigan | State Program | 5 | 9933 | 04-13-17 |
| Nevada | State Program | 9 | TN00009 | 07-31-14 |
| New Jersey | NELAP | 2 | TN001 | 06-30-15 |
| New York | NELAP | 2 | 10781 | 03-31-15 |
| North Carolina (DW) | State Program | 4 | 21705 | 07-31-14 |
| North Carolina (WW/SW) | State Program | 4 | 64 | 12-31-14 |
| Ohio VAP | State Program | 5 | CL0059 | 03-26-15 |
| Oklahoma | State Program | 6 | 9415 | 08-31-14 |
| Pennsylvania | NELAP | 3 | 68-00576 | 12-31-14 |
| South Carolina | State Program | 4 | 84001 | 06-30-14 * |
| Tennessee | State Program | 4 | 2014 | 04-13-17 |
| Texas | NELAP | 6 | T104704380-TX | 08-31-14 |
| USDA | Federal | | P330-13-00260 | 08-29-16 |
| Utah | NELAP | 8 | QUAN3 | 07-31-14 |
| Virginia | NELAP | 3 | 460176 | 09-14-14 |
| Virginia | State Program | 3 | 165 | 06-30-15 |
| Washington | State Program | 10 | C593 | 01-19-15 |
| West Virginia (DW) | State Program | 3 | 9955C | 12-31-14 |
| West Virginia DEP | State Program | 3 | 345 | 04-30-15 |
| Wisconsin | State Program | 5 | 998044300 | 08-31-14 |

* Certification renewal pending - certification considered valid.

# Method Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | TAL KNX |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1610-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 140-1610-1 | WAA-01-SU-PS-20140626 | Air | 06/26/14 16:44 | 07/01/14 10:00 |
| 140-1610-2 | WAA-02-SU-PS-20140626 | Air | 06/26/14 15:20 | 07/01/14 10:00 |
| 140-1610-3 | WAA-03-SU-PS-20140626 | Air | 06/26/14 16:46 | 07/01/14 10:00 |
| 140-1610-4 | WAA-04-SU-PS-20140626 | Air | 06/26/14 16:30 | 07/01/14 10:00 |
| 140-1610-5 | WAA-05-SU-PS-20140626 | Air | 06/26/14 16:24 | 07/01/14 10:00 |
| 140-1610-6 | WAA-01-SU-DU-20140626 | Air | 06/26/14 16:43 | 07/01/14 10:00 |
| 140-1610-7 | WAA-00-SU-TB-20140626 | Air | 06/26/14 16:44 | 07/01/14 10:00 |

**TestAmerica Knoxville**
5815 Middlebrook Pike

Knoxville, TN 37921
phone 865.291.3000 fax 865.584.4315

# Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

**TestAmerica Laboratories, Inc.**

| Client Contact Information | Project Manager: Dave Kinroth | Samples Collected By: Dave Kinroth | COC No: |
|---|---|---|---|
| Company Name: Tetra Tech Inc. | Phone: 314-517-6798 | | 1 of 1 COCs |
| Address: 415 Oak Street | Email: emily.fisher@tetratech.com | | |
| City/State/Zip: Kansas City, MO 64106 | | | For Lab Use Only: |
| Phone: 816-412-1755 | Site Contact: Dave Kinroth - 314-517-6787 | | Walk-in Client: |
| FAX: 816-410-1748 | TA Contact: Emily Fisher/Rob Monnig | | Lab Sampling: |
| Project Name: West Lake Landfill | Anaylsis Turnaround Time | | |
| Site/Location: Bridgeton, MO | Standard (Specific): | | Job / SDG No.: |
| P O # 1105352 | Rush (Specifiy): | | (See below for Add'l Items) |

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, 'Hg (Start)' | Canister Vacuum in Field, 'Hg (Stop)' | Flow Controller ID | Canister ID | TO-15 (Med / Std / Low / SIM) | MA-APH | EPA 3C | EPA 25C / 25.3 | ASTM D-1946 / 1945 / 3588 | EPA 15/16 | TO-3 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) | Sample Specific Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-01-SU-PS-20140626 | 6/25/14 - 6/26/14 | 16:32 | 16:44 | -29.1 | -5.0 | 10350 | 10764 | X | | | | | | | | | | X | | | | Received @ ambient |
| WAA-02-SU-PS-20140626 | 6/25/14 - 6/26/14 | 16:18 | 15:20 | -29.1 | -4.5 | 10468 | 09682 | X | | | | | | | | | | X | | | | No custody seal |
| WAA-03-SU-PS-20140626 | 6/25/14 - 6/26/14 | 15:52 | 16:46 | -29.2 | -4.5 | 09657 | 10815 | X | | | | | | | | | | X | | | | 2 boxes |
| WAA-04-SU-PS-20140626 | 6/25/14 - 6/26/14 | 15:27 | 16:30 | -29.1 | -3.5 | 10075 | 34002130 | X | | | | | | | | | | X | | | | KJ 7/1/14 |
| WAA-05-SU-PS-20140626 | 6/25/14 - 6/26/14 | 16:54 | 16:24 | -29.1 | -1.0 | 10445 | 10527 | X | | | | | | | | | | X | | | | Fedex PO |
| WAA-01-SU-DU-20140626 | 6/25/14 - 6/26/14 | 16:32 | 16:43 | -29.2 | -3.0 | 09562 | 10362 | X | | | | | | | | | | X | | | | trk# 5399 0208 3729 |
| WAA-00-SU-TB-20140626 | 6/25/14 - 6/26/14 | 15:27 | 16:44 | -29.1 | -29.1 | 10077 | 10325 | X | | | | | | | | | | X | | | | " " 3730 |

| Temperature (Fahrenheit) | Interior | Ambient |
|---|---|---|
| Start | | 88 |
| Stop | | 88 |

| Pressure (inches of Hg) | Interior | Ambient |
|---|---|---|
| Start | | 30.01 |
| Stop | | 29.9 |

7 CC
7 cans
7 flow

140-1610 Chain of Custody

**Special Instructions/QC Requirements & Comments:**

| | | |
|---|---|---|
| Samples Shipped by: | Date / Time: | Samples Received by: |
| Samples Relinquished by: Dave Kinroth | Date / Time: 6-30-14 | Received by: Gill Clarke 6-30-14 1515 |
| Relinquished by: Gill Clarke | Date / Time: 6-30-14 1530 | Received by: Ken Wilson 7/1/14 1000 |
| Lab Use Only: Shipper Name: | Opened by: | Condition: |

Form No. CA-C-WI-003, Rev. 1.1, dated 05/14/2013



WLLFOIA4312 - 015 - 0155176
7/7/2014

# Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1610-1

**Login Number: 1610**

**List Source: TestAmerica Knoxville**

**List Number: 1**

**Creator: Wilson, Ken**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | N/A | |
| Cooler Temperature is acceptable. | N/A | |
| Cooler Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | N/A | This is checked in the lab. |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

## TestAmerica Knoxville - Air Canister Initial Pressure Check

**Gauge ID:** G1

| Analyst | Date | Sample ID | 6 L | 1 L | Pressure @ Receipt (-in Hg or +psig) | Time | Comments |
|---|---|---|---|---|---|---|---|
| DDF | 7/1/2014 | 140-1610-a-1 | X | | -5.4 | 1200 | |
| DDF | 7/1/2014 | 140-1610-a-2 | X | | -5.1 | 1201 | |
| DDF | 7/1/2014 | 140-1610-a-3 | X | | -5.1 | 1202 | |
| DDF | 7/1/2014 | 140-1610-a-4 | X | | -3.8 | 1203 | |
| DDF | 7/1/2014 | 140-1610-a-5 | X | | -3.4 | 1204 | |
| DDF | 7/1/2014 | 140-1610-a-6 | X | | -4.1 | 1205 | |
| DDF | 7/1/2014 | 140-1610-a-7 | X | | -29.0 | 1206 | |

**Tetra Tech, Inc.**
**DATA VALIDATION REPORT**
**LEVEL II**

| | |
|---|---|
| Site: | West Lake Landfill Site, Bridgeton, Missouri |
| Laboratory: | TestAmerica Laboratories, Inc. (Knoxville, Tennessee) |
| Data Reviewer: | Harry Ellis, Tetra Tech, Inc. (Tetra Tech) |
| Review Date | July 22, 2014 |
| Sample Delivery Group (SDG): | J1676 |
| Sample Numbers: | WAA-01-SU-PS-201407106, WAA-02-SU-PS-20140710, WAA-03-SU-PS-20140710, WAA-04-SU-PS-20140710, WAA-05-SU-PS-20140710, and WAA-00-SU-TB-20140710 |
| Matrix / Number of Samples: | 5 Air Samples and 1 Trip Blank |

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

22 July 2014

Certified by Harry Ellis, Chemist

Date



WLLFOIA4312 - 015 - 0155179

## DATA VALIDATION QUALIFIERS

**U** — The analyte was not detected above the reported sample quantitation limit.

**J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.

**R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.



WLLFOIA4312 - 015 - 0155180

## DATA ASSESSMENT

Sample delivery group (SDG) J1676 included five (5) environmental air (passivated canister) samples and one (1) QC sample (a trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

## VOLATILE ORGANIC COMPOUND ANALYSIS

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. Satisfactory LCS and field duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

III. Blanks

The laboratory (method) blank yielded no detectable analytes. The trip blank yielded a low concentration of the common laboratory contaminant methylene chloride. The similar concentrations in the field samples are qualified as handling artifacts and flagged "U".

IV. Laboratory Control Sample (LCS)

All percent recoveries from the LCS analysis were within established control limits. No qualifications were applied.

V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

VI. Comments

Most detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

VII. Overall Assessment of Data

Overall data quality is acceptable, with few qualifications added. All data are usable as qualified for their intended purposes.



WLLFOIA4312 - 015 - 0155181

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

TestAmerica Job ID: 140-1676-1
Client Project/Site: West Lake Landfill

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

*Authorized for release by:*
*7/21/2014 11:17:02 AM*

Jamie McKinney, Senior Project Manager
(865)291-3000
jamie.mckinney@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*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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WLLFOIA4312 - 015 - 0155184

# Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| 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 |
| 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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Job ID: 140-1676-1

### Laboratory: TestAmerica Knoxville

**Narrative**

**Job Narrative**
**140-1676-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 7/15/2014 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Air - GC/MS VOA**
Method(s) TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified “zero air” as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of “zero air” by TestAmerica Knoxville.

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



WLLFOIA4312 - 015 - 0155186

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-01-SU-PS-20140710 — Lab Sample ID: 140-1676-1

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.067 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.079 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.058 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.070 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.52 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.42 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.34 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.12 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Styrene | 0.070 | J | 0.20 | 0.058 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.19 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.24 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.52 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.25 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.37 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.34 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.1 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.1 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.2 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.52 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Styrene | 0.30 | J | 0.85 | 0.25 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.71 | J | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.3 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-02-SU-PS-20140710 — Lab Sample ID: 140-1676-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.060 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.064 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.049 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.059 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.42 | J | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.36 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.20 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.19 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.18 | J | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.46 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.21 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.31 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.29 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.86 | J | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.8 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.71 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.71 | J | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.0 | J | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-03-SU-PS-20140710 — Lab Sample ID: 140-1676-3

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-03-SU-PS-20140710 (Continued) — Lab Sample ID: 140-1676-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.057 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.080 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.049 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.038 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.42 | J | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.35 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.22 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.18 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.19 | J | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.44 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.25 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.31 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.18 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.87 | J | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.7 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.76 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.69 | J | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.1 | J | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-PS-20140710 — Lab Sample ID: 140-1676-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.058 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.12 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.058 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.045 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.43 | J | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.38 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.26 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.16 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.25 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.20 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.45 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.37 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.37 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.89 | J | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 1.9 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.91 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.68 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 0.96 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.1 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-05-SU-PS-20140710 — Lab Sample ID: 140-1676-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.062 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.11 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-05-SU-PS-20140710 (Continued) — Lab Sample ID: 140-1676-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | 0.061 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.042 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.44 | J | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.40 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.24 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.14 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.50 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.19 | J | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.47 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.34 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.38 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.21 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.90 | J | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.0 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.82 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.59 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.9 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.1 | J | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-00-SU-TB-20140710 — Lab Sample ID: 140-1676-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 0.14 | J | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Methylene Chloride | 0.48 | J | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

**Client Sample ID: WAA-01-SU-PS-20140710**
Date Collected: 07/10/14 15:53
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1676-1**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.067** | J | 0.20 | 0.031 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **Benzene** | **0.079** | J | 0.20 | 0.056 | ppb v/v | | | 07/15/14 21:55 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/15/14 21:55 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **Carbon tetrachloride** | **0.058** | J | 0.20 | 0.038 | ppb v/v | | | 07/15/14 21:55 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/15/14 21:55 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **Chloroform** | **0.070** | J | 0.20 | 0.038 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **Chloromethane** | **0.52** | | 0.50 | 0.16 | ppb v/v | | | 07/15/14 21:55 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/15/14 21:55 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **Dichlorodifluoromethane** | **0.42** | | 0.20 | 0.068 | ppb v/v | | | 07/15/14 21:55 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/15/14 21:55 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/15/14 21:55 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **Methylene Chloride** | ~~0.34~~ | ~~J~~ U | 0.50 | 0.13 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **m-Xylene & p-Xylene** | **0.12** | J | 0.20 | 0.12 | ppb v/v | | | 07/15/14 21:55 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **Styrene** | **0.070** | J | 0.20 | 0.058 | ppb v/v | | | 07/15/14 21:55 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **Toluene** | **0.19** | J | 0.20 | 0.12 | ppb v/v | | | 07/15/14 21:55 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/15/14 21:55 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/15/14 21:55 | 1 |
| **Trichlorofluoromethane** | **0.24** | | 0.20 | 0.024 | ppb v/v | | | 07/15/14 21:55 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/15/14 21:55 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.52** | J | 1.5 | 0.24 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/15/14 21:55 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-01-SU-PS-20140710

Lab Sample ID: 140-1676-1
Matrix: Air

Date Collected: 07/10/14 15:53
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **Benzene** | **0.25** | **J** | 0.64 | 0.18 | ug/m3 | | | 07/15/14 21:55 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/15/14 21:55 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **Carbon tetrachloride** | **0.37** | **J** | 1.3 | 0.24 | ug/m3 | | | 07/15/14 21:55 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/15/14 21:55 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **Chloroform** | **0.34** | **J** | 0.98 | 0.19 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **Chloromethane** | **1.1** | | 1.0 | 0.33 | ug/m3 | | | 07/15/14 21:55 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/15/14 21:55 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **Dichlorodifluoromethane** | **2.1** | | 0.99 | 0.34 | ug/m3 | | | 07/15/14 21:55 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/15/14 21:55 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/15/14 21:55 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **Methylene Chloride** | ~~1.2~~ | ~~J~~ U | 1.7 | 0.45 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **m-Xylene & p-Xylene** | **0.52** | **J** | 0.87 | 0.52 | ug/m3 | | | 07/15/14 21:55 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **Styrene** | **0.30** | **J** | 0.85 | 0.25 | ug/m3 | | | 07/15/14 21:55 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **Toluene** | **0.71** | **J** | 0.75 | 0.45 | ug/m3 | | | 07/15/14 21:55 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/15/14 21:55 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/15/14 21:55 | 1 |
| **Trichlorofluoromethane** | **1.3** | | 1.1 | 0.13 | ug/m3 | | | 07/15/14 21:55 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/15/14 21:55 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *07/15/14 21:55* | *1* |

## Client Sample ID: WAA-02-SU-PS-20140710

Lab Sample ID: 140-1676-2
Matrix: Air

Date Collected: 07/10/14 14:14
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/15/14 22:41 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.060** | **J** | 0.20 | 0.031 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/15/14 22:41 | 1 |

lf UE 22 July 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

**Client Sample ID: WAA-02-SU-PS-20140710**
Date Collected: 07/10/14 14:14
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1676-2**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/15/14 22:41 | 1 |
| **Benzene** | **0.064** | **J** | 0.20 | 0.056 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/15/14 22:41 | 1 |
| **Carbon tetrachloride** | **0.049** | **J** | 0.20 | 0.038 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/15/14 22:41 | 1 |
| **Chloroform** | **0.059** | **J** | 0.20 | 0.038 | ppb v/v | | | 07/15/14 22:41 | 1 |
| **Chloromethane** | **0.42** | **J** | 0.50 | 0.16 | ppb v/v | | | 07/15/14 22:41 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/15/14 22:41 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/15/14 22:41 | 1 |
| **Dichlorodifluoromethane** | **0.36** | | 0.20 | 0.068 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/15/14 22:41 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/15/14 22:41 | 1 |
| **Methylene Chloride** | ~~**0.20**~~ | ~~**J**~~ U | 0.50 | 0.13 | ppb v/v | | | 07/15/14 22:41 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/15/14 22:41 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/15/14 22:41 | 1 |
| **Toluene** | **0.19** | **J** | 0.20 | 0.12 | ppb v/v | | | 07/15/14 22:41 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/15/14 22:41 | 1 |
| **Trichlorofluoromethane** | **0.18** | **J** | 0.20 | 0.024 | ppb v/v | | | 07/15/14 22:41 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/15/14 22:41 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/15/14 22:41 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.46** | **J** | 1.5 | 0.24 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/15/14 22:41 | 1 |

HUG 22 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-02-SU-PS-20140710

Lab Sample ID: 140-1676-2
Matrix: Air

Date Collected: 07/10/14 14:14
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/15/14 22:41 | 1 |
| **Benzene** | **0.21** | J | 0.64 | 0.18 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/15/14 22:41 | 1 |
| **Carbon tetrachloride** | **0.31** | J | 1.3 | 0.24 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/15/14 22:41 | 1 |
| **Chloroform** | **0.29** | J | 0.98 | 0.19 | ug/m3 | | | 07/15/14 22:41 | 1 |
| **Chloromethane** | **0.86** | J | 1.0 | 0.33 | ug/m3 | | | 07/15/14 22:41 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/15/14 22:41 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/15/14 22:41 | 1 |
| **Dichlorodifluoromethane** | **1.8** | | 0.99 | 0.34 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/15/14 22:41 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/15/14 22:41 | 1 |
| **Methylene Chloride** | ~~0.71~~ ~~J~~ U | | 1.7 | 0.45 | ug/m3 | | | 07/15/14 22:41 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 07/15/14 22:41 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/15/14 22:41 | 1 |
| **Toluene** | **0.71** | J | 0.75 | 0.45 | ug/m3 | | | 07/15/14 22:41 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/15/14 22:41 | 1 |
| **Trichlorofluoromethane** | **1.0** | J | 1.1 | 0.13 | ug/m3 | | | 07/15/14 22:41 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/15/14 22:41 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *107* | | *60 - 140* | | *07/15/14 22:41* | *1* |

## Client Sample ID: WAA-03-SU-PS-20140710

Lab Sample ID: 140-1676-3
Matrix: Air

Date Collected: 07/10/14 12:51
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/15/14 23:25 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.057** | J | 0.20 | 0.031 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/15/14 23:25 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

**Client Sample ID: WAA-03-SU-PS-20140710**
Date Collected: 07/10/14 12:51
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1676-3**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/15/14 23:25 | 1 |
| **Benzene** | **0.080** | J | 0.20 | 0.056 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/15/14 23:25 | 1 |
| **Carbon tetrachloride** | **0.049** | J | 0.20 | 0.038 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/15/14 23:25 | 1 |
| **Chloroform** | **0.038** | J | 0.20 | 0.038 | ppb v/v | | | 07/15/14 23:25 | 1 |
| **Chloromethane** | **0.42** | J | 0.50 | 0.16 | ppb v/v | | | 07/15/14 23:25 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/15/14 23:25 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/15/14 23:25 | 1 |
| **Dichlorodifluoromethane** | **0.35** | | 0.20 | 0.068 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/15/14 23:25 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/15/14 23:25 | 1 |
| **Methylene Chloride** | ~~0.32~~ | ~~J~~ U | 0.50 | 0.13 | ppb v/v | | | 07/15/14 23:25 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/15/14 23:25 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/15/14 23:25 | 1 |
| **Toluene** | **0.18** | J | 0.20 | 0.12 | ppb v/v | | | 07/15/14 23:25 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/15/14 23:25 | 1 |
| **Trichlorofluoromethane** | **0.19** | J | 0.20 | 0.024 | ppb v/v | | | 07/15/14 23:25 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/15/14 23:25 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/15/14 23:25 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.44** | J | 1.5 | 0.24 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Benzene | 0.25 | J | 0.64 | 0.18 | ug/m3 | | | 07/15/14 23:25 | 1 |

HUG 22 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-03-SU-PS-20140710

Lab Sample ID: 140-1676-3
Matrix: Air

Date Collected: 07/10/14 12:51
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/15/14 23:25 | 1 |
| **Carbon tetrachloride** | **0.31** | J | 1.3 | 0.24 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/15/14 23:25 | 1 |
| **Chloroform** | **0.18** | J | 0.98 | 0.19 | ug/m3 | | | 07/15/14 23:25 | 1 |
| **Chloromethane** | **0.87** | J | 1.0 | 0.33 | ug/m3 | | | 07/15/14 23:25 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/15/14 23:25 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/15/14 23:25 | 1 |
| **Dichlorodifluoromethane** | **1.7** | | 0.99 | 0.34 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/15/14 23:25 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/15/14 23:25 | 1 |
| **Methylene Chloride** | ~~0.76~~ | ~~J~~ U | 1.7 | 0.45 | ug/m3 | | | 07/15/14 23:25 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 07/15/14 23:25 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/15/14 23:25 | 1 |
| **Toluene** | **0.69** | J | 0.75 | 0.45 | ug/m3 | | | 07/15/14 23:25 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/15/14 23:25 | 1 |
| **Trichlorofluoromethane** | **1.1** | J | 1.1 | 0.13 | ug/m3 | | | 07/15/14 23:25 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/15/14 23:25 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *60 - 140* | | *07/15/14 23:25* | *1* |

## Client Sample ID: WAA-04-SU-PS-20140710

Lab Sample ID: 140-1676-4
Matrix: Air

Date Collected: 07/10/14 13:49
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.058** | J | 0.20 | 0.031 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/16/14 00:08 | 1 |

HVG 22 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

**Client Sample ID: WAA-04-SU-PS-20140710**
Date Collected: 07/10/14 13:49
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1676-4**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **Benzene** | **0.12** | J | 0.20 | 0.056 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **Carbon tetrachloride** | **0.058** | J | 0.20 | 0.038 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **Chloroform** | **0.045** | J | 0.20 | 0.038 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **Chloromethane** | **0.43** | J | 0.50 | 0.16 | ppb v/v | | | 07/16/14 00:08 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/16/14 00:08 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **Dichlorodifluoromethane** | **0.38** | | 0.20 | 0.068 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/16/14 00:08 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **Methylene Chloride** | ~~0.26~~ | ~~J~~ U | 0.50 | 0.13 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **m-Xylene & p-Xylene** | **0.16** | J | 0.20 | 0.12 | ppb v/v | | | 07/16/14 00:08 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **Toluene** | **0.25** | | 0.20 | 0.12 | ppb v/v | | | 07/16/14 00:08 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/16/14 00:08 | 1 |
| **Trichlorofluoromethane** | **0.20** | | 0.20 | 0.024 | ppb v/v | | | 07/16/14 00:08 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/16/14 00:08 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/16/14 00:08 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.45** | J | 1.5 | 0.24 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/16/14 00:08 | 1 |
| **Benzene** | **0.37** | J | 0.64 | 0.18 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/16/14 00:08 | 1 |
| **Carbon tetrachloride** | **0.37** | J | 1.3 | 0.24 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/16/14 00:08 | 1 |

HVE 22 Jul 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-04-SU-PS-20140710

Lab Sample ID: 140-1676-4
Matrix: Air

Date Collected: 07/10/14 13:49
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Chloromethane | 0.89 | J | 1.0 | 0.33 | ug/m3 | | | 07/16/14 00:08 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/16/14 00:08 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Dichlorodifluoromethane | 1.9 | | 0.99 | 0.34 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/16/14 00:08 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Methylene Chloride | ~~0.94~~ ~~J~~ U | | 1.7 | 0.45 | ug/m3 | | | 07/16/14 00:08 | 1 |
| m-Xylene & p-Xylene | 0.68 | J | 0.87 | 0.52 | ug/m3 | | | 07/16/14 00:08 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Toluene | 0.96 | | 0.75 | 0.45 | ug/m3 | | | 07/16/14 00:08 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Trichlorofluoromethane | 1.1 | | 1.1 | 0.13 | ug/m3 | | | 07/16/14 00:08 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/16/14 00:08 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *106* | | *60 - 140* | | *07/16/14 00:08* | *1* |

## Client Sample ID: WAA-05-SU-PS-20140710

Lab Sample ID: 140-1676-5
Matrix: Air

Date Collected: 07/10/14 14:46
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.062 | J | 0.20 | 0.031 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Benzene | 0.11 | J | 0.20 | 0.056 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Carbon tetrachloride | 0.061 | J | 0.20 | 0.038 | ppb v/v | | | 07/16/14 00:51 | 1 |

HUG 29 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-05-SU-PS-20140710

Lab Sample ID: 140-1676-5
Matrix: Air

Date Collected: 07/10/14 14:46
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/16/14 00:51 | 1 |
| **Chloroform** | **0.042** | J | 0.20 | 0.038 | ppb v/v | | | 07/16/14 00:51 | 1 |
| **Chloromethane** | **0.44** | J | 0.50 | 0.16 | ppb v/v | | | 07/16/14 00:51 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/16/14 00:51 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/16/14 00:51 | 1 |
| **Dichlorodifluoromethane** | **0.40** | | 0.20 | 0.068 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/16/14 00:51 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/16/14 00:51 | 1 |
| **Methylene Chloride** | ~~**0.24**~~ | ~~J~~ U | 0.50 | 0.13 | ppb v/v | | | 07/16/14 00:51 | 1 |
| **m-Xylene & p-Xylene** | **0.14** | J | 0.20 | 0.12 | ppb v/v | | | 07/16/14 00:51 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/16/14 00:51 | 1 |
| **Toluene** | **0.50** | | 0.20 | 0.12 | ppb v/v | | | 07/16/14 00:51 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/16/14 00:51 | 1 |
| **Trichlorofluoromethane** | **0.19** | J | 0.20 | 0.024 | ppb v/v | | | 07/16/14 00:51 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/16/14 00:51 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.47** | J | 1.5 | 0.24 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **Benzene** | **0.34** | J | 0.64 | 0.18 | ug/m3 | | | 07/16/14 00:51 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/16/14 00:51 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **Carbon tetrachloride** | **0.38** | J | 1.3 | 0.24 | ug/m3 | | | 07/16/14 00:51 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/16/14 00:51 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **Chloroform** | **0.21** | J | 0.98 | 0.19 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **Chloromethane** | **0.90** | J | 1.0 | 0.33 | ug/m3 | | | 07/16/14 00:51 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/16/14 00:51 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **Dichlorodifluoromethane** | **2.0** | | 0.99 | 0.34 | ug/m3 | | | 07/16/14 00:51 | 1 |

HVE 22 Jul 14

TestAmerica Knoxville



7/21/2014

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-05-SU-PS-20140710

Lab Sample ID: 140-1676-5
Matrix: Air

Date Collected: 07/10/14 14:46
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/16/14 00:51 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/16/14 00:51 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **Methylene Chloride** | ~~0.82~~ | ~~J~~ U | 1.7 | 0.45 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **m-Xylene & p-Xylene** | 0.59 | J | 0.87 | 0.52 | ug/m3 | | | 07/16/14 00:51 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/16/14 00:51 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/16/14 00:51 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **Toluene** | 1.9 | | 0.75 | 0.45 | ug/m3 | | | 07/16/14 00:51 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/16/14 00:51 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/16/14 00:51 | 1 |
| **Trichlorofluoromethane** | 1.1 | J | 1.1 | 0.13 | ug/m3 | | | 07/16/14 00:51 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/16/14 00:51 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *60 - 140* | | *07/16/14 00:51* | *1* |

## Client Sample ID: WAA-00-SU-TB-20140710

Lab Sample ID: 140-1676-7
Matrix: Air

Date Collected: 07/10/14 16:10 ≠
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 07/16/14 02:17 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/16/14 02:17 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/16/14 02:17 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-00-SU-TB-20140710

Lab Sample ID: 140-1676-7
Matrix: Air

Date Collected: 07/10/14 16:10
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/16/14 02:17 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/16/14 02:17 | 1 |
| **Methylene Chloride** | 0.14 | J | 0.50 | 0.13 | ppb v/v | | | 07/16/14 02:17 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/16/14 02:17 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/16/14 02:17 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 07/16/14 02:17 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/16/14 02:17 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 07/16/14 02:17 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/16/14 02:17 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/16/14 02:17 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/16/14 02:17 | 1 |
| **Methylene Chloride** | 0.48 | J | 1.7 | 0.45 | ug/m3 | | | 07/16/14 02:17 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 07/16/14 02:17 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/16/14 02:17 | 1 |

HUG 22 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

Client Sample ID: WAA-00-SU-TB-20140710
Date Collected: 07/10/14 16:10
Date Received: 07/15/14 10:15
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1676-7
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 07/16/14 02:17 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 07/16/14 02:17 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/16/14 02:17 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *103* | | *60 - 140* | | *07/16/14 02:17* | *1* |

HUG
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# Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Lab Sample ID** | **Client Sample ID** | **BFB (60-140)** | | | | | | |
| 140-1676-1 | WAA-01-SU-PS-20140710 | 107 | | | | | | |
| 140-1676-2 | WAA-02-SU-PS-20140710 | 107 | | | | | | |
| 140-1676-3 | WAA-03-SU-PS-20140710 | 105 | | | | | | |
| 140-1676-4 | WAA-04-SU-PS-20140710 | 106 | | | | | | |
| 140-1676-5 | WAA-05-SU-PS-20140710 | 105 | | | | | | |
| 140-1676-7 | WAA-00-SU-TB-20140710 | 103 | | | | | | |
| LCS 140-1467/1002 | Lab Control Sample | 115 | | | | | | |
| MB 140-1467/4 | Method Blank | 105 | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-1467/4**
**Matrix: Air**
**Analysis Batch: 1467**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 07/15/14 12:38 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/15/14 12:38 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/15/14 12:38 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Methylene Chloride | ND | | 0.50 | 0.13 | ppb v/v | | | 07/15/14 12:38 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/15/14 12:38 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/15/14 12:38 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 07/15/14 12:38 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/15/14 12:38 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/15/14 12:38 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1467/4**
**Matrix: Air**
**Analysis Batch: 1467**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 07/15/14 12:38 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/15/14 12:38 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/15/14 12:38 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Methylene Chloride | ND | | 1.7 | 0.45 | ug/m3 | | | 07/15/14 12:38 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 07/15/14 12:38 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 07/15/14 12:38 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 07/15/14 12:38 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/15/14 12:38 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *105* | | *60 - 140* | | *07/15/14 12:38* | *1* |

**Lab Sample ID: LCS 140-1467/1002**
**Matrix: Air**
**Analysis Batch: 1467**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 2.00 | 2.18 | | ppb v/v | | 109 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 2.00 | 1.86 | | ppb v/v | | 93 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 2.00 | 1.94 | | ppb v/v | | 97 | 70 - 130 |
| 1,1,2-Trichloroethane | 2.00 | 1.76 | | ppb v/v | | 88 | 70 - 130 |
| 1,1-Dichloroethane | 2.00 | 1.94 | | ppb v/v | | 97 | 70 - 130 |
| 1,1-Dichloroethene | 2.00 | 1.86 | | ppb v/v | | 93 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1467/1002**
**Matrix: Air**
**Analysis Batch: 1467**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2.00 | 1.55 | | ppb v/v | | 78 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 2.00 | 1.92 | | ppb v/v | | 96 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00 | 2.25 | | ppb v/v | | 113 | 60 - 140 |
| 1,2-Dichlorobenzene | 2.00 | 1.87 | | ppb v/v | | 94 | 70 - 130 |
| 1,2-Dichloroethane | 2.00 | 1.75 | | ppb v/v | | 87 | 70 - 130 |
| 1,2-Dichloropropane | 2.00 | 1.74 | | ppb v/v | | 87 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 2.00 | 1.81 | | ppb v/v | | 90 | 70 - 130 |
| 1,3-Dichlorobenzene | 2.00 | 1.75 | | ppb v/v | | 88 | 70 - 130 |
| 1,4-Dichlorobenzene | 2.00 | 1.76 | | ppb v/v | | 88 | 70 - 130 |
| Benzene | 2.00 | 1.69 | | ppb v/v | | 84 | 70 - 130 |
| Benzyl chloride | 2.00 | 1.91 | | ppb v/v | | 96 | 70 - 130 |
| Bromomethane | 2.00 | 2.50 | | ppb v/v | | 125 | 70 - 130 |
| Carbon tetrachloride | 2.00 | 1.88 | | ppb v/v | | 94 | 70 - 130 |
| Chlorobenzene | 2.00 | 1.71 | | ppb v/v | | 85 | 70 - 130 |
| Chloroethane | 2.00 | 2.20 | | ppb v/v | | 110 | 70 - 130 |
| Chloroform | 2.00 | 2.17 | | ppb v/v | | 108 | 70 - 130 |
| Chloromethane | 2.00 | 1.88 | | ppb v/v | | 94 | 60 - 140 |
| cis-1,2-Dichloroethene | 2.00 | 1.96 | | ppb v/v | | 98 | 70 - 130 |
| cis-1,3-Dichloropropene | 2.00 | 1.92 | | ppb v/v | | 96 | 70 - 130 |
| Dichlorodifluoromethane | 2.00 | 2.03 | | ppb v/v | | 101 | 60 - 140 |
| Ethylbenzene | 2.00 | 1.79 | | ppb v/v | | 89 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 2.00 | 1.89 | | ppb v/v | | 94 | 70 - 130 |
| Hexachlorobutadiene | 2.00 | 1.99 | | ppb v/v | | 100 | 60 - 140 |
| Methylene Chloride | 2.00 | 1.67 | | ppb v/v | | 84 | 70 - 130 |
| m-Xylene & p-Xylene | 4.00 | 3.71 | | ppb v/v | | 93 | 70 - 130 |
| o-Xylene | 2.00 | 1.81 | | ppb v/v | | 91 | 70 - 130 |
| Styrene | 2.00 | 2.12 | | ppb v/v | | 106 | 70 - 130 |
| Tetrachloroethene | 2.00 | 1.62 | | ppb v/v | | 81 | 70 - 130 |
| Toluene | 2.00 | 1.59 | | ppb v/v | | 80 | 70 - 130 |
| trans-1,3-Dichloropropene | 2.00 | 1.77 | | ppb v/v | | 88 | 70 - 130 |
| Trichloroethene | 2.00 | 1.69 | | ppb v/v | | 84 | 70 - 130 |
| Trichlorofluoromethane | 2.00 | 2.09 | | ppb v/v | | 105 | 60 - 140 |
| Vinyl chloride | 2.00 | 1.98 | | ppb v/v | | 99 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 11.9 | | ug/m3 | | 109 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 12.8 | | ug/m3 | | 93 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 14.9 | | ug/m3 | | 97 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 9.61 | | ug/m3 | | 88 | 70 - 130 |
| 1,1-Dichloroethane | 8.1 | 7.84 | | ug/m3 | | 97 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 7.38 | | ug/m3 | | 93 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 11.5 | | ug/m3 | | 78 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.8 | 9.45 | | ug/m3 | | 96 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 15.7 | | ug/m3 | | 113 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 11.3 | | ug/m3 | | 94 | 70 - 130 |
| 1,2-Dichloroethane | 8.1 | 7.07 | | ug/m3 | | 87 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1467/1002**
**Matrix: Air**
**Analysis Batch: 1467**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 9.2 | 8.05 | | ug/m3 | | 87 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.8 | 8.89 | | ug/m3 | | 90 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 10.5 | | ug/m3 | | 88 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 10.6 | | ug/m3 | | 88 | 70 - 130 |
| Benzene | 6.4 | 5.39 | | ug/m3 | | 84 | 70 - 130 |
| Benzyl chloride | 10 | 9.90 | | ug/m3 | | 96 | 70 - 130 |
| Bromomethane | 7.8 | 9.69 | | ug/m3 | | 125 | 70 - 130 |
| Carbon tetrachloride | 13 | 11.8 | | ug/m3 | | 94 | 70 - 130 |
| Chlorobenzene | 9.2 | 7.87 | | ug/m3 | | 85 | 70 - 130 |
| Chloroethane | 5.3 | 5.80 | | ug/m3 | | 110 | 70 - 130 |
| Chloroform | 9.8 | 10.6 | | ug/m3 | | 108 | 70 - 130 |
| Chloromethane | 4.1 | 3.89 | | ug/m3 | | 94 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 7.78 | | ug/m3 | | 98 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.1 | 8.73 | | ug/m3 | | 96 | 70 - 130 |
| Dichlorodifluoromethane | 9.9 | 10.0 | | ug/m3 | | 101 | 60 - 140 |
| Ethylbenzene | 8.7 | 7.77 | | ug/m3 | | 89 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 14.5 | | ug/m3 | | 94 | 70 - 130 |
| Hexachlorobutadiene | 21 | 21.2 | | ug/m3 | | 100 | 60 - 140 |
| Methylene Chloride | 6.9 | 5.82 | | ug/m3 | | 84 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 16.1 | | ug/m3 | | 93 | 70 - 130 |
| o-Xylene | 8.7 | 7.88 | | ug/m3 | | 91 | 70 - 130 |
| Styrene | 8.5 | 9.03 | | ug/m3 | | 106 | 70 - 130 |
| Tetrachloroethene | 14 | 11.0 | | ug/m3 | | 81 | 70 - 130 |
| Toluene | 7.5 | 6.00 | | ug/m3 | | 80 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1 | 8.02 | | ug/m3 | | 88 | 70 - 130 |
| Trichloroethene | 11 | 9.08 | | ug/m3 | | 84 | 70 - 130 |
| Trichlorofluoromethane | 11 | 11.7 | | ug/m3 | | 105 | 60 - 140 |
| Vinyl chloride | 5.1 | 5.07 | | ug/m3 | | 99 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *115* | | *60 - 140* |

# QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Air - GC/MS VOA

### Analysis Batch: 1467

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1676-1 | WAA-01-SU-PS-20140710 | Total/NA | Air | TO-15 | |
| 140-1676-2 | WAA-02-SU-PS-20140710 | Total/NA | Air | TO-15 | |
| 140-1676-3 | WAA-03-SU-PS-20140710 | Total/NA | Air | TO-15 | |
| 140-1676-4 | WAA-04-SU-PS-20140710 | Total/NA | Air | TO-15 | |
| 140-1676-5 | WAA-05-SU-PS-20140710 | Total/NA | Air | TO-15 | |
| 140-1676-7 | WAA-00-SU-TB-20140710 | Total/NA | Air | TO-15 | |
| LCS 140-1467/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1467/4 | Method Blank | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Client Sample ID: WAA-01-SU-PS-20140710 — Lab Sample ID: 140-1676-1

**Date Collected: 07/10/14 15:53** — **Matrix: Air**
**Date Received: 07/15/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1467 | 07/15/14 21:55 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-02-SU-PS-20140710 — Lab Sample ID: 140-1676-2

**Date Collected: 07/10/14 14:14** — **Matrix: Air**
**Date Received: 07/15/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1467 | 07/15/14 22:41 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-03-SU-PS-20140710 — Lab Sample ID: 140-1676-3

**Date Collected: 07/10/14 12:51** — **Matrix: Air**
**Date Received: 07/15/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1467 | 07/15/14 23:25 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-04-SU-PS-20140710 — Lab Sample ID: 140-1676-4

**Date Collected: 07/10/14 13:49** — **Matrix: Air**
**Date Received: 07/15/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1467 | 07/16/14 00:08 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-05-SU-PS-20140710 — Lab Sample ID: 140-1676-5

**Date Collected: 07/10/14 14:46** — **Matrix: Air**
**Date Received: 07/15/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1467 | 07/16/14 00:51 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

## Client Sample ID: WAA-00-SU-TB-20140710 — Lab Sample ID: 140-1676-7

**Date Collected: 07/10/14 16:10** — **Matrix: Air**
**Date Received: 07/15/14 10:15**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1467 | 07/16/14 02:17 | AFB | TAL KNX |
| | Instrument ID: MG | | | | | | | | | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

## Laboratory: TestAmerica Knoxville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | AFCEE | | N/A | |
| Arkansas DEQ | State Program | 6 | 88-0688 | 06-17-15 |
| California | State Program | 9 | 2423 | 06-30-16 |
| Colorado | State Program | 8 | N/A | 02-28-15 |
| Connecticut | State Program | 1 | PH-0223 | 09-30-15 |
| Florida | NELAP | 4 | E87177 | 06-30-15 |
| Georgia | State Program | 4 | 906 | 06-13-14 * |
| Hawaii | State Program | 9 | N/A | 04-13-15 |
| Iowa | State Program | 7 | 375 | 08-01-14 |
| Kansas | NELAP | 7 | E-10349 | 10-31-14 |
| Kentucky (DW) | State Program | 4 | 90101 | 12-31-14 |
| L-A-B | DoD ELAP | | L2311 | 02-13-16 |
| Louisiana | NELAP | 6 | LA110001 | 12-31-14 |
| Maryland | State Program | 3 | 277 | 03-31-15 |
| Michigan | State Program | 5 | 9933 | 04-13-17 |
| Nevada | State Program | 9 | TN00009 | 07-31-14 |
| New Jersey | NELAP | 2 | TN001 | 06-30-15 |
| New York | NELAP | 2 | 10781 | 03-31-15 |
| North Carolina (DW) | State Program | 4 | 21705 | 07-31-14 |
| North Carolina (WW/SW) | State Program | 4 | 64 | 12-31-14 |
| Ohio VAP | State Program | 5 | CL0059 | 03-26-15 |
| Oklahoma | State Program | 6 | 9415 | 08-31-14 |
| Pennsylvania | NELAP | 3 | 68-00576 | 12-31-14 |
| South Carolina | State Program | 4 | 84001 | 06-30-14 * |
| Tennessee | State Program | 4 | 2014 | 04-13-17 |
| Texas | NELAP | 6 | T104704380-TX | 08-31-14 |
| USDA | Federal | | P330-13-00260 | 08-29-16 |
| Utah | NELAP | 8 | QUAN3 | 07-31-15 |
| Virginia | NELAP | 3 | 460176 | 09-14-14 |
| Virginia | State Program | 3 | 165 | 06-30-15 |
| Washington | State Program | 10 | C593 | 01-19-15 |
| West Virginia (DW) | State Program | 3 | 9955C | 12-31-14 |
| West Virginia DEP | State Program | 3 | 345 | 04-30-15 |
| Wisconsin | State Program | 5 | 998044300 | 08-31-14 |

* Certification renewal pending - certification considered valid.

# Method Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | TAL KNX |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1676-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 140-1676-1 | WAA-01-SU-PS-20140710 | Air | 07/10/14 15:53 | 07/15/14 10:15 |
| 140-1676-2 | WAA-02-SU-PS-20140710 | Air | 07/10/14 14:14 | 07/15/14 10:15 |
| 140-1676-3 | WAA-03-SU-PS-20140710 | Air | 07/10/14 12:51 | 07/15/14 10:15 |
| 140-1676-4 | WAA-04-SU-PS-20140710 | Air | 07/10/14 13:49 | 07/15/14 10:15 |
| 140-1676-5 | WAA-05-SU-PS-20140710 | Air | 07/10/14 14:46 | 07/15/14 10:15 |
| 140-1676-7 | WAA-00-SU-TB-20140710 | Air | 07/10/14 16:10 | 07/15/14 10:15 |

**TestAmerica Knoxville**
5815 Middlebrook Pike

Knoxville, TN 37921
phone 865.291.3000 fax 865.584.4315

# Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

**TestAmerica Laboratories, Inc.**

| Client Contact Information | Project Manager: Dave Kinroth | Samples Collected By: Greg Blattner, Christina Engemann | COC No: |
|---|---|---|---|
| Company Name: Tetra Tech Inc. | Phone: 314-517-6798 | | _____ of _____ COCs |
| Address: 415 Oak Street | Email: emily.fisher@tetratech.com | | |
| City/State/Zip: Kansas City, MO 64106 | | | For Lab Use Only: |
| Phone: 816-412-1755 | Site Contact: Dave Kinroth - 314-517-6787 | | Walk-in Client: |
| FAX: 816-410-1748 | TA Contact: Emily Fisher/Rob Monnig | | Lab Sampling: |
| Project Name: West Lake Landfill | Anaylsis Turnaround Time | | |
| Site/Location: Bridgeton, MO | Standard (Specific):_____ | | Job / SDG No.: |
| P O # 1105352 | Rush (Specifiy):_____ | | (See below for Add'l Items) |

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, 'Hg (Start)' | Canister Vacuum in Field, 'Hg (Stop)' | Flow Controller ID | Canister ID | TO-15 (Med / Std / Low / SIM) | MA-APH | EPA 3C | EPA 25C / 25.3 | ASTM D-1946 / 1945 / 3588 | EPA 15/16 | TO-3 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) | Sample Specific Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-01-SU-PS-20140710 | 7/9/14 - 7/10/14 | 17:18 | 15:53 | -29.2 | -4.5 | 10350 | 10724 | X | | | | | | | | | | X | | | | |
| WAA-02-SU-PS-20140710 | 7/9/14 - 7/10/14 | 15:33 | 14:14 | -29.1 | -4.5 | 09650 | 10987 | X | | | | | | | | | | X | | | | |
| WAA-03-SU-PS-20140710 | 7/9/14 - 7/10/14 | 13:36 | 12:51 | -29.2 | -1.5 | 10077 | 10992 | X | | | | | | | | | | X | | | | |
| WAA-04-SU-PS-20140710 | 7/9/14 - 7/10/14 | 14:46 | 13:49 | -29.2 | -1.8 | 10437 | 09722 | X | | | | | | | | | | X | | | | |
| WAA-05-SU-PS-20140710 | 7/9/14 - 7/10/14 | 16:14 | 14:46 | -29.1 | -4.5 | 10468 | 10986 | X | | | | | | | | | | X | | | | |
| * WAA-2-SU-DU-20140709 | 7/9/14 - 7/9/14 | 15:33 | 16:30 | -29.2 | 0.0 | 10303 | 10802 | X | | | | | | | | | | X | | | | Cannister discharged within one hour - **DO NOT ANALYZE** |
| WAA-00-SU-TB-20140710 | 7/9/14 - 7/10/14 | 13:00 | 16:10 | -29.2 | -29.2 | 09914 | 10714 | X | | | | | | | | | | X | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |

| Temperature (Fahrenheit) | Interior | Ambient |
|---|---|---|
| Start | | 80 |
| Stop | | 84 |

| Pressure (inches of Hg) | Interior | Ambient |
|---|---|---|
| Start | | 30.16 |
| Stop | | 30.1 |

Receive @ ambie.
No custody seal.
2 boxes 7/15/14

Fedex Po
trk# 5399 0208 4004
" " 3990

140-1676 Chain of Custody

* Special Instructions/QC Requirements & Comments: DO NOT ANALYZE sample number WAA-2-SU-DU-20140709, the cannister discharged within one hour.

| | | | |
|---|---|---|---|
| Samples Shipped by: | Date / Time: 7-14-14 / 1310 | Samples Received by: 7.14.14 / 1310 | 7 cans<br>8 CC<br>7 flows |
| Samples Relinquished by: | Date / Time: 7.14.14 1400 | Received by: Ken Wilson 7/15/14 1015 | |
| Relinquished by: | Date / Time: | Received by: | |
| Lab Use Only: Shipper Name: | Opened by: | Condition: | |

Form No. CA-C-WI-003, Rev. 1.1, dated 05/14/2013



WLLFOIA4312 - 015 - 0155213
7/21/2014

# Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1676-1

**Login Number: 1676**

**List Source: TestAmerica Knoxville**

**List Number: 1**

**Creator: Wilson, Ken**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | N/A | |
| Cooler Temperature is acceptable. | N/A | |
| Cooler Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | N/A | This is checked in the lab. |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

## TestAmerica Knoxville - Air Canister Initial Pressure Check

**Gauge ID:** G1

| Analyst | Date | Sample ID | 6 L | 1 L | Pressure @ Receipt (-in Hg or +psig) | Time | Comments |
|---|---|---|---|---|---|---|---|
| AFB | 7/15/2014 | 140-1676-a-1 | X | | -4.5 | 1240 | |
| AFB | 7/15/2014 | 140-1676-a-2 | X | | -5.6 | 1241 | |
| AFB | 7/15/2014 | 140-1676-a-3 | X | | -3.1 | 1242 | |
| AFB | 7/15/2014 | 140-1676-a-4 | X | | -3.5 | 1243 | |
| AFB | 7/15/2014 | 140-1676-a-5 | X | | -4.5 | 1244 | |
| AFB | 7/15/2014 | 140-1676-a-7 | X | | -29.0 | 1245 | TRIP BLK pressed to 10 w/N2 |

**Tetra Tech, Inc.**
**DATA VALIDATION REPORT**
**LEVEL II**

| | |
|---|---|
| Site: | West Lake Landfill Site, Bridgeton, Missouri |
| Laboratory: | TestAmerica Laboratories, Inc. (Knoxville, Tennessee) |
| Data Reviewer: | Harry Ellis, Tetra Tech, Inc. (Tetra Tech) |
| Review Date | July 30, 2014 |
| Sample Delivery Group (SDG): | J1715 |
| Sample Numbers: | WAA-02-SU-PS-20140717, WAA-03-SU-PS-20140717, WAA-04-SU-PS-20140717, WAA-04-SU-DU-20140717, WAA-05-SU-PS-20140717, and WAA-00-SU-TB-2014071 |
| Matrix / Number of Samples: | 4 Air Samples, 1 Field Duplicate Sample, and 1 Trip Blank |

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (9240.1-48), June 2008. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

The review was intended to identify problems and quality control (QC) deficiencies that were readily apparent from the summary data package. The following sections discuss any problems or deficiencies that were found, and data qualifications applied because of non-compliant QC. The data review was limited to the available field and laboratory QC information submitted with the project-specific data package.

I, Harry Ellis, certify that all data validation criteria outlined in the above-referenced documents were assessed, and any qualifications made to the data accorded with those documents.

Harry N. Ellis III

30 July 2014

Certified by Harry Ellis, Chemist

Date



WLLFOIA4312 - 015 - 0155216

## DATA VALIDATION QUALIFIERS

**U** — The analyte was not detected above the reported sample quantitation limit.

**J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

**UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.

**R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.



WLLFOIA4312 - 015 - 0155217

## DATA ASSESSMENT

Sample delivery group (SDG) J1715 included four (4) environmental air (passivated canister) samples and two (2) QC samples (a field duplicated and a trip blank). Samples were analyzed for volatile organic compounds via EPA Air Method TO-15. The following summarizes the data validation that was performed.

## VOLATILE ORGANIC COMPOUND ANALYSIS

I. Holding Time and Chain of Custody (COC) Requirements

The samples were received by the laboratory and analyzed within the established holding time of 30 days from sample collection by canister to analysis. No data were qualified.

II. Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD analyses are not practical for air analyses. Satisfactory LCS and field duplicate sample analysis provided adequate data on precision and accuracy. No qualifications were applied.

III. Blanks

The laboratory (method) blank yielded a low concentration of the common laboratory contaminant methylene chloride. The similar concentrations in field sample WAA-05-SU-PS-20140717 and the trip blank are qualified as laboratory artifacts and flagged "U"; the other samples yielded significantly higher concentrations of methylene chloride and are not qualified. In addition, the trip blank yielded a significant concentration of carbon tetrachloride. The lower concentrations in the other field samples are qualified as handling artifacts and flagged "U".

IV. Laboratory Control Sample (LCS)

All percent recoveries from the LCS analysis were within established control limits. No qualifications were applied.

V. Surrogates

All surrogate recoveries were within QC limits. No qualifications were applied.

VI. Comments

Most detected results were less than reporting limits, which correspond to the lowest calibration standard. The laboratory correctly reported these extrapolations as estimated (flagged "J").

VII. Overall Assessment of Data

Overall data quality is acceptable, with few qualifications added. All data are usable as qualified for their intended purposes.



WLLFOIA4312 - 015 - 0155218

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

# ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

TestAmerica Job ID: 140-1715-1
Client Project/Site: West Lake Landfill

For:
Tetra Tech EM Inc.
415 Oak Street
Kansas City, Missouri 64106

Attn: Ms. Emily Fisher

*Authorized for release by:*
*7/28/2014 12:03:42 PM*

Jamie McKinney, Senior Project Manager
(865)291-3000
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LINKS

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Have a Question? Ask The Expert

Visit us at: www.testamericainc.com

*The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.*

*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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WLLFOIA4312 - 015 - 0155221

# Definitions/Glossary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Qualifiers

### Air - GC/MS VOA

| Qualifier | Qualifier Description |
|---|---|
| J | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |
| B | Compound was found in the blank and sample. |

## Glossary

| Abbreviation | These commonly used abbreviations may or may not be present in this report. |
|---|---|
| ¤ | Listed under the "D" column to designate that the result is reported on a dry weight basis |
| %R | Percent Recovery |
| CFL | Contains Free Liquid |
| CNF | Contains no Free Liquid |
| DER | Duplicate error ratio (normalized absolute difference) |
| Dil Fac | Dilution Factor |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC | Decision level concentration |
| MDA | Minimum detectable activity |
| EDL | Estimated Detection Limit |
| MDC | Minimum detectable concentration |
| 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 |
| 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: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Job ID: 140-1715-1

### Laboratory: TestAmerica Knoxville

**Narrative**

**Job Narrative**
**140-1715-1**

**Comments**
No additional comments.

**Receipt**
The samples were received on 7/22/2014 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice.

**Air - GC/MS VOA**
Method(s) TO 14A, TO 15 LL, TO-14A, TO-15: EPA methods TO-14A and TO-15 specify the use of humidified “zero air” as the blank reagent for canister cleaning, instrument calibration and sample analysis. Ultra-high purity humidified nitrogen from a cryogenic reservoir is used in place of “zero air” by TestAmerica Knoxville.

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



WLLFOIA4312 - 015 - 0155223

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Client Sample ID: WAA-02-SU-PS-20140717 — Lab Sample ID: 140-1715-2

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.078 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.11 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.092 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.11 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.73 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.53 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.59 | B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.12 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.41 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.061 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.59 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.36 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.58 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.52 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.5 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.6 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 2.1 | B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.54 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.6 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.33 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-03-SU-PS-20140717 — Lab Sample ID: 140-1715-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.078 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.081 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.12 | J | 0.20 | 0.035 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.16 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.1 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.49 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.64 | B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.16 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.54 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.081 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.27 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.60 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.46 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.51 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroethane | 0.31 | J | 0.53 | 0.092 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.78 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 2.2 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.4 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 2.2 | B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.71 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.0 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Client Sample ID: WAA-03-SU-PS-20140717 (Continued) — Lab Sample ID: 140-1715-3

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Trichloroethene | 0.44 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.5 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-PS-20140717 — Lab Sample ID: 140-1715-4

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.070 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.086 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.044 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.62 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.48 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.56 | B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.17 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.061 | J | 0.20 | 0.061 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.46 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.31 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.54 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.44 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.54 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.4 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.9 | B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.72 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| o-Xylene | 0.26 | J | 0.87 | 0.26 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.7 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.7 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-05-SU-PS-20140717 — Lab Sample ID: 140-1715-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.072 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.074 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.045 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.52 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.49 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.46 | J B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.18 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.57 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.045 | J | 0.20 | 0.036 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.55 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.43 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.46 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.1 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Detection Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Client Sample ID: WAA-05-SU-PS-20140717 (Continued) — Lab Sample ID: 140-1715-5

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | 2.4 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.6 | J B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.76 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 2.2 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichloroethene | 0.24 | J | 1.1 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-04-SU-DU-20140717 — Lab Sample ID: 140-1715-6

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.078 | J | 0.20 | 0.031 | ppb v/v | 1 | | TO-15 | Total/NA |
| Benzene | 0.13 | J | 0.20 | 0.056 | ppb v/v | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.13 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloroform | 0.046 | J | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Chloromethane | 0.84 | | 0.50 | 0.16 | ppb v/v | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 0.49 | | 0.20 | 0.068 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.71 | B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.14 | J | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Toluene | 0.44 | | 0.20 | 0.12 | ppb v/v | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 0.30 | | 0.20 | 0.024 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.60 | J | 1.5 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Benzene | 0.42 | J | 0.64 | 0.18 | ug/m3 | 1 | | TO-15 | Total/NA |
| Carbon tetrachloride | 0.84 | J | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloroform | 0.23 | J | 0.98 | 0.19 | ug/m3 | 1 | | TO-15 | Total/NA |
| Chloromethane | 1.7 | | 1.0 | 0.33 | ug/m3 | 1 | | TO-15 | Total/NA |
| Dichlorodifluoromethane | 2.4 | | 0.99 | 0.34 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 2.5 | B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| m-Xylene & p-Xylene | 0.63 | J | 0.87 | 0.52 | ug/m3 | 1 | | TO-15 | Total/NA |
| Toluene | 1.6 | | 0.75 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |
| Trichlorofluoromethane | 1.7 | | 1.1 | 0.13 | ug/m3 | 1 | | TO-15 | Total/NA |

## Client Sample ID: WAA-00-SU-TB-20140717 — Lab Sample ID: 140-1715-7

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | 0.21 | | 0.20 | 0.038 | ppb v/v | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 0.29 | J B | 0.50 | 0.13 | ppb v/v | 1 | | TO-15 | Total/NA |

| Analyte | Result | Qualifier | RL | MDL | Unit | Dil Fac | D | Method | Prep Type |
|---|---|---|---|---|---|---|---|---|---|
| Carbon tetrachloride | 1.3 | | 1.3 | 0.24 | ug/m3 | 1 | | TO-15 | Total/NA |
| Methylene Chloride | 1.0 | J B | 1.7 | 0.45 | ug/m3 | 1 | | TO-15 | Total/NA |

This Detection Summary does not include radiochemical test results.

# Client Sample Results

Client. Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

**Client Sample ID: WAA-02-SU-PS-20140717**
Date Collected: 07/17/14 14:15
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1715-2**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.078** | **J** | 0.20 | 0.031 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **Benzene** | **0.11** | **J** | 0.20 | 0.056 | ppb v/v | | | 07/22/14 18:52 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/22/14 18:52 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **Carbon tetrachloride** | ~~**0.092**~~ | ~~**J**~~ U | 0.20 | 0.038 | ppb v/v | | | 07/22/14 18:52 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/22/14 18:52 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **Chloroform** | **0.11** | **J** | 0.20 | 0.038 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **Chloromethane** | **0.73** | | 0.50 | 0.16 | ppb v/v | | | 07/22/14 18:52 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/22/14 18:52 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **Dichlorodifluoromethane** | **0.53** | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 18:52 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 18:52 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/22/14 18:52 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **Methylene Chloride** | **0.59** | ~~**B**~~ | 0.50 | 0.13 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **m-Xylene & p-Xylene** | **0.12** | **J** | 0.20 | 0.12 | ppb v/v | | | 07/22/14 18:52 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 18:52 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/22/14 18:52 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **Toluene** | **0.41** | | 0.20 | 0.12 | ppb v/v | | | 07/22/14 18:52 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **Trichloroethene** | **0.061** | **J** | 0.20 | 0.036 | ppb v/v | | | 07/22/14 18:52 | 1 |
| **Trichlorofluoromethane** | **0.25** | | 0.20 | 0.024 | ppb v/v | | | 07/22/14 18:52 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/22/14 18:52 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.59** | **J** | 1.5 | 0.24 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/22/14 18:52 | 1 |

LHVE 30 July 2014

## Client Sample ID: WAA-02-SU-PS-20140717

Lab Sample ID: 140-1715-2
Matrix: Air

Date Collected: 07/17/14 14:15
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **Benzene** | **0.36** | **J** | 0.64 | 0.18 | ug/m3 | | | 07/22/14 18:52 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/22/14 18:52 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **Carbon tetrachloride** | ~~**0.58**~~ ~~**J**~~ U | | 1.3 | 0.24 | ug/m3 | | | 07/22/14 18:52 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/22/14 18:52 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **Chloroform** | **0.52** | **J** | 0.98 | 0.19 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **Chloromethane** | **1.5** | | 1.0 | 0.33 | ug/m3 | | | 07/22/14 18:52 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/22/14 18:52 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **Dichlorodifluoromethane** | **2.6** | | 0.99 | 0.34 | ug/m3 | | | 07/22/14 18:52 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/22/14 18:52 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/22/14 18:52 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **Methylene Chloride** | **2.1** | ~~**B**~~ | 1.7 | 0.45 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **m-Xylene & p-Xylene** | **0.54** | **J** | 0.87 | 0.52 | ug/m3 | | | 07/22/14 18:52 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/22/14 18:52 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/22/14 18:52 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **Toluene** | **1.6** | | 0.75 | 0.45 | ug/m3 | | | 07/22/14 18:52 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **Trichloroethene** | **0.33** | **J** | 1.1 | 0.19 | ug/m3 | | | 07/22/14 18:52 | 1 |
| **Trichlorofluoromethane** | **1.4** | | 1.1 | 0.13 | ug/m3 | | | 07/22/14 18:52 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/22/14 18:52 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *96* | | *60 - 140* | | *07/22/14 18:52* | *1* |

## Client Sample ID: WAA-03-SU-PS-20140717

Lab Sample ID: 140-1715-3
Matrix: Air

Date Collected: 07/17/14 12:51
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroetha ne** | **0.078** | **J** | 0.20 | 0.031 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/22/14 19:41 | 1 |

HVG 30 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

Client Sample ID: WAA-03-SU-PS-20140717
Date Collected: 07/17/14 12:51
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

Lab Sample ID: 140-1715-3
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Benzene** | **0.14** | J | 0.20 | 0.056 | ppb v/v | | | 07/22/14 19:41 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/22/14 19:41 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Carbon tetrachloride** | ~~**0.081**~~ | ~~J~~ U | 0.20 | 0.038 | ppb v/v | | | 07/22/14 19:41 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Chloroethane** | **0.12** | J | 0.20 | 0.035 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Chloroform** | **0.16** | J | 0.20 | 0.038 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Chloromethane** | **1.1** | | 0.50 | 0.16 | ppb v/v | | | 07/22/14 19:41 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/22/14 19:41 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Dichlorodifluoromethane** | **0.49** | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 19:41 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 19:41 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/22/14 19:41 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Methylene Chloride** | **0.64** | ~~B~~ | 0.50 | 0.13 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **m-Xylene & p-Xylene** | **0.16** | J | 0.20 | 0.12 | ppb v/v | | | 07/22/14 19:41 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 19:41 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/22/14 19:41 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Toluene** | **0.54** | | 0.20 | 0.12 | ppb v/v | | | 07/22/14 19:41 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Trichloroethene** | **0.081** | J | 0.20 | 0.036 | ppb v/v | | | 07/22/14 19:41 | 1 |
| **Trichlorofluoromethane** | **0.27** | | 0.20 | 0.024 | ppb v/v | | | 07/22/14 19:41 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/22/14 19:41 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.60** | J | 1.5 | 0.24 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/22/14 19:41 | 1 |

HVE 30 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Client Sample ID: WAA-03-SU-PS-20140717

Lab Sample ID: 140-1715-3
Matrix: Air

Date Collected: 07/17/14 12:51
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Benzene** | 0.46 | J | 0.64 | 0.18 | ug/m3 | | | 07/22/14 19:41 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/22/14 19:41 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Carbon tetrachloride** | ~~0.51~~ | ~~J~~ U | 1.3 | 0.24 | ug/m3 | | | 07/22/14 19:41 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Chloroethane** | 0.31 | J | 0.53 | 0.092 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Chloroform** | 0.78 | J | 0.98 | 0.19 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Chloromethane** | 2.2 | | 1.0 | 0.33 | ug/m3 | | | 07/22/14 19:41 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/22/14 19:41 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Dichlorodifluoromethane** | 2.4 | | 0.99 | 0.34 | ug/m3 | | | 07/22/14 19:41 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/22/14 19:41 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/22/14 19:41 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Methylene Chloride** | 2.2 | ~~B~~ | 1.7 | 0.45 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **m-Xylene & p-Xylene** | 0.71 | J | 0.87 | 0.52 | ug/m3 | | | 07/22/14 19:41 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/22/14 19:41 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/22/14 19:41 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Toluene** | 2.0 | | 0.75 | 0.45 | ug/m3 | | | 07/22/14 19:41 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Trichloroethene** | 0.44 | J | 1.1 | 0.19 | ug/m3 | | | 07/22/14 19:41 | 1 |
| **Trichlorofluoromethane** | 1.5 | | 1.1 | 0.13 | ug/m3 | | | 07/22/14 19:41 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/22/14 19:41 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *99* | | *60 - 140* | | *07/22/14 19:41* | *1* |

## Client Sample ID: WAA-04-SU-PS-20140717

Lab Sample ID: 140-1715-4
Matrix: Air

Date Collected: 07/17/14 13:38
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | 0.070 | J | 0.20 | 0.031 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 20:31 | 1 |

HVE 30 Jul 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

**Client Sample ID: WAA-04-SU-PS-20140717**
Date Collected: 07/17/14 13:38
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1715-4**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **Benzene** | **0.14** | J | 0.20 | 0.056 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **Carbon tetrachloride** | ~~0.086~~ | ~~J~~ U | 0.20 | 0.038 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **Chloroform** | **0.044** | J | 0.20 | 0.038 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **Chloromethane** | **0.62** | | 0.50 | 0.16 | ppb v/v | | | 07/22/14 20:31 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/22/14 20:31 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **Dichlorodifluoromethane** | **0.48** | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 20:31 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **Methylene Chloride** | **0.56** | B | 0.50 | 0.13 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **m-Xylene & p-Xylene** | **0.17** | J | 0.20 | 0.12 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **o-Xylene** | **0.061** | J | 0.20 | 0.061 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **Toluene** | **0.46** | | 0.20 | 0.12 | ppb v/v | | | 07/22/14 20:31 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/22/14 20:31 | 1 |
| **Trichlorofluoromethane** | **0.31** | | 0.20 | 0.024 | ppb v/v | | | 07/22/14 20:31 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/22/14 20:31 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/22/14 20:31 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.54** | J | 1.5 | 0.24 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Benzene | 0.44 | J | 0.64 | 0.18 | ug/m3 | | | 07/22/14 20:31 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Client Sample ID: WAA-04-SU-PS-20140717

Lab Sample ID: 140-1715-4
Matrix: Air

Date Collected: 07/17/14 13:38
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Carbon tetrachloride | ~~0.64~~ ~~J~~ U | | 1.3 | 0.24 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Chloromethane | 1.3 | | 1.0 | 0.33 | ug/m3 | | | 07/22/14 20:31 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/22/14 20:31 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Dichlorodifluoromethane | 2.4 | | 0.99 | 0.34 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/22/14 20:31 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Methylene Chloride | 1.9 | ~~B~~ | 1.7 | 0.45 | ug/m3 | | | 07/22/14 20:31 | 1 |
| m-Xylene & p-Xylene | 0.72 | J | 0.87 | 0.52 | ug/m3 | | | 07/22/14 20:31 | 1 |
| o-Xylene | 0.26 | J | 0.87 | 0.26 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Toluene | 1.7 | | 0.75 | 0.45 | ug/m3 | | | 07/22/14 20:31 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Trichlorofluoromethane | 1.7 | | 1.1 | 0.13 | ug/m3 | | | 07/22/14 20:31 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/22/14 20:31 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *60 - 140* | | *07/22/14 20:31* | *1* |

## Client Sample ID: WAA-05-SU-PS-20140717

Lab Sample ID: 140-1715-5
Matrix: Air

Date Collected: 07/17/14 15:00
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.072 | J | 0.20 | 0.031 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 21:22 | 1 |

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7/28/2014

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

**Client Sample ID: WAA-05-SU-PS-20140717**
Date Collected: 07/17/14 15:00
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1715-5**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Benzene | 0.14 | J | 0.20 | 0.056 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Carbon tetrachloride | ~~0.074 J~~ U | | 0.20 | 0.038 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Chloroform | 0.045 | J | 0.20 | 0.038 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Chloromethane | 0.52 | | 0.50 | 0.16 | ppb v/v | | | 07/22/14 21:22 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/22/14 21:22 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Dichlorodifluoromethane | 0.49 | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 21:22 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Methylene Chloride | ~~0.48 J B~~ U | | 0.50 | 0.13 | ppb v/v | | | 07/22/14 21:22 | 1 |
| m-Xylene & p-Xylene | 0.18 | J | 0.20 | 0.12 | ppb v/v | | | 07/22/14 21:22 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Toluene | 0.57 | | 0.20 | 0.12 | ppb v/v | | | 07/22/14 21:22 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Trichloroethene | 0.045 | J | 0.20 | 0.036 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Trichlorofluoromethane | 0.25 | | 0.20 | 0.024 | ppb v/v | | | 07/22/14 21:22 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/22/14 21:22 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.55 | J | 1.5 | 0.24 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Benzene | 0.43 | J | 0.64 | 0.18 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Carbon tetrachloride | ~~0.46 J~~ U | | 1.3 | 0.24 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/22/14 21:22 | 1 |

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# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Client Sample ID: WAA-05-SU-PS-20140717

Lab Sample ID: 140-1715-5
Matrix: Air

Date Collected: 07/17/14 15:00
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chloroform | 0.22 | J | 0.98 | 0.19 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Chloromethane | 1.1 | | 1.0 | 0.33 | ug/m3 | | | 07/22/14 21:22 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/22/14 21:22 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Dichlorodifluoromethane | 2.4 | | 0.99 | 0.34 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/22/14 21:22 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Methylene Chloride | ~~1.6~~ ~~JB~~ U | | 1.7 | 0.45 | ug/m3 | | | 07/22/14 21:22 | 1 |
| m-Xylene & p-Xylene | 0.76 | J | 0.87 | 0.52 | ug/m3 | | | 07/22/14 21:22 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Toluene | 2.2 | | 0.75 | 0.45 | ug/m3 | | | 07/22/14 21:22 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Trichloroethene | 0.24 | J | 1.1 | 0.19 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Trichlorofluoromethane | 1.4 | | 1.1 | 0.13 | ug/m3 | | | 07/22/14 21:22 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/22/14 21:22 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *95* | | *60 - 140* | | *07/22/14 21:22* | *1* |

## Client Sample ID: WAA-04-SU-DU-20140717

Lab Sample ID: 140-1715-6
Matrix: Air

Date Collected: 07/17/14 13:38
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 0.078 | J | 0.20 | 0.031 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Benzene | 0.13 | J | 0.20 | 0.056 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Carbon tetrachloride | ~~0.13~~ ~~J~~ U | | 0.20 | 0.038 | ppb v/v | | | 07/22/14 22:11 | 1 |

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TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

**Client Sample ID: WAA-04-SU-DU-20140717**
Date Collected: 07/17/14 13:38
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1715-6**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/22/14 22:11 | 1 |
| **Chloroform** | **0.046** | J | 0.20 | 0.038 | ppb v/v | | | 07/22/14 22:11 | 1 |
| **Chloromethane** | **0.84** | | 0.50 | 0.16 | ppb v/v | | | 07/22/14 22:11 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/22/14 22:11 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/22/14 22:11 | 1 |
| **Dichlorodifluoromethane** | **0.49** | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 22:11 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/22/14 22:11 | 1 |
| **Methylene Chloride** | **0.71** | ~~B~~ | 0.50 | 0.13 | ppb v/v | | | 07/22/14 22:11 | 1 |
| **m-Xylene & p-Xylene** | **0.14** | J | 0.20 | 0.12 | ppb v/v | | | 07/22/14 22:11 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/22/14 22:11 | 1 |
| **Toluene** | **0.44** | | 0.20 | 0.12 | ppb v/v | | | 07/22/14 22:11 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/22/14 22:11 | 1 |
| **Trichlorofluoromethane** | **0.30** | | 0.20 | 0.024 | ppb v/v | | | 07/22/14 22:11 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/22/14 22:11 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/22/14 22:11 | 1 |
| **1,1,2-Trichloro-1,2,2-trifluoroethane** | **0.60** | J | 1.5 | 0.24 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/22/14 22:11 | 1 |
| **Benzene** | **0.42** | J | 0.64 | 0.18 | ug/m3 | | | 07/22/14 22:11 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/22/14 22:11 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/22/14 22:11 | 1 |
| **Carbon tetrachloride** | ~~0.84~~ ~~J~~ U | | 1.3 | 0.24 | ug/m3 | | | 07/22/14 22:11 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/22/14 22:11 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/22/14 22:11 | 1 |
| **Chloroform** | **0.23** | J | 0.98 | 0.19 | ug/m3 | | | 07/22/14 22:11 | 1 |
| **Chloromethane** | **1.7** | | 1.0 | 0.33 | ug/m3 | | | 07/22/14 22:11 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/22/14 22:11 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/22/14 22:11 | 1 |
| **Dichlorodifluoromethane** | **2.4** | | 0.99 | 0.34 | ug/m3 | | | 07/22/14 22:11 | 1 |

HVE 30 Jul 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Client Sample ID: WAA-04-SU-DU-20140717

Lab Sample ID: 140-1715-6
Matrix: Air

Date Collected: 07/17/14 13:38
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/22/14 22:11 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/22/14 22:11 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/22/14 22:11 | 1 |
| **Methylene Chloride** | **2.5** | B | 1.7 | 0.45 | ug/m3 | | | 07/22/14 22:11 | 1 |
| m-Xylene & p-Xylene | **0.63** | J | 0.87 | 0.52 | ug/m3 | | | 07/22/14 22:11 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/22/14 22:11 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/22/14 22:11 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/22/14 22:11 | 1 |
| **Toluene** | **1.6** | | 0.75 | 0.45 | ug/m3 | | | 07/22/14 22:11 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/22/14 22:11 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/22/14 22:11 | 1 |
| **Trichlorofluoromethane** | **1.7** | | 1.1 | 0.13 | ug/m3 | | | 07/22/14 22:11 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/22/14 22:11 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *97* | | *60 - 140* | | *07/22/14 22:11* | *1* |

## Client Sample ID: WAA-00-SU-TB-20140717

Lab Sample ID: 140-1715-7
Matrix: Air

Date Collected: 07/17/14 15:30
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

### Method: TO-15 - Volatile Organic Compounds in Ambient Air

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 18:03 | 1 |
| **Carbon tetrachloride** | **0.21** | | 0.20 | 0.038 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 07/22/14 18:03 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/22/14 18:03 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/22/14 18:03 | 1 |

HVE 30 Jul 14

# Client Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

**Client Sample ID: WAA-00-SU-TB-20140717**
Date Collected: 07/17/14 15:30
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

**Lab Sample ID: 140-1715-7**
Matrix: Air

**Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)**

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 18:03 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/22/14 18:03 | 1 |
| **Methylene Chloride** | ~~0.29 J B~~ U | | 0.50 | 0.13 | ppb v/v | | | 07/22/14 18:03 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/22/14 18:03 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/22/14 18:03 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 07/22/14 18:03 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/22/14 18:03 | 1 |

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/22/14 18:03 | 1 |
| **Carbon tetrachloride** | **1.3** | | 1.3 | 0.24 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 07/22/14 18:03 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/22/14 18:03 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/22/14 18:03 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/22/14 18:03 | 1 |
| **Methylene Chloride** | ~~1.0 J B~~ U | | 1.7 | 0.45 | ug/m3 | | | 07/22/14 18:03 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 07/22/14 18:03 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/22/14 18:03 | 1 |

HVE 30 Jul 14

TestAmerica Knoxville

# Client Sample Results

Client: Tetra Tech EM Inc
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Client Sample ID: WAA-00-SU-TB-20140717

Lab Sample ID: 140-1715-7

Date Collected: 07/17/14 15:30
Date Received: 07/22/14 10:00
Sample Container: Summa Canister 6L

Matrix: Air

### Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

| Analyte | Result | Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 07/22/14 18:03 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 07/22/14 18:03 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/22/14 18:03 | 1 |

| *Surrogate* | *%Recovery* | *Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *93* | | *60 - 140* | | *07/22/14 18:03* | *1* |

HVG
30 Jul 14

# Surrogate Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Matrix: Air** **Prep Type: Total/NA**

| | | Percent Surrogate Recovery (Acceptance Limits) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | BFB | | | | | | |
| **Lab Sample ID** | **Client Sample ID** | **(60-140)** | | | | | | |
| 140-1715-2 | WAA-02-SU-PS-20140717 | 96 | | | | | | |
| 140-1715-3 | WAA-03-SU-PS-20140717 | 99 | | | | | | |
| 140-1715-4 | WAA-04-SU-PS-20140717 | 97 | | | | | | |
| 140-1715-5 | WAA-05-SU-PS-20140717 | 95 | | | | | | |
| 140-1715-6 | WAA-04-SU-DU-20140717 | 97 | | | | | | |
| 140-1715-7 | WAA-00-SU-TB-20140717 | 93 | | | | | | |
| LCS 140-1484/1002 | Lab Control Sample | 100 | | | | | | |
| MB 140-1484/4 | Method Blank | 93 | | | | | | |

**Surrogate Legend**

BFB = 4-Bromofluorobenzene (Surr)

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air

**Lab Sample ID: MB 140-1484/4**
**Matrix: Air**
**Analysis Batch: 1484**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 0.20 | 0.030 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 0.20 | 0.031 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,1,2-Trichloroethane | ND | | 0.20 | 0.054 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,1-Dichloroethane | ND | | 0.20 | 0.026 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,1-Dichloroethene | ND | | 0.20 | 0.034 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 1.0 | 0.098 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,2,4-Trimethylbenzene | ND | | 0.20 | 0.063 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,2-Dichlorobenzene | ND | | 0.20 | 0.070 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,2-Dichloroethane | ND | | 0.20 | 0.047 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,2-Dichloropropane | ND | | 0.20 | 0.052 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,3-Dichlorobenzene | ND | | 0.20 | 0.065 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,4-Dichlorobenzene | ND | | 0.20 | 0.064 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Benzene | ND | | 0.20 | 0.056 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Benzyl chloride | ND | | 0.40 | 0.078 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Bromomethane | ND | | 0.20 | 0.032 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Carbon tetrachloride | ND | | 0.20 | 0.038 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Chlorobenzene | ND | | 0.20 | 0.049 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Chloroethane | ND | | 0.20 | 0.035 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Chloroform | ND | | 0.20 | 0.038 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Chloromethane | ND | | 0.50 | 0.16 | ppb v/v | | | 07/22/14 17:13 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.20 | 0.060 | ppb v/v | | | 07/22/14 17:13 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.20 | 0.074 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Dichlorodifluoromethane | ND | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Ethylbenzene | ND | | 0.20 | 0.068 | ppb v/v | | | 07/22/14 17:13 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 0.20 | 0.044 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Hexachlorobutadiene | ND | | 1.0 | 0.078 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Methylene Chloride | 0.142 | J | 0.50 | 0.13 | ppb v/v | | | 07/22/14 17:13 | 1 |
| m-Xylene & p-Xylene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/22/14 17:13 | 1 |
| o-Xylene | ND | | 0.20 | 0.061 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Styrene | ND | | 0.20 | 0.058 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Tetrachloroethene | ND | | 0.20 | 0.040 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Toluene | ND | | 0.20 | 0.12 | ppb v/v | | | 07/22/14 17:13 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.20 | 0.048 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Trichloroethene | ND | | 0.20 | 0.036 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Trichlorofluoromethane | ND | | 0.20 | 0.024 | ppb v/v | | | 07/22/14 17:13 | 1 |
| Vinyl chloride | ND | | 0.20 | 0.071 | ppb v/v | | | 07/22/14 17:13 | 1 |

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | ND | | 1.1 | 0.16 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,1,2,2-Tetrachloroethane | ND | | 1.4 | 0.42 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | ND | | 1.5 | 0.24 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,1,2-Trichloroethane | ND | | 1.1 | 0.29 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,1-Dichloroethane | ND | | 0.81 | 0.11 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,1-Dichloroethene | ND | | 0.79 | 0.13 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,2,4-Trichlorobenzene | ND | | 7.4 | 0.73 | ug/m3 | | | 07/22/14 17:13 | 1 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: MB 140-1484/4**
**Matrix: Air**
**Analysis Batch: 1484**

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

| Analyte | MB Result | MB Qualifier | RL | MDL | Unit | D | Prepared | Analyzed | Dil Fac |
|---|---|---|---|---|---|---|---|---|---|
| 1,2,4-Trimethylbenzene | ND | | 0.98 | 0.31 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | ND | | 1.4 | 0.22 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,2-Dichlorobenzene | ND | | 1.2 | 0.42 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,2-Dichloroethane | ND | | 0.81 | 0.19 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,2-Dichloropropane | ND | | 0.92 | 0.24 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,3,5-Trimethylbenzene | ND | | 0.98 | 0.32 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,3-Dichlorobenzene | ND | | 1.2 | 0.39 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,4-Dichlorobenzene | ND | | 1.2 | 0.38 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Benzene | ND | | 0.64 | 0.18 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Benzyl chloride | ND | | 2.1 | 0.40 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Bromomethane | ND | | 0.78 | 0.12 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Carbon tetrachloride | ND | | 1.3 | 0.24 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Chlorobenzene | ND | | 0.92 | 0.23 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Chloroethane | ND | | 0.53 | 0.092 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Chloroform | ND | | 0.98 | 0.19 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Chloromethane | ND | | 1.0 | 0.33 | ug/m3 | | | 07/22/14 17:13 | 1 |
| cis-1,2-Dichloroethene | ND | | 0.79 | 0.24 | ug/m3 | | | 07/22/14 17:13 | 1 |
| cis-1,3-Dichloropropene | ND | | 0.91 | 0.34 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Dichlorodifluoromethane | ND | | 0.99 | 0.34 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Ethylbenzene | ND | | 0.87 | 0.30 | ug/m3 | | | 07/22/14 17:13 | 1 |
| 1,2-Dibromoethane (EDB) | ND | | 1.5 | 0.34 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Hexachlorobutadiene | ND | | 11 | 0.83 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Methylene Chloride | 0.494 | J | 1.7 | 0.45 | ug/m3 | | | 07/22/14 17:13 | 1 |
| m-Xylene & p-Xylene | ND | | 0.87 | 0.52 | ug/m3 | | | 07/22/14 17:13 | 1 |
| o-Xylene | ND | | 0.87 | 0.26 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Styrene | ND | | 0.85 | 0.25 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Tetrachloroethene | ND | | 1.4 | 0.27 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Toluene | ND | | 0.75 | 0.45 | ug/m3 | | | 07/22/14 17:13 | 1 |
| trans-1,3-Dichloropropene | ND | | 0.91 | 0.22 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Trichloroethene | ND | | 1.1 | 0.19 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Trichlorofluoromethane | ND | | 1.1 | 0.13 | ug/m3 | | | 07/22/14 17:13 | 1 |
| Vinyl chloride | ND | | 0.51 | 0.18 | ug/m3 | | | 07/22/14 17:13 | 1 |

| *Surrogate* | *MB %Recovery* | *MB Qualifier* | *Limits* | *Prepared* | *Analyzed* | *Dil Fac* |
|---|---|---|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *93* | | *60 - 140* | | *07/22/14 17:13* | *1* |

**Lab Sample ID: LCS 140-1484/1002**
**Matrix: Air**
**Analysis Batch: 1484**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 2.00 | 2.04 | | ppb v/v | | 102 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 2.00 | 2.15 | | ppb v/v | | 108 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroetha ne | 2.00 | 1.97 | | ppb v/v | | 98 | 70 - 130 |
| 1,1,2-Trichloroethane | 2.00 | 2.06 | | ppb v/v | | 103 | 70 - 130 |
| 1,1-Dichloroethane | 2.00 | 1.98 | | ppb v/v | | 99 | 70 - 130 |
| 1,1-Dichloroethene | 2.00 | 1.92 | | ppb v/v | | 96 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1484/1002**
**Matrix: Air**
**Analysis Batch: 1484**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2,4-Trichlorobenzene | 2.00 | 2.02 | | ppb v/v | | 101 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 2.00 | 2.32 | | ppb v/v | | 116 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 2.00 | 1.92 | | ppb v/v | | 96 | 60 - 140 |
| 1,2-Dichlorobenzene | 2.00 | 2.20 | | ppb v/v | | 110 | 70 - 130 |
| 1,2-Dichloroethane | 2.00 | 2.02 | | ppb v/v | | 101 | 70 - 130 |
| 1,2-Dichloropropane | 2.00 | 1.93 | | ppb v/v | | 97 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 2.00 | 2.25 | | ppb v/v | | 112 | 70 - 130 |
| 1,3-Dichlorobenzene | 2.00 | 2.17 | | ppb v/v | | 108 | 70 - 130 |
| 1,4-Dichlorobenzene | 2.00 | 2.17 | | ppb v/v | | 109 | 70 - 130 |
| Benzene | 2.00 | 1.93 | | ppb v/v | | 96 | 70 - 130 |
| Benzyl chloride | 2.00 | 2.26 | | ppb v/v | | 113 | 70 - 130 |
| Bromomethane | 2.00 | 1.91 | | ppb v/v | | 96 | 70 - 130 |
| Carbon tetrachloride | 2.00 | 2.33 | | ppb v/v | | 117 | 70 - 130 |
| Chlorobenzene | 2.00 | 2.13 | | ppb v/v | | 106 | 70 - 130 |
| Chloroethane | 2.00 | 1.93 | | ppb v/v | | 97 | 70 - 130 |
| Chloroform | 2.00 | 1.99 | | ppb v/v | | 100 | 70 - 130 |
| Chloromethane | 2.00 | 2.44 | | ppb v/v | | 122 | 60 - 140 |
| cis-1,2-Dichloroethene | 2.00 | 1.99 | | ppb v/v | | 100 | 70 - 130 |
| cis-1,3-Dichloropropene | 2.00 | 2.10 | | ppb v/v | | 105 | 70 - 130 |
| Dichlorodifluoromethane | 2.00 | 2.09 | | ppb v/v | | 105 | 60 - 140 |
| Ethylbenzene | 2.00 | 2.27 | | ppb v/v | | 113 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 2.00 | 2.12 | | ppb v/v | | 106 | 70 - 130 |
| Hexachlorobutadiene | 2.00 | 2.21 | | ppb v/v | | 110 | 60 - 140 |
| Methylene Chloride | 2.00 | 1.90 | | ppb v/v | | 95 | 70 - 130 |
| m-Xylene & p-Xylene | 4.00 | 4.66 | | ppb v/v | | 117 | 70 - 130 |
| o-Xylene | 2.00 | 2.24 | | ppb v/v | | 112 | 70 - 130 |
| Styrene | 2.00 | 2.29 | | ppb v/v | | 114 | 70 - 130 |
| Tetrachloroethene | 2.00 | 2.21 | | ppb v/v | | 110 | 70 - 130 |
| Toluene | 2.00 | 2.16 | | ppb v/v | | 108 | 70 - 130 |
| trans-1,3-Dichloropropene | 2.00 | 2.16 | | ppb v/v | | 108 | 70 - 130 |
| Trichloroethene | 2.00 | 2.05 | | ppb v/v | | 103 | 70 - 130 |
| Trichlorofluoromethane | 2.00 | 1.86 | | ppb v/v | | 93 | 60 - 140 |
| Vinyl chloride | 2.00 | 1.94 | | ppb v/v | | 97 | 70 - 130 |

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | 11 | 11.1 | | ug/m3 | | 102 | 70 - 130 |
| 1,1,2,2-Tetrachloroethane | 14 | 14.8 | | ug/m3 | | 108 | 70 - 130 |
| 1,1,2-Trichloro-1,2,2-trifluoroethane | 15 | 15.1 | | ug/m3 | | 98 | 70 - 130 |
| 1,1,2-Trichloroethane | 11 | 11.2 | | ug/m3 | | 103 | 70 - 130 |
| 1,1-Dichloroethane | 8.1 | 8.02 | | ug/m3 | | 99 | 70 - 130 |
| 1,1-Dichloroethene | 7.9 | 7.59 | | ug/m3 | | 96 | 70 - 130 |
| 1,2,4-Trichlorobenzene | 15 | 15.0 | | ug/m3 | | 101 | 60 - 140 |
| 1,2,4-Trimethylbenzene | 9.8 | 11.4 | | ug/m3 | | 116 | 70 - 130 |
| 1,2-Dichloro-1,1,2,2-tetrafluoroethane | 14 | 13.4 | | ug/m3 | | 96 | 60 - 140 |
| 1,2-Dichlorobenzene | 12 | 13.2 | | ug/m3 | | 110 | 70 - 130 |
| 1,2-Dichloroethane | 8.1 | 8.16 | | ug/m3 | | 101 | 70 - 130 |

# QC Sample Results

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Method: TO-15 - Volatile Organic Compounds in Ambient Air (Continued)

**Lab Sample ID: LCS 140-1484/1002**
**Matrix: Air**
**Analysis Batch: 1484**

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

| Analyte | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec. Limits |
|---|---|---|---|---|---|---|---|
| 1,2-Dichloropropane | 9.2 | 8.92 | | ug/m3 | | 97 | 70 - 130 |
| 1,3,5-Trimethylbenzene | 9.8 | 11.1 | | ug/m3 | | 112 | 70 - 130 |
| 1,3-Dichlorobenzene | 12 | 13.0 | | ug/m3 | | 108 | 70 - 130 |
| 1,4-Dichlorobenzene | 12 | 13.1 | | ug/m3 | | 109 | 70 - 130 |
| Benzene | 6.4 | 6.16 | | ug/m3 | | 96 | 70 - 130 |
| Benzyl chloride | 10 | 11.7 | | ug/m3 | | 113 | 70 - 130 |
| Bromomethane | 7.8 | 7.43 | | ug/m3 | | 96 | 70 - 130 |
| Carbon tetrachloride | 13 | 14.7 | | ug/m3 | | 117 | 70 - 130 |
| Chlorobenzene | 9.2 | 9.80 | | ug/m3 | | 106 | 70 - 130 |
| Chloroethane | 5.3 | 5.09 | | ug/m3 | | 97 | 70 - 130 |
| Chloroform | 9.8 | 9.74 | | ug/m3 | | 100 | 70 - 130 |
| Chloromethane | 4.1 | 5.05 | | ug/m3 | | 122 | 60 - 140 |
| cis-1,2-Dichloroethene | 7.9 | 7.89 | | ug/m3 | | 100 | 70 - 130 |
| cis-1,3-Dichloropropene | 9.1 | 9.53 | | ug/m3 | | 105 | 70 - 130 |
| Dichlorodifluoromethane | 9.9 | 10.3 | | ug/m3 | | 105 | 60 - 140 |
| Ethylbenzene | 8.7 | 9.84 | | ug/m3 | | 113 | 70 - 130 |
| 1,2-Dibromoethane (EDB) | 15 | 16.3 | | ug/m3 | | 106 | 70 - 130 |
| Hexachlorobutadiene | 21 | 23.6 | | ug/m3 | | 110 | 60 - 140 |
| Methylene Chloride | 6.9 | 6.60 | | ug/m3 | | 95 | 70 - 130 |
| m-Xylene & p-Xylene | 17 | 20.3 | | ug/m3 | | 117 | 70 - 130 |
| o-Xylene | 8.7 | 9.72 | | ug/m3 | | 112 | 70 - 130 |
| Styrene | 8.5 | 9.75 | | ug/m3 | | 114 | 70 - 130 |
| Tetrachloroethene | 14 | 15.0 | | ug/m3 | | 110 | 70 - 130 |
| Toluene | 7.5 | 8.13 | | ug/m3 | | 108 | 70 - 130 |
| trans-1,3-Dichloropropene | 9.1 | 9.79 | | ug/m3 | | 108 | 70 - 130 |
| Trichloroethene | 11 | 11.0 | | ug/m3 | | 103 | 70 - 130 |
| Trichlorofluoromethane | 11 | 10.4 | | ug/m3 | | 93 | 60 - 140 |
| Vinyl chloride | 5.1 | 4.95 | | ug/m3 | | 97 | 70 - 130 |

| *Surrogate* | *LCS %Recovery* | *LCS Qualifier* | *Limits* |
|---|---|---|---|
| *4-Bromofluorobenzene (Surr)* | *100* | | *60 - 140* |

# QC Association Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Air - GC/MS VOA

### Analysis Batch: 1484

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---|---|---|---|---|---|
| 140-1715-2 | WAA-02-SU-PS-20140717 | Total/NA | Air | TO-15 | |
| 140-1715-3 | WAA-03-SU-PS-20140717 | Total/NA | Air | TO-15 | |
| 140-1715-4 | WAA-04-SU-PS-20140717 | Total/NA | Air | TO-15 | |
| 140-1715-5 | WAA-05-SU-PS-20140717 | Total/NA | Air | TO-15 | |
| 140-1715-6 | WAA-04-SU-DU-20140717 | Total/NA | Air | TO-15 | |
| 140-1715-7 | WAA-00-SU-TB-20140717 | Total/NA | Air | TO-15 | |
| LCS 140-1484/1002 | Lab Control Sample | Total/NA | Air | TO-15 | |
| MB 140-1484/4 | Method Blank | Total/NA | Air | TO-15 | |

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Client Sample ID: WAA-02-SU-PS-20140717 — Lab Sample ID: 140-1715-2

**Date Collected: 07/17/14 14:15** — **Matrix: Air**
**Date Received: 07/22/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1484 | 07/22/14 18:52 | HMT | TAL KNX |

Instrument ID: ME

## Client Sample ID: WAA-03-SU-PS-20140717 — Lab Sample ID: 140-1715-3

**Date Collected: 07/17/14 12:51** — **Matrix: Air**
**Date Received: 07/22/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1484 | 07/22/14 19:41 | HMT | TAL KNX |

Instrument ID: ME

## Client Sample ID: WAA-04-SU-PS-20140717 — Lab Sample ID: 140-1715-4

**Date Collected: 07/17/14 13:38** — **Matrix: Air**
**Date Received: 07/22/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1484 | 07/22/14 20:31 | HMT | TAL KNX |

Instrument ID: ME

## Client Sample ID: WAA-05-SU-PS-20140717 — Lab Sample ID: 140-1715-5

**Date Collected: 07/17/14 15:00** — **Matrix: Air**
**Date Received: 07/22/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1484 | 07/22/14 21:22 | HMT | TAL KNX |

Instrument ID: ME

## Client Sample ID: WAA-04-SU-DU-20140717 — Lab Sample ID: 140-1715-6

**Date Collected: 07/17/14 13:38** — **Matrix: Air**
**Date Received: 07/22/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1484 | 07/22/14 22:11 | HMT | TAL KNX |

Instrument ID: ME

## Client Sample ID: WAA-00-SU-TB-20140717 — Lab Sample ID: 140-1715-7

**Date Collected: 07/17/14 15:30** — **Matrix: Air**
**Date Received: 07/22/14 10:00**

| Prep Type | Batch Type | Batch Method | Run | Dil Factor | Initial Amount | Final Amount | Batch Number | Prepared or Analyzed | Analyst | Lab |
|---|---|---|---|---|---|---|---|---|---|---|
| Total/NA | Analysis | TO-15 | | 1 | 200 mL | 500 mL | 1484 | 07/22/14 18:03 | HMT | TAL KNX |

Instrument ID: ME

# Lab Chronicle

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Certification Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

## Laboratory: TestAmerica Knoxville

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

| Authority | Program | EPA Region | Certification ID | Expiration Date |
|---|---|---|---|---|
| | AFCEE | | N/A | |
| Arkansas DEQ | State Program | 6 | 88-0688 | 06-17-15 |
| California | State Program | 9 | 2423 | 06-30-16 |
| Colorado | State Program | 8 | N/A | 02-28-15 |
| Connecticut | State Program | 1 | PH-0223 | 09-30-15 |
| Florida | NELAP | 4 | E87177 | 06-30-15 |
| Georgia | State Program | 4 | 906 | 04-13-17 |
| Hawaii | State Program | 9 | N/A | 04-13-15 |
| Iowa | State Program | 7 | 375 | 08-01-14 |
| Kansas | NELAP | 7 | E-10349 | 10-31-14 |
| Kentucky (DW) | State Program | 4 | 90101 | 12-31-14 |
| L-A-B | DoD ELAP | | L2311 | 02-13-16 |
| Louisiana | NELAP | 6 | LA110001 | 12-31-14 |
| Maryland | State Program | 3 | 277 | 03-31-15 |
| Michigan | State Program | 5 | 9933 | 04-13-17 |
| Nevada | State Program | 9 | TN00009 | 07-31-14 |
| New Jersey | NELAP | 2 | TN001 | 06-30-15 |
| New York | NELAP | 2 | 10781 | 03-31-15 |
| North Carolina (DW) | State Program | 4 | 21705 | 07-31-15 |
| North Carolina (WW/SW) | State Program | 4 | 64 | 12-31-14 |
| Ohio VAP | State Program | 5 | CL0059 | 03-26-15 |
| Oklahoma | State Program | 6 | 9415 | 08-31-14 |
| Pennsylvania | NELAP | 3 | 68-00576 | 12-31-14 |
| South Carolina | State Program | 4 | 84001 | 06-30-14 * |
| Tennessee | State Program | 4 | 2014 | 04-13-17 |
| Texas | NELAP | 6 | T104704380-TX | 08-31-14 |
| USDA | Federal | | P330-13-00260 | 08-29-16 |
| Utah | NELAP | 8 | QUAN3 | 07-31-15 |
| Virginia | NELAP | 3 | 460176 | 09-14-14 |
| Virginia | State Program | 3 | 165 | 06-30-15 |
| Washington | State Program | 10 | C593 | 01-19-15 |
| West Virginia (DW) | State Program | 3 | 9955C | 12-31-14 |
| West Virginia DEP | State Program | 3 | 345 | 04-30-15 |
| Wisconsin | State Program | 5 | 998044300 | 08-31-14 |

* Certification renewal pending - certification considered valid.

# Method Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

| Method | Method Description | Protocol | Laboratory |
|---|---|---|---|
| TO-15 | Volatile Organic Compounds in Ambient Air | EPA | TAL KNX |

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

TAL KNX = TestAmerica Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

# Sample Summary

Client: Tetra Tech EM Inc.
Project/Site: West Lake Landfill

TestAmerica Job ID: 140-1715-1

| Lab Sample ID | Client Sample ID | Matrix | Collected | Received |
|---|---|---|---|---|
| 140-1715-2 | WAA-02-SU-PS-20140717 | Air | 07/17/14 14:15 | 07/22/14 10:00 |
| 140-1715-3 | WAA-03-SU-PS-20140717 | Air | 07/17/14 12:51 | 07/22/14 10:00 |
| 140-1715-4 | WAA-04-SU-PS-20140717 | Air | 07/17/14 13:38 | 07/22/14 10:00 |
| 140-1715-5 | WAA-05-SU-PS-20140717 | Air | 07/17/14 15:00 | 07/22/14 10:00 |
| 140-1715-6 | WAA-04-SU-DU-20140717 | Air | 07/17/14 13:38 | 07/22/14 10:00 |
| 140-1715-7 | WAA-00-SU-TB-20140717 | Air | 07/17/14 15:30 | 07/22/14 10:00 |

**TestAmerica Knoxville**
5815 Middlebrook Pike

Knoxville, TN 37921
phone 865.291.3000 fax 865.584.4315

# Canister Samples Chain of Custody Record

TestAmerica Laboratories, Inc. assumes no liability with respect to the collection and shipment of these samples.

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

**TestAmerica Laboratories, Inc.**

| Client Contact Information | Project Manager: Dave Kinroth | Samples Collected By: Greg Blattner, April Halley | COC No: |
|---|---|---|---|
| Company Name: Tetra Tech Inc. | Phone: 314-517-6798 | | 1 of 1 COCs |
| Address: 415 Oak Street | Email: emily.fisher@tetratech.com | | |
| City/State/Zip: Kansas City, MO 64106 | | | For Lab Use Only: |
| Phone: 816-412-1755 | Site Contact: Dave Kinroth - 314-517-6787 | | Walk-in Client: |
| FAX: 816-410-1748 | TA Contact: Emily Fisher/Rob Monnig | | Lab Sampling: |
| Project Name: West Lake Landfill | Anaylsis Turnaround Time | | |
| Site/Location: Bridgeton, MO | Standard (Specific): | | Job / SDG No.: |
| P O # 1105352 | Rush (Specifiy): | | (See below for Add'l Items) |

| Sample Identification | Sample Date(s) | Time Start | Time Stop | Canister Vacuum in Field, 'Hg (Start)' | Canister Vacuum in Field, 'Hg (Stop)' | Flow Controller ID | Canister ID | TO-15 (Med / Std / Low / SIM) | MA-APH | EPA 3C | EPA 25C / 25.3 | ASTM D-1946 / 1945 / 3588 | EPA 15/16 | TO-3 | Other (Please specify in notes section) | Sample Type | Indoor Air | Ambient Air | Soil Gas | Landfill Gas | Other (Please specify in notes section) | Sample Specific Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WAA-01-SU-PS-20140717 | 7/16/14 - 7/17/14 | 16:28 | 15:28 | -29.1 | -21.5 | 10791 | 10627 | X | | | | | | | | | | X | | | | DO NOT ANALYZE |
| WAA-02-SU-PS-20140717 | 7/16/14 - 7/17/14 | 15:02 | 14:15 | -29.1 | -5.0 | 09850 | 10399 | X | | | | | | | | | | X | | | | |
| WAA-03-SU-PS-20140717 | 7/16/14 - 7/17/14 | 13:27 | 12:51 | -29.2 | -4.5 | 09654 | 09544 | X | | | | | | | | | | X | | | | |
| WAA-04-SU-PS-20140717 | 7/16/14 - 7/17/14 | 14:13 | 13:38 | -29.0 | -3.0 | 10873 | 10366 | X | | | | | | | | | | X | | | | |
| WAA-05-SU-PS-20140717 | 7/16/14 - 7/17/14 | 15:45 | 15:00 | -29.0 | -5.0 | 10434 | 10425 | X | | | | | | | | | | X | | | | |
| WAA-04-SU-DU-20140717 | 7/16/14 - 7/17/14 | 14:13 | 13:38 | -29.1 | -1.5 | 10301 | 10885 | X | | | | | | | | | | X | | | | |
| WAA-00-SU-TB-20140717 | 7/16/14 - 7/17/14 | 12:07 | 15:30 | -28.9 | -28.9 | 10145 | 10099 | X | | | | | | | | | | X | | | | |

140-1715 Chain of Custody

| Temperature (Fahrenheit) | Interior | Ambient |
|---|---|---|
| Start | | 77 |
| Stop | | 78.1 |

| Pressure (inches of Hg) | Interior | Ambient |
|---|---|---|
| Start | | 30.05 |
| Stop | | 30.06 |

NO CUSTODY SEALS
RECEIVED AT AMBIENT TEMP
BKD 7-22-14

2 BOXES FEDEX # 5399 0208 4184
5399 0208 4195
7 CANS / 7 FLOWS / 7 C.C

**Special Instructions/QC Requirements & Comments:** DO NOT ANALYZE sample number WAA-01-SU-PS-20140717, the cannister/flow meter clogged?

| | | |
|---|---|---|
| Samples Shipped by: | Date / Time: | Samples Received by: |
| Samples Relinquished by: Dave Kinroth | Date / Time: 7-21-14 | Received by: [illegible] 7-22-14 10:00 |
| Relinquished by: | Date / Time: | Received by: |
| Lab Use Only: Shipper Name: | Opened by: | Condition: |

Form No. CA-C-WI-003, Rev. 1.1, dated 05/14/2013



WLLFOIA4312 - 015 - 0155250
7/28/2014

# Login Sample Receipt Checklist

Client: Tetra Tech EM Inc.

Job Number: 140-1715-1

**Login Number: 1715**

**List Source: TestAmerica Knoxville**

**List Number: 1**

**Creator: Dameron, Bryan K**

| Question | Answer | Comment |
|---|---|---|
| Radioactivity wasn't checked or is </= background as measured by a survey meter. | N/A | |
| The cooler's custody seal, if present, is intact. | N/A | |
| Sample custody seals, if present, are intact. | N/A | |
| The cooler or samples do not appear to have been compromised or tampered with. | True | |
| Samples were received on ice. | N/A | |
| Cooler Temperature is acceptable. | N/A | |
| Cooler Temperature is recorded. | N/A | |
| COC is present. | True | |
| COC is filled out in ink and legible. | True | |
| COC is filled out with all pertinent information. | True | |
| Is the Field Sampler's name present on COC? | True | |
| There are no discrepancies between the containers received and the COC. | True | |
| Samples are received within Holding Time. | True | |
| Sample containers have legible labels. | True | |
| Containers are not broken or leaking. | N/A | CHECKED IN LAB |
| Sample collection date/times are provided. | True | |
| Appropriate sample containers are used. | True | |
| Sample bottles are completely filled. | N/A | |
| Sample Preservation Verified. | N/A | |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs | N/A | |
| Containers requiring zero headspace have no headspace or bubble is <6mm (1/4"). | N/A | |
| Multiphasic samples are not present. | N/A | |
| Samples do not require splitting or compositing. | N/A | |
| Residual Chlorine Checked. | N/A | |

## TestAmerica Knoxville - Air Canister Initial Pressure Check

**Gauge ID:** G1

| Analyst | Date | Sample ID | 6 L | 1 L | Pressure @ Receipt (-in Hg or +psig) | Time | Comments |
|---|---|---|---|---|---|---|---|
| AFB | 7/22/2014 | 140-1715-a-2 | X | | -4.2 | 1425 | |
| AFB | 7/22/2014 | 140-1715-a-3 | X | | -2.9 | 1426 | |
| AFB | 7/22/2014 | 140-1715-a-4 | X | | -2.8 | 1427 | |
| AFB | 7/22/2014 | 140-1715-a-5 | X | | -3.5 | 1428 | |
| AFB | 7/22/2014 | 140-1715-a-6 | X | | -2.5 | 1429 | |
| AFB | 7/22/2014 | 140-1715-a-7 | X | | -29.0 | 1430 | TRIP BLK pressed to 10 w/ N2 |