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December 18, 2014

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**Subject: Final Site Assessment Report – ECI – South Tank Farm and ECI – West Tank Farm Sites  
EPA Contract No. EP-S5-13-01  
Technical Direction Document Nos. S05-0004-1406-009; S05-0004-1408-003  
Document Tracking No. 0112**

Dear Mr. Atkociunas:

Tetra Tech Inc. (Tetra Tech) is submitting the final Site Assessment Report for the Energy Cooperative Inc. (ECI) – South Tank Farm and ECI – West Tank Farm Sites. This report summarizes sampling activities conducted on September 16, 2014, and presents analytical results obtained through these sampling efforts. Additional efforts at these sites may continue at your discretion. If additional activities are conducted, they will be summarized and results will be presented as an addendum to this report.

If you have any questions regarding this report, please call me at (440) 897-9880.

Sincerely,

A handwritten signature in black ink that reads 'Adam J. Peterca'.

Adam Peterca  
Project Manager

Enclosure

cc: Kevin Scott, Tetra Tech Program Manager  
TDD File

**FINAL SITE ASSESSMENT REPORT  
ECI – SOUTH TANK FARM AND ECI – WEST TANK FARM SITES  
EAST CHICAGO, LAKE COUNTY, INDIANA**

*Prepared for*

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## 1.0 INTRODUCTION

The U.S. Environmental Protection Agency (EPA) tasked Tetra Tech Inc. (Tetra Tech) to perform the following activities:

- Develop and implement an abbreviated sampling and analysis plan
- Collect samples of surficial soil and surface water
- Perform validation of analytical data resulting from sampling activities
- Track costs related to sampling activities
- Develop a site assessment report of completed activities

These activities were performed as part of an EPA site assessment and were authorized under Superfund Technical Assessment and Response Team (START) Contract EP-S5-13-01, Technical Direction Document (TDD) Nos. S05-0004-1406-009 and S05-0004-1408-003. The purpose of the site assessment was to document site conditions and characterize the site. The site assessment was triggered by the observed presence of oil in the Lake George Branch of the Indiana Harbor and Shipping Canal (IHSC) adjacent to the Energy Cooperative, Inc. (ECI) South Tank Farm and West Tank Farm. Oil has been observed in the canal over a period of many years, dating back to at least 1991 (U.S. Fish and Wildlife Service 2014). Visible petroleum sheen and mousse have been documented in the canal, as have fish and bird kills caused by oil fouling. East Chicago Waterway Management District is the current owner of the South Tank Farm and West Tank Farm sites.

This site assessment report documents sampling that took place at the ECI – South Tank Farm and ECI – West Tank Farm sites on September 16, 2014. The report discusses the site description and site background in Section 2.0, describes sampling activities in Section 3.0, provides a summary of analytical results in Section 4.0, provides conclusions in Section 5.0, and includes references in Section 6.0.

## 2.0 SITE BACKGROUND

This section describes the site location, the site description, and the project.

### 2.1 SITE LOCATION

#### *ECI – South Tank Farm*

The ECI – South Tank Farm site is located in an industrial area in East Chicago, Indiana. The immediate vicinity has mixed use properties including industrial, commercial, residential, and a high school. The site is bounded to the north by the Lake George Branch of the IHSC with an abandoned industrial area beyond, including a confined disposal area for sediment dredged from the IHSC in a separate U.S. Army Corps of Engineers (USACE) remediation project. It is bordered to the east by Indianapolis Boulevard with industrial facilities beyond, to the south by McShane Avenue with East Chicago Central High School beyond, and to the west by railroad tracks with industrial facilities beyond (Figures 1 and 2). The IHSC is a transportation and shipping canal that connects to both the Grand Calumet River, and Lake Michigan (by way of the Indiana Harbor). It is primarily used for shipping by industrial facilities in the area. The United States Army Corps of Engineers (USACE) is conducting remedial mechanical excavation of sediment in the Lake George Branch of the IHSC. This project is ongoing. The IHSC is also used by wildlife as a habitat corridor, with a documented history of use by waterfowl and other aquatic organisms. Death and injury to waterfowl, fish, and other organisms has been documented by the U.S. Fish and Wildlife Service in the IHSC as a result of petroleum fouling (U.S. Fish and Wildlife Service 2014).

#### *ECI – West Tank Farm*

The ECI – West Tank Farm site is located to the northwest of the ECI – South Tank Farm site, across the Lake George Branch of the IHSC. The surrounding vicinity has mixed use properties, including industrial, commercial, residential, and a high school. The site is bounded to the north by an existing ARCO/BP tank farm, to the east by a CSX railroad line, with an abandoned industrial area beyond, including a confined disposal area for sediment dredged from the IHSC by the USACE, to the south by the Lake George Branch of the IHSC, and to the west by unused industrial property (Figures 3 and 4).

### 2.2 SITE DESCRIPTION

#### *ECI – South Tank Farm*

A petroleum refinery began operation on the South Tank Farm site in 1919. The refinery was operated by a series of several successive operators, with operations on both the north and south side of the Lake

George Branch of the IHSC. ECI was the most recent operator of the refinery. Operations ceased at the ECI refinery in 1981, and ECI declared bankruptcy. As part of the bankruptcy proceedings, the South Tank Farm site was subject to studies and remedial actions. These studies indicated that the shallow groundwater beneath the site was contaminated with hydrocarbons, and that these hydrocarbons were migrating off site and into the IHSC (IDEM and ARCO/BP, 1997). In November, 2012, the EPA Emergency Response Branch was alerted to persistent sheen observed in the Lake George Branch of the IHSC. EPA personnel responded to the site to deploy sorbent booms and collect samples of oiled vegetation and sheen. Additional sampling was conducted by EPA in April through June, 2013. This sampling focused on attempting to identify the source of the oil observed in the IHSC and included an oil fingerprinting analysis conducted by the U.S. Coast Guard.

The South Tank Farm site is currently not in active use. ARCO/BP operates a passive oil collection system on the property. All tanks related to past refinery operations have been removed, and the site is generally cleared. ARCO/BP maintains a small shed or garage on the site to support site-related activities, including maintenance of the passive oil collection system. Vegetation has reclaimed portions of the site.

#### ***ECI – West Tank Farm***

The site history of the West Tank Farm site is similar to the site history of the South Tank Farm site. It was used by historical petroleum refineries dating to 1919 as a tank farm. ECI was the most recent operator of the petroleum refinery that used the West Tank Farm. The West Tank Farm was addressed by the same studies and remedial actions as the South Tank Farm as part of the ECI bankruptcy process and was also identified as a source of hydrocarbons entering the IHSC. Past EPA actions in November, 2012 and April to June, 2013 also addressed the West Tank Farm site.

The West Tank Farm site is currently not in active use. All tanks related to past refinery operations have been removed, and the site is generally cleared. Vegetation has reclaimed portions of the site.

### 3.0 SITE ACTIVITIES

On August 1, 2014, the Tetra Tech START project manager and EPA On-scene Coordinator (OSC) met on site to complete an initial site walkthrough. During this site walkthrough, Tetra Tech and EPA were accompanied by a representative from ARCADIS US Inc. (ARCADIS), the ARCO/BP environmental contractor for the ECI sites. The site walkthrough focused on identifying potential sampling locations for the collection of surface soil and surface water/sheen samples on the South Tank Farm and West Tank Farm sites. Potential sampling locations were chosen immediately adjacent to the Lake George Branch of the IHSC to most accurately assess the material being introduced to the IHSC and to allow for the collection of collocated surface soil and surface water/sheen samples. Potential sampling locations were chosen based on visual indications of contamination (dark staining in soil, visible petroleum product in soil, or heavy sheen or mousse in the IHSC), olfactory indication of contamination (petroleum odor), quantity of material available for sampling, and the ability to safely access each potential location. The quantity of material present was a concern because the northern edge of the ECI – South Tank Farm property consists of a steeply sloped bank to the IHSC, often composed of rock and rip rap. The steep slope and bank material also made safe access to sampling locations a significant concern. During this site walkthrough, Tetra Tech and EPA observed numerous locations with heavy staining of soil, petroleum odor, and heavy sheen/mousse in the Lake George Branch of the IHSC.

On September 16, 2014, Tetra Tech and EPA conducted surface soil and surface water/sheen sampling on both the ECI – South Tank Farm and ECI – West Tank Farm sites. Tetra Tech and EPA were accompanied by a representative of ARCADIS, who collected collocated surface soil and surface water/sheen samples. Further details on sampling activities and sample management activities are presented in Sections 3.1 and 3.2.

Site Figures 1 through 8 are provided in Appendix A; analytical data tables are provided in Appendix B; photographic documentation is provided as Appendix C; field notes recorded by START are provided in Appendix D; laboratory reports are provided in Appendix E; and the data validation report is provided in Appendix F.

#### 3.1 SAMPLING ACTIVITIES

Tetra Tech and EPA met on site on September 16, 2014, to collect multimedia samples to document site conditions and characterize the ECI – South Tank Farm and ECI – West Tank Farm sites and the threat they pose to the environment. Tetra Tech and EPA were accompanied by a representative of ARCADIS.

Tetra Tech and EPA conducted a site walkthrough prior to beginning sampling to identify final sampling locations. Tetra Tech and USEPA identified five sampling locations on the ECI – South Tank Farm site, and three sampling locations on the ECI – West Tank Farm Site. At each sampling location, a surface soil sample was collected near the IHSC (within approximately 3 feet of the waterline), and a surface water/sheen sample was collected from the water of the IHSC immediately adjacent to the surface soil sampling location. Sampling locations are shown in Figure 5. Table 1 presents the sample identifiers, matrices, and sampling locations.

**TABLE 1  
SAMPLE SUMMARY**

Sample Identifier	Matrix	Sampling Location
ECI-01-091614-S ECI-02-091614-S ECI-03-091614-S ECI-03-091614-S-D ECI-04-091614-S ECI-05-091614-S	Soil	Surface soil samples collected from the ECI – South Tank Farm site. Samples were collected along the southern edge of the Lake George Branch of the IHSC (includes one duplicate soil sample for QA/QC purposes)
ECI-01-091614-W ECI-02-091614-W ECI-03-091614-W ECI-03-091614-W-D ECI-04-091614-W ECI-05-091614-W	Surface Water/Sheen	Surface water/sheen samples collected from the Lake George Branch of the IHSC, immediately adjacent to the ECI – South Tank Farm site and collocated surface soil samples (includes one duplicate water sample for QA/QC purposes)
ECI-06-091614-S ECI-07-091614-S ECI-07-091614-S-D ECI-08-091614-S	Soil	Surface soil samples collected from the ECI – West Tank Farm site. Samples were collected along the northern edge of the Lake George Branch of the IHSC (includes one duplicate soil sample for QA/QC purposes)
ECI-06-091614-W ECI-07-091614-W ECI-07-091614-W-D ECI-08-091614-W	Surface Water/Sheen	Surface water/sheen samples collected from the Lake George Branch of the IHSC, immediately adjacent to the ECI – West Tank Farm site and collocated surface soil samples (includes one duplicate water sample for QA/QC purposes)

Notes:

ECI – Energy Cooperative, Inc. site  
 IHSC - Indiana Harbor and Shipping Canal  
 S – Surface Soil  
 W – Surface Water/Sheen  
 QA – Quality assurance  
 QC – Quality control

**3.1.1 Surface Soil Samples**

***ECI – South Tank Farm***

A total of five surface soil samples (ECI-01-091614-S through ECI-05-091614-S) were collected from the ECI – South Tank Farm site during the sampling event on September 16, 2014. Samples were collected along the northern border of the site, immediately adjacent to the Lake George Branch of the IHSC.

### ***ECI – West Tank Farm***

A total of three surface soil samples (ECI-06-091614-S through ECI-08-091614-S) were collected from the ECI – West Tank Farm site during the September 16, 2014 sampling event. Samples were collected along the southern border of the site, immediately adjacent to the Lake George Branch of the IHSC.

### ***Sample Collection Methods and Analysis***

All surface soil samples collected on both the ECI – South Tank Farm and ECI – West Tank Farm sites were collected from surface soil immediately adjacent to the IHSC (within approximately 3 feet of the waterline). Samples were collected from ground surface to 6 inches below ground surface. Samples were collected using a dedicated, single-use, clean plastic scoop and transferred directly into laboratory cleaned and certified bottleware for analysis of benzene, toluene, ethylbenzene, and xylene (BTEX), total petroleum hydrocarbons (TPH) including diesel-range organics (DRO), gasoline-range organics (GRO), and extended-range organics (ERO), tetraethyl lead, and oil fingerprinting. Samples to be analyzed for oil fingerprinting were assigned a secondary sample identification number, per U.S. Coast Guard preference, for simplified sample identification. Table 2 presents original sample identification, U.S. Coast Guard sample identification, and matrix of samples submitted to the U.S. Coast Guard Marine Safety Laboratory for oil fingerprinting analysis. The samples were collected in accordance with Tetra Tech Standard Operating Procedure (SOP) No. 005, “Soil Sampling” (Tetra Tech 2009a). ARCADIS also collected split samples on behalf of ARCO/BP for analysis of the constituents listed above. These split samples were collected at the same locations as Tetra Tech and USEPA samples, using similar sample collection methods and equipment. Typical split sampling procedures (homogenization) were not used based on concerns about the quantity of material available to be sampled, and concerns that mixing would cause volatilization of contaminants.

**TABLE 2  
OIL FINGERPRINTING SAMPLE SUMMARY**

<b>Sample Identifier</b>	<b>US Coast Guard Sample Identifier</b>	<b>Matrix</b>
ECI-01-091614-S	01	Surface Soil
ECI-01-091614-W	02	Sheen Net (Surface Water)
ECI-02-091614-S	03	Surface Soil
ECI-02-091614-W	04	Sheen Net (Surface Water)
ECI-03-091614-S	05	Surface Soil
ECI-03-091614-W	06	Surface Water
ECI-04-091614-S	07	Surface Soil
ECI-04-091614-W	08	Sheen Net (Surface Water)
ECI-05-091614-S	09	Surface Soil
ECI-05-091614-W	10	Sheen Net (Surface Water)
ECI-06-091614-S	11	Surface Soil
ECI-06-091614-W	12	Sheen Net (Surface Water)
ECI-07-091614-S	13	Surface Soil
ECI-07-091614-W	14	Surface Water
ECI-08-091614-S	15	Surface Soil
ECI-08-091614-W	16	Sheen Net (Surface Water)

Notes:

ECI – Energy Cooperative, Inc. site

S – Surface Soil

W – Surface Water/Sheen

### **3.1.2 Surface Water/Sheen Sampling**

#### ***ECI – South Tank Farm***

A total of five surface water/sheen samples (ECI-01-091614-W through ECI-05-091614-W) were collected from the Lake George Branch of the IHSC immediately adjacent to the ECI – South Tank Farm site. These samples were collected immediately adjacent to the surface soil samples (with similar sample nomenclature) collected on the ECI – South Tank Farm site (to the north of surface soil samples) and are considered collocated.

#### ***ECI – West Tank Farm***

A total of three surface water/sheen samples (ECI-06-091614-W through ECI-08-091614-W) were collected from the Lake George Branch of the IHSC immediately adjacent to the ECI – West Tank Farm site. These samples were collected immediately adjacent to the surface soil samples (with similar sample nomenclature) collected on the ECI – South Tank Farm site (south of surface soil samples) and are considered collocated.

### ***Sample Collection Methods and Analysis***

All surface water samples were collected from the surface of IHSC water (top 3 inches), using a dedicated, single-use, polyurethane 1-liter bottle. This bottle was submerged directly into the water of the IHSC. Where site conditions dictated, a telescopic sampling arm was used to reach surface water level. Samples were transferred from the polyurethane bottle directly into laboratory cleaned and certified bottleware for analysis of BTEX, TPH including DRO, GRO, and ERO, tetraethyl lead, and oil fingerprinting. The samples were collected in accordance with Tetra Tech SOP No. 009, “Surface Water Sampling” (Tetra Tech 2009b). At some locations, highly porous Teflon-fluorocarbon sheen nets were used to collect samples for oil fingerprinting analysis. Sheen nets were used to maximize the amount of petroleum product collected in locations where the sheen was less heavy. Sheen nets were submerged in water and rotated in a figure-eight pattern for approximately 30 seconds and then transferred directly to a laboratory cleaned and certified sampling container. A representative of ARCADIS collected collocated surface water/sheen samples on behalf of ARCO/BP to act as split samples, using similar sampling methods and equipment. These samples will be submitted for analysis for the same constituents as Tetra Tech and EPA samples.

### **3.2 SAMPLE MANAGEMENT**

All samples collected during this sampling event were handled and packaged in accordance with the Tetra Tech “Quality Assurance Project Plan (QAPP) for START” (Tetra Tech 2014). All shipping containers were properly labeled with chain-of-custody seals and were delivered with signed chain-of-custody forms and appropriate hazard warnings for laboratory personnel. In addition, Tetra Tech photographed the sites and documented activities in a logbook in accordance with Tetra Tech SOP No. 024, “Recording of Notes in Field Logbook” (Tetra Tech 2008), and Tetra Tech’s QAPP for START (Tetra Tech 2014).

All multimedia samples collected from the sites, including quality assurance and quality control (QA/QC) samples, were shipped to the following three laboratories:

- STAT Analysis Corporation in Chicago, Illinois, for BTEX and TPH analyses;
- ALS Global in Houston, Texas, for tetraethyl lead analysis;
- U.S. Coast Guard Marine Safety Laboratory in New London, Connecticut, for oil fingerprinting analysis.

## 4.0 ANALYTICAL RESULTS

Tetra Tech reviewed all surface soil and surface water/sheen sampling results. Results are summarized in the Data Summary Tables provided in Appendix B. The validated Level IV analytical data packages are provided in Appendix E, and the data validation report is provided in Appendix F. Few qualifications were required to be applied to the data, and the results may be used, as qualified, for any purpose. The required qualifications were largely a result of the nature and quantity of contamination on the site.

### 4.1 SURFACE SOIL RESULTS

The surface soil sampling results are discussed in the sections below. The surface soil analytical results are summarized in Appendix B, Tables 1 and 2.

#### 4.1.1 BTEX in Surface Soil Samples

##### *ECI – South Tank Farm*

Analytical results for the surface soil samples revealed the presence of benzene (0.015 milligrams per liter [mg/L]) on the ECI – South Tank Farm site at sampling location ECI-04-091614-S. None of the BTEX constituents (benzene, toluene, ethylbenzene, and xylene) were detected in the other surface soil samples at the ECI – South Tank Farm site.

##### *ECI – West Tank Farm*

Analytical results did not indicate the presence of any of the BTEX constituents in any of the surface soil samples collected on the ECI – West Tank Farm site.

#### 4.1.2 Tetraethyl Lead in Surface Soil Samples

Analytical results did not indicate the presence of tetraethyl lead in any of the surface soil samples collected at both the ECI – South Tank Farm and ECI – West Tank Farm sites.

#### 4.1.3 TPH (DRO, GRO, and ERO) in Surface Soil Samples

Analytical results were obtained for TPH constituents DRO, GRO, and ERO. These constituents are defined by carbon count. The following carbon count ranges were used to define each constituent during analysis: DRO measured carbon count range C12-C24; GRO measured carbon count range C6-C12; and ERO measured carbon count range C24-C36. Analytical results were compared to Indiana Department of Environmental Management (IDEM) Risk Integrated System of Closure (RISC) default closure levels for industrial soil, as published on June 14, 2010. This standard for comparison was used because it is the most recent standard published by IDEM that addresses specific constituents of TPH (DRO, GRO, and ERO). IDEM has since changed their approach to the regulation of petroleum contaminated sites, and no

longer uses TPH concentration as a criterion for site closure. Figure 6, provided in Appendix A, provides the analytical results of TPH analysis for each sampling location along with its corresponding location on a map.

### ***ECI – South Tank Farm***

Analytical results for the surface soil samples revealed elevated levels of DRO in all surface soil sampling locations on the ECI – South Tank Farm property. DRO levels ranged from a minimum of 3,700 milligrams per kilogram (mg/kg) (ECI-04-091614-S) to a maximum of 43,000 mg/kg (ECI-02-091614-S). All sampling locations exhibited levels of DRO greater than the IDEM RISC default closure level for DRO in industrial soil of 2,300 mg/kg.

Analytical results indicated the presence of GRO at all surface soil sampling locations on the ECI – South Tank Farm property. Levels of GRO ranged from a minimum of 17 mg/kg (ECI-05-091614-S) to a maximum of 360 mg/kg (ECI-03-091614-S-D). None of the samples collected exceeded the IDEM RISC default closure level for GRO in industrial soil of 1,000 mg/kg.

Analytical results indicated the presence of ERO at all surface soil sampling locations on the ECI – South Tank Farm property. ERO levels ranged from a minimum of 1,300 mg/kg (ECI-04-091614-S) to a maximum of 42,000 mg/kg (ECI-05-091614-S). The sample collected at ECI-04-0191614-S was the only sample which did not exceed the IDEM RISC default closure level for ERO in industrial soil of 2,300 mg/kg.

### ***ECI – West Tank Farm***

Analytical results for the surface soil samples revealed elevated levels of DRO in all surface soil sampling locations on the ECI – West Tank Farm property. DRO levels ranged from a minimum of 7,700 mg/kg (ECI-07-091614-S) to a maximum of 51,000 mg/kg (ECI-06-091614-S). All sampling locations exhibited levels of DRO greater than the IDEM RISC default closure level for DRO in industrial soil of 2,300 mg/kg.

Analytical results indicated the presence of GRO at all surface soil sampling locations on the ECI – West Tank Farm property. Levels of GRO ranged from a minimum of 82 mg/kg (ECI-07-091614-S-D) to a maximum of 800 mg/kg (ECI-06-091614-S). None of the samples collected exceed the IDEM RISC default closure level for GRO in industrial soil of 1,000 mg/kg.

Analytical results indicated the presence of ERO at all surface soil sampling locations on the ECI – West Tank Farm property. ERO levels ranged from a minimum of 950 mg/kg (ECI-05-091614-S) to a maximum of 9,900 mg/kg (ECI-08-091614-S). The sample collected at ECI-06-091614-S was the only sample which did not exceed the IDEM RISC default closure level for ERO in industrial soil of 2,300 mg/kg.

## **4.2 SURFACE WATER/SHEEN RESULTS**

The surface water/sheen sampling results are discussed in the sections below. The surface water/sheen analytical results are summarized in Appendix C, Tables 3 and 4.

### **4.2.1 BTEX in Surface Water/Sheen Samples**

Analytical results did not indicate the presence of any BTEX constituents in any of the surface water/sheen samples collected on both the ECI- South Tank Farm and ECI – West Tank Farm properties.

### **4.2.2 Tetraethyl Lead in Surface Water/Sheen Samples**

#### ***ECI – South Tank Farm***

Analytical results indicated the presence of tetraethyl lead in sample ECI-04-091614-W at a level of 0.60 micrograms per liter (µg/L). Tetraethyl lead was not detected in any of the other surface water/sheen samples collected on the ECI – South Tank Farm property.

#### ***ECI – West Tank Farm***

Analytical results did not indicate the presence of tetraethyl lead in any of the surface water/sheen samples collected on the ECI – West Tank Farm property.

### **4.2.3 TPH (DRO, GRO, and ERO) in Surface Water/Sheen Samples**

#### ***ECI – South Tank Farm***

Analytical results indicated the presence of DRO in all surface water/sheen samples collected on the ECI – South Tank Farm property. Levels of DRO ranged from a minimum of 5.5 mg/L (ECI-05-091614-W) to a maximum of 1,200 mg/L (ECI-04-091614-W).

Analytical results did not indicate the presence of GRO in any of the surface water/sheen samples collected on the ECI – South Tank Farm property.

Analytical results indicated the presence of ERO in all of the surface water/sheen samples collected on the ECI – South Tank Farm property. Levels of ERO ranged from a minimum of 2.8 mg/L (ECI-01-091614-W) to a maximum of 350 mg/L (ECI-04-091614-W).

#### ***ECI – West Tank Farm***

Analytical results indicated the presence of DRO in all surface water/sheen samples collected on the ECI – West Tank Farm property. Levels of DRO ranged from a minimum of 1.1 mg/L (ECI-08-091614-W) to a maximum of 170 mg/L (ECI-06-091614-W).

Analytical results did not indicate the presence of GRO in any of the surface water/sheen samples collected on the ECI – West Tank Farm property.

Analytical results indicated the presence of ERO in all of the surface water/sheen samples collected on the ECI – West Tank Farm property. Levels of ERO ranged from a minimum of 0.83 mg/L (ECI-08-091614-W) to a maximum of 3.7 mg/L (ECI-07-091614-W).

### **4.3 OIL FINGERPRINTING RESULTS**

Oil fingerprinting analysis was performed on surface soil and surface water/sheen samples from each sampling location on both the ECI – South Tank Farm and ECI – West Tank Farm sites. The analysis was performed by the U.S. Coast Guard Marine Safety Laboratory. Laboratory reports are provided in Appendix E. The analysis consisted of the comparison of gas chromatography and gas chromatography/mass spectrometry results from each sample to the other samples collected during this sampling event, as well as representative historical samples collected on the sites. The sample results were compared in accordance with U.S. Coast Guard Marine Safety Laboratory standard analytical procedures (U.S. Coast Guard Marine Safety Laboratory 2014).

#### ***ECI – South Tank Farm***

The analytical results from surface soil and surface water/sheen samples collected on the ECI – South Tank Farm site were compared with all other samples collected during the September 16, 2014, sampling event on the site, as well as to historical oil fingerprinting samples collected from the site and IHSC in April 2013 (US Coast Guard Marine Safety Laboratory 2013). A chart displaying the relationships of oil fingerprinting samples collected in this and past sampling events is provided as Figure 7 in Appendix A. Results indicated that:

- The surface soil and surface water/sheen samples from location ECI-01-091614, the surface soil and surface water/sheen samples from location ECI-02-091614, and the surface soil sample from

location ECI-03-091614 are similar to each other and contain moderately biodegraded intermediate to heavy petroleum. Differences between these samples are attributable to weathering. These samples represent different portions of the same spilled oil.

- The surface water/sheen sample from location ECI-03-091614 and the surface water/sheen sample from location ECI-04-091614 are similar to each other and contain moderately biodegraded intermediate to heavy petroleum oil. These samples represent different portions of the same spilled oil. These samples are also similar to historical samples collected from the site and the IHSC in April 2013 and are derived from a common source of petroleum oil.
- The surface soil and surface water/sheen samples collected from location ECI-05-091614 are different from all other samples collected on the site.
- The surface soil sample collected at location ECI-04-091614 contains petroleum oil, but the quantity of petroleum was insufficient for fingerprinting analysis.

#### ***ECI – West Tank Farm***

The analytical results from surface soil and surface water/sheen samples collected on the ECI – South Tank Farm site were compared with all other samples collected during the September 16, 2014, sampling event on the site, as well as to historical oil fingerprinting samples collected from the site and IHSC in April 2013 (U.S. Coast Guard Marine Safety Laboratory 2013). A chart displaying the relationships of oil fingerprinting samples collected in this and past sampling events is provided as Figure 8 in Appendix A. Results indicated that:

- The surface soil and surface water/sheen samples from location ECI-06-091614, the surface soil and surface water/sheen samples from location ECI-07-091614, and the surface soil sample from location ECI-08-091614 contain moderately biodegraded intermediate to heavy petroleum oil. The samples are similar to each other, but have some differences that are not attributable to weathering. They appear to be from a common source of petroleum oil. These samples are also similar to historical samples collected from the site and the IHSC, with some differences that are not attributable to weathering. It appears that the samples described above and the historical samples are from a common source of petroleum.
- The surface water/sheen sample collected at location ECI-08-091614 contains petroleum oil, but the quantity of petroleum present was insufficient for fingerprinting analysis.

## 5.0 CONCLUSIONS

Site assessment activities consisted of collecting surface soil and surface water/sheen samples on both the ECI – South Tank Farm and ECI – West Tank Farm sites. Tetra Tech and EPA collected samples from five locations on the ECI – South Tank Farm site, and three locations on the ECI – West Tank Farm site. At each location, a surface soil and surface water/sheen sample were collected. These samples were submitted to subcontracted laboratories to be analyzed for BTEX, TPH (including DRO, GRO, and ERO), tetraethyl lead, and oil fingerprinting.

### ***ECI – South Tank Farm***

Analytical results did not indicate elevated levels of BTEX or tetraethyl lead in any samples collected from the ECI – South Tank Farm site. Toluene was detected at very low levels (0.009 mg/kg) in the surface soil sample collected at sampling location ECI-05-091614, and tetraethyl lead was detected (0.0006 mg/L) in the surface water/sheen sample collected from sampling location ECI-04-091614. TPH constituents were detected in samples throughout the site in both surface soils and surface water/sheen. Specifically, DRO, GRO, and ERO were present in all surface soil samples collected on the site. Analysis indicated DRO levels up to 43,000 mg/kg in surface soil samples, and all samples analyzed exceeded the IDEM RISC default closure level of 2,300 mg/kg.

Analysis indicated GRO levels up to 380 mg/kg in surface soil samples, with no samples displaying levels above the IDEM RISC default closure level of 1,000 mg/kg. Analysis indicated ERO levels up to 42,000 mg/kg in surface soil samples, with two samples exceeding the IDEM RISC default closure level of 2,300 mg/kg.

Analytical results indicated the presence of DRO and ERO in all surface water/sheen samples collected on the site. GRO was not detected in any of the surface water/sheen samples. Analytical results indicated DRO levels up to 1,200 mg/L, and ERO levels up to 350 mg/L.

Oil fingerprinting analysis indicated that the petroleum products present on the site are moderately biodegraded intermediate to heavy petroleum oil. While the petroleum from all locations shares general characteristics, it appears that the petroleum on the site comes from more than one source.

### ***ECI – West Tank Farm***

Analytical results did not indicate elevated levels of BTEX or tetraethyl lead in samples collected from the ECI – West Tank Farm site. TPH constituents were detected in samples throughout the site.

Specifically, DRO, GRO, and ERO were present in all surface soil samples collected on the site. Analysis indicated DRO levels up to 51,000 mg/kg in surface soil samples, and all samples analyzed exceeded the IDEM RISC default closure level of 2,300 mg/kg. Analysis indicated GRO levels up to 800 mg/kg, with no samples displaying levels above the IDEM RISC closure level of 1,000 mg/kg. Analysis indicated ERO levels up to 9,900 mg/kg, with one sample not exceeding the IDEM RISC default closure level of 2,300 mg/kg.

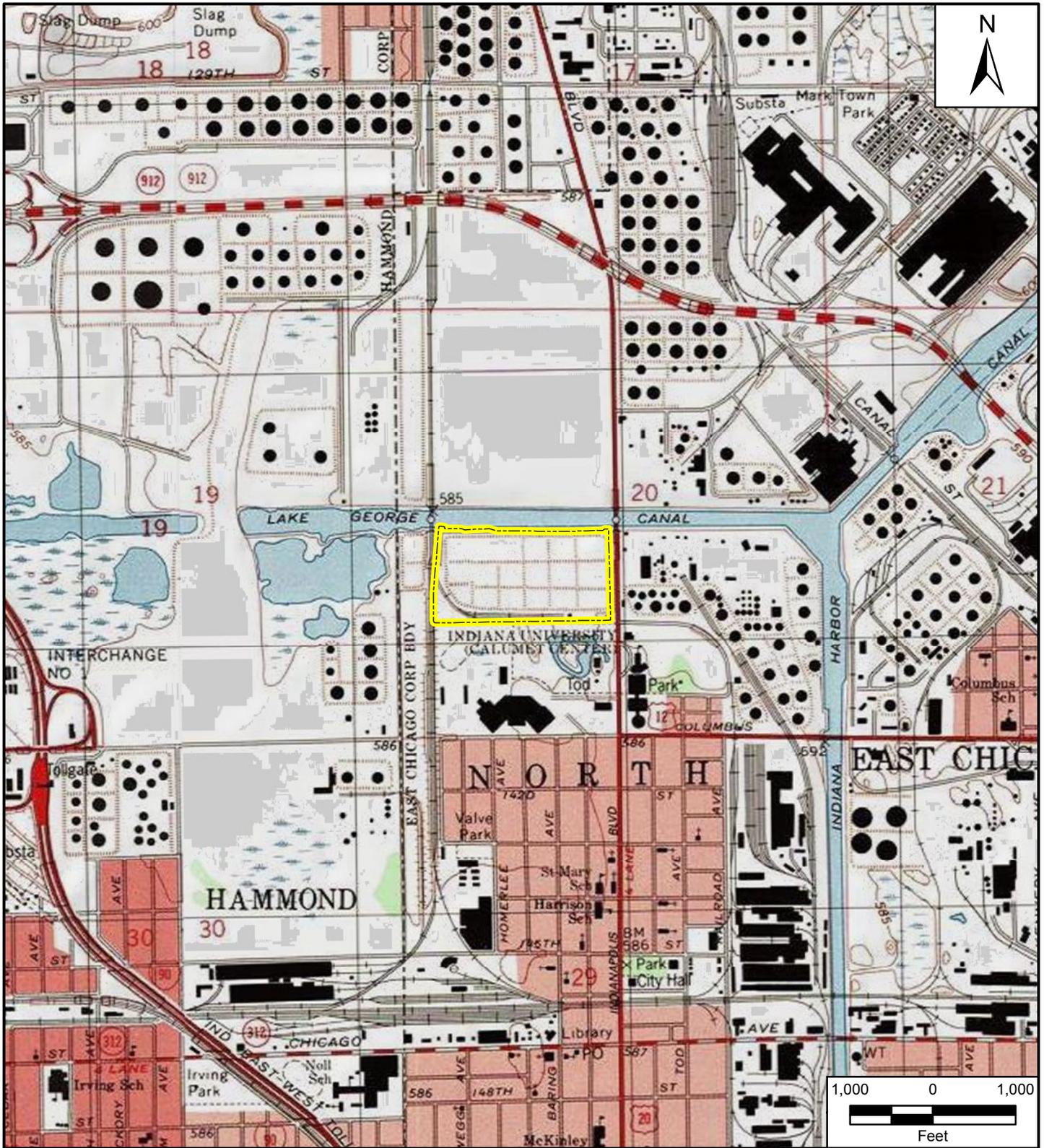
Analytical results indicated the presence of DRO and ERO in all surface water/sheen samples collected on the site. GRO was not detected in any of the surface water/sheen samples. Analytical results indicated DRO levels up to 170 mg/L, and ERO levels up to 3.7 mg/L.

Oil fingerprinting analysis indicated that the petroleum products present on the site are moderately biodegraded intermediate to heavy petroleum oil. While the petroleum from all locations shares general characteristics and appear to be from a common source, there are some differences between the samples that are not attributable to weathering.

## 6.0 REFERENCES

- Indiana Department of Environmental Management and ARCO/BP. 1997. Agreement for Environmental Investigation and Remediation. December 2. Accessed On-Line: [http://www.epaosc.org/sites/8306/files/1991%20PA\\_Consent%20BP%20Oil%20Booms.pdf](http://www.epaosc.org/sites/8306/files/1991%20PA_Consent%20BP%20Oil%20Booms.pdf).
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- U.S. Fish and Wildlife Service. 2014. Letter to U.S. Coast Guard Regarding Harm to Wildlife in the Indiana Harbor and Shipping Canal. March 24. Accessed On-Line: <http://www.epaosc.org/sites/8306/files/FWS%20letter%20to%20USCG%20for%20ECI.pdf>.

**APPENDIX A**  
**SITE FIGURES**



File Path: G:\GIG9026-START\VECI\mxd\Figure 1 Site Location- South Tank Farm.mxd

### Legend

 Site Boundary

ECI - SOUTH TANK FARM  
EAST CHICAGO, INDIANA

Figure 1  
**SITE LOCATION MAP**



Prepared For: US EPA

Prepared By: Tetra Tech

Source: USGS, Whiting, Indiana 7.5 Minutes  
(1:24,000 Scale) Topographic Map, 1981

File Path: G:\G9026-START\VECH\mxd\Figure 2\Site LAYOUT- South Tank Farm.mxd



### Legend

 Site Boundary

ECI - SOUTH TANK FARM  
EAST CHICAGO, INDIANA

**Figure 2**  
**SITE LAYOUT MAP**

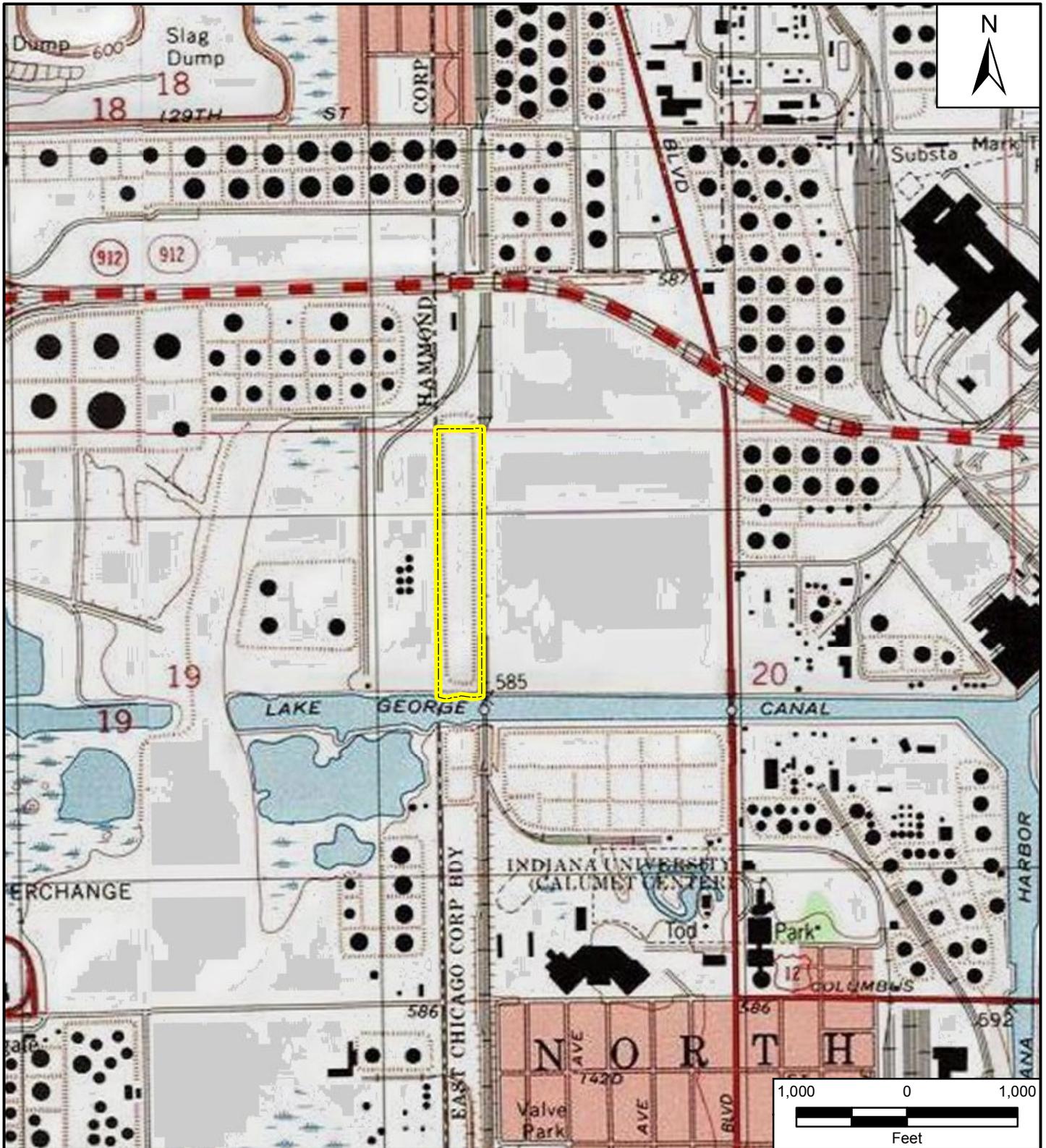


Prepared For: US EPA

Prepared By: Tetra Tech

Source: Bing Maps Hybrid, 2012

File Path: G:\G9026-START\VECH\mxd\Figure 3 Site Location - West Tank Farm.mxd



### Legend

 Site Boundary

ECI - WEST TANK FARM  
EAST CHICAGO, INDIANA

**Figure 3**  
**SITE LOCATION MAP**



Prepared For: US EPA

Prepared By: Tetra Tech

Source: USGS, Whiting, Indiana 7.5 Minutes  
(1:24,000 Scale) Topographic Map, 1981



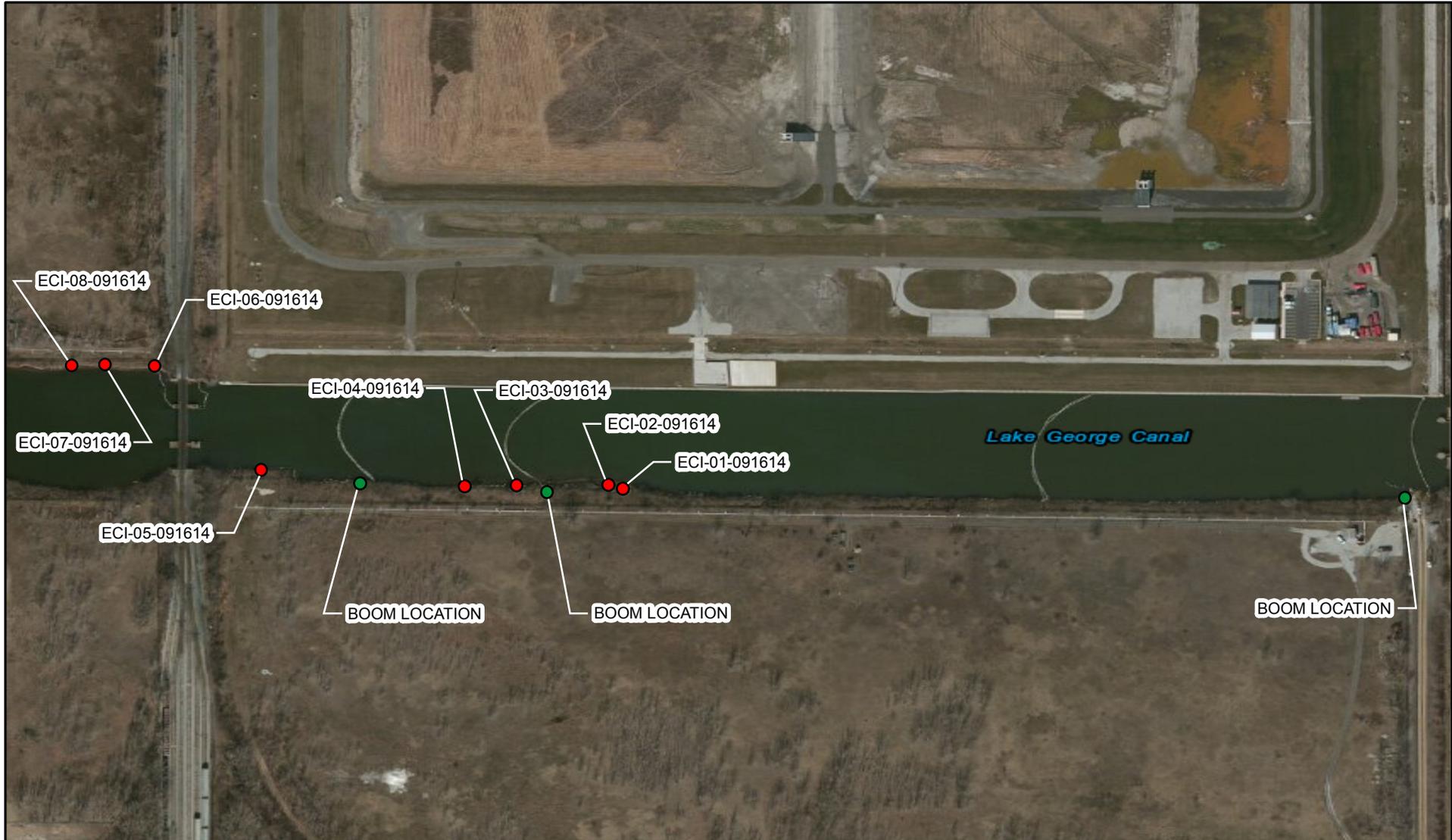
### Legend

 Site Boundary

ECI - WEST TANK FARM  
EAST CHICAGO, INDIANA

**Figure 4**  
**SITE LAYOUT MAP**





**Legend**

- Sample Locations
- Boom Locations

Source: Bing Maps Hybrid, 2012  
 EPA Contract No.: EP-S5-13-01  
 TDD No.: 0004/S05-0004-1406-009 and 0004/S05-0004-1408-003

N

0      250      500  
 Feet

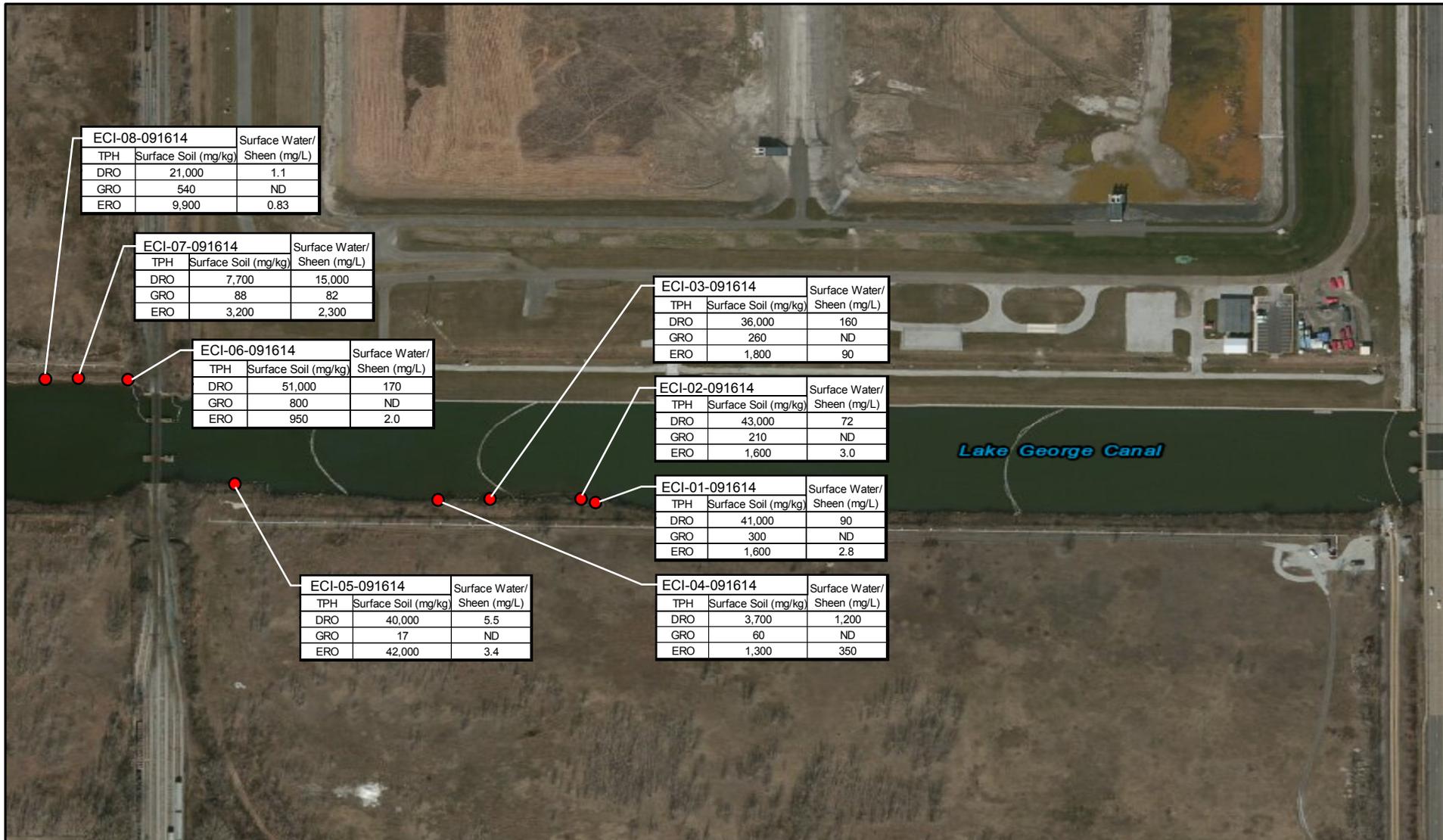
ECI - South Tank Farm and  
 ECI - West Tank Farm  
 East Chicago, IN

**Figure 5**  
**Sampling Locations Map**

**TETRA TECH**

Prepared For: US EPA      Prepared By: Tetra Tech

File Path: G:\G\9026-START\VECI\mxd\Figure 5 Sampling Locations.mxd



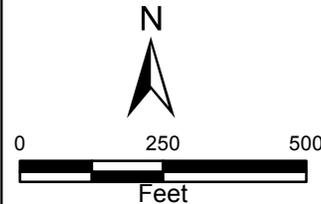
### Legend

● Sample Locations

Source: Bing Maps Hybrid, 2012

EPA Contract No.: EP-S5-13-01

TDD No.: 0004/S05-0004-1406-009 and 0004/S05-0004-1408-003



ECI - South Tank Farm and  
ECI - West Tank Farm  
East Chicago, IN

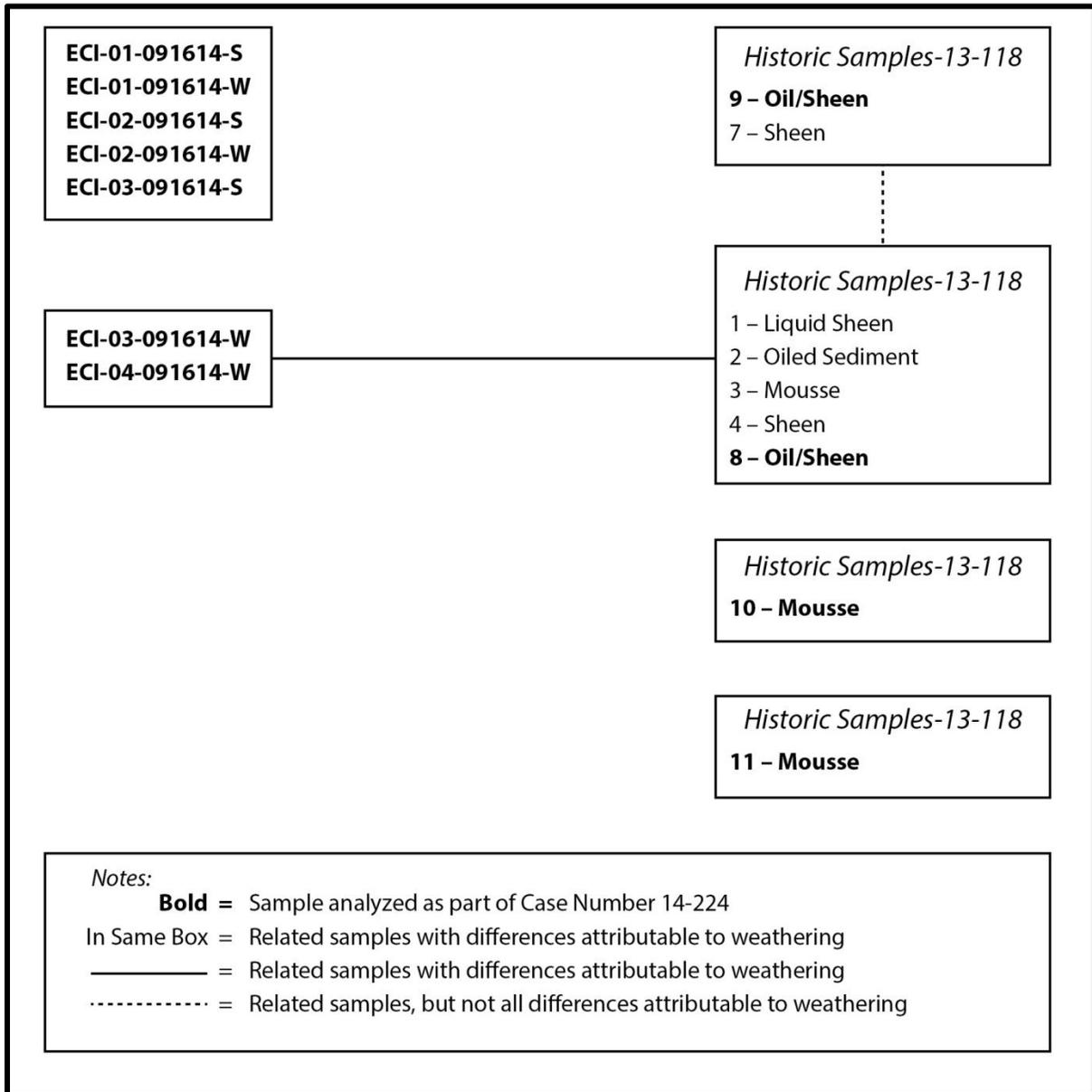
### Figure 6 Total Petroleum Hydrocarbons Results Map



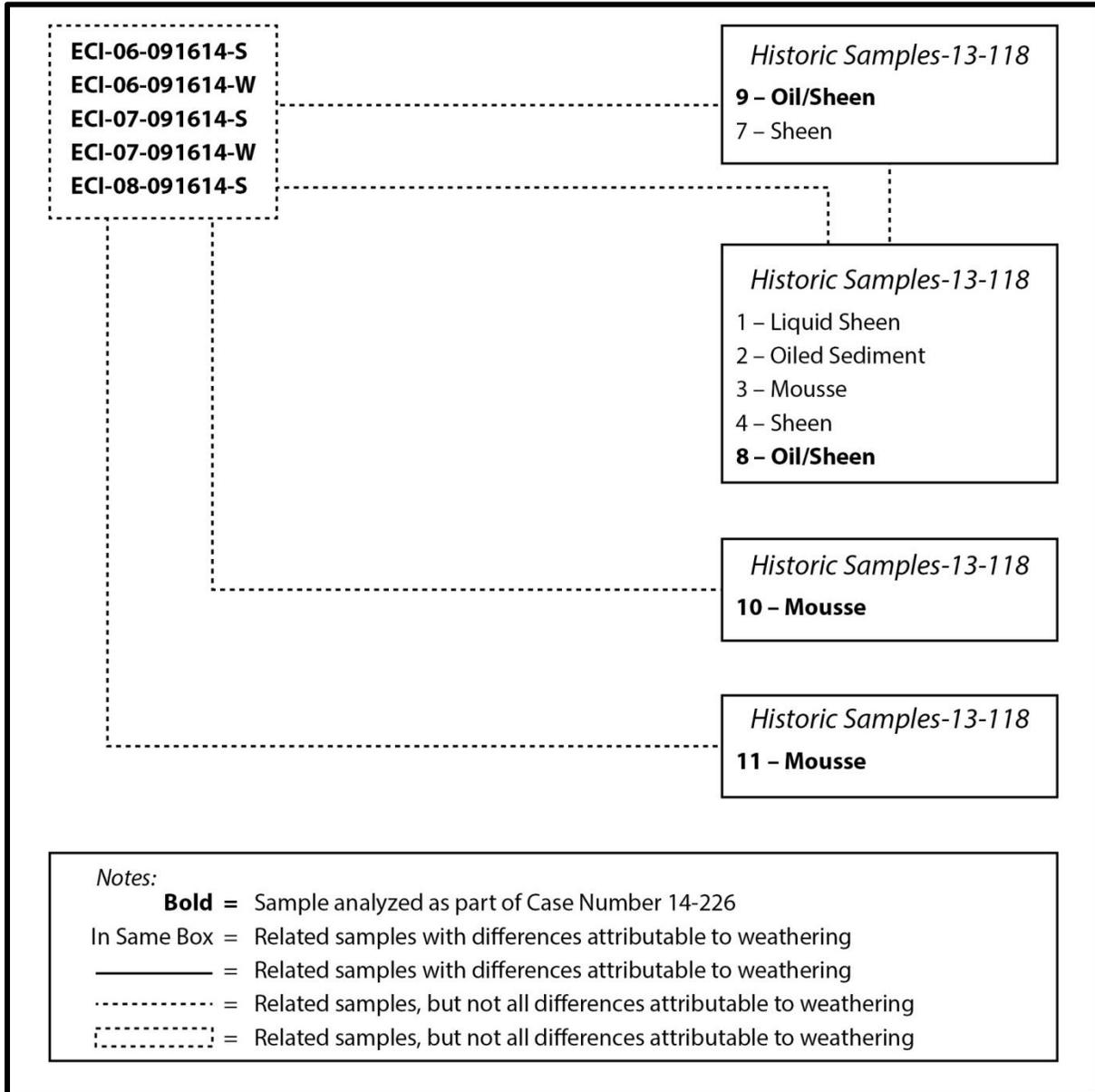
Prepared For: US EPA

Prepared By: Tetra Tech

**Figure 7: ECI – South Tank Farm Oil Fingerprinting Diagram**



**Figure 8: ECI – West Tank Farm Oil Fingerprinting Diagram**



**APPENDIX B**  
**TABLES**

**TABLE B-1**  
**SURFACE SOIL SAMPLE ANALYTICAL RESULTS**  
**ECI - SOUTH TANK FARM SITE**  
**EAST CHICAGO, LAKE COUNTY, INDIANA**

Sample Number :		14090649-001	14090649-003	14090649-005	14090649-006	14090649-009	14090649-011									
Sampling Location :		ECI-01-091614-S	ECI-02-091614-S	ECI-03-091614-S	ECI-03-091614-S-D	ECI-04-091614-S	ECI-05-091614-S									
Field QC					dupl. of 14090649-005											
Matrix :		Surface Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil	Surface Soil									
Units :		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg									
Case #:		14090649	14090649	14090649	14090649	14090649	14090649									
Sample Date:		9/16/2014	9/16/2014	9/16/2014	9/16/2014	9/16/2014	9/16/2014									
Sample Time		10:00	10:50	11:20	11:20	12:05	13:05									
Compound	CAS #	Soil - Industrial														
Benzene	71-43-2	5.1	< 0.14	U *	< 0.13	U *	< 0.21	U *	< 0.21	U *	0.015	J-	< 0.0067	U		
Ethylbenzene	100-41-4	25	< 0.14	U *	< 0.13	U *	< 0.21	U *	< 0.21	U *	< 0.0099	UJ	< 0.0067	U		
Toluene	108-88-3	47,000	< 0.14	U *	< 0.13	U *	< 0.21	U *	< 0.21	U *	< 0.0099	UJ	0.009			
Xylenes, Total	1330-20-7	2,500	< 0.42	U *	< 0.4	U *	< 0.62	U *	< 0.63	U *	< 0.30	UJ	< 0.020	U		
Gasoline Range Organics	8006-61-9	1,500	300	*	210	*	260	*	380	*	60	*	17			
Diesel Range Organics	68334-30-5	2,300	41,000	*	43,000	*	36,000	*	14,000	*	3,700	*	40,000	*		
Extended Range Organics	NA	2,300	1,600		1,600		1,800	*	3,600	*	1,300	*	42,000	*		
Tetraethyl Lead	78-00-2	0.082	< 0.270	U *	< 0.480	U *	< 0.320	U *	< 0.360	U *	< 0.530	U *	< 4.60	U *		

**Notes:**

1 - Results for benzene, ethylbenzene, toluene, and total xylenes compared to US EPA Regional Screening Levels for Industrial Soil.

2 - Results for gasoline range organics, diesel range organics, and extended range organics compared to IDEM Risk Integrated System of Closure (RISC) default closure levels for Industrial Soil

\* - Result reported from the diluted analysis

**Result** Analytical result is in exceedence of relevant screening level

J - Analyte detected, but concentration is estimated

J- - Analyte detected, but concentration is estimated and may be biased low

U - Analyte not detected above the listed reporting limit

UJ - Analyte not detected and the reporting limit is considered estimated

**TABLE B-2  
SURFACE SOIL SAMPLE ANALYTICAL RESULTS  
ECI - WEST TANK FARM SITE  
EAST CHICAGO, LAKE COUNTY, INDIANA**

Sample Number :		US EPA Regional Screening Levels <sup>1</sup> /RISC Indiana Closure Levels <sup>2</sup>	14090648-001	14090648-003	14090648-004	14090648-007								
Sampling Location :			ECI-06-091614-S	ECI-07-091614-S	ECI-07-091614-S-D	ECI-08-091614-S								
Field QC					dupl. of 14090648-003									
Matrix :			Surface Soil	Surface Soil	Surface Soil	Surface Soil								
Units :			mg/kg	mg/kg	mg/kg	mg/kg								
Case #:			14090648	14090648	14090648	14090648								
Sample Date:			9/16/2014	9/16/2014	9/16/2014	9/16/2014								
Sample Time			13:40	14:00	14:00	14:15								
Compound	CAS #	Soil - Industrial												
Benzene	71-43-2	5.1	< 0.11	U	*	< 0.16	U	*	< 0.0077	U		< 0.17	U	*
Ethylbenzene	100-41-4	25	< 0.11	U	*	< 0.16	U	*	< 0.0077	U		< 0.17	U	*
Toluene	108-88-3	47,000	< 0.11	U	*	< 0.16	U	*	< 0.0077	U		< 0.17	U	*
Xylenes, Total	1330-20-7	2,500	< 0.33	U	*	< 0.47	U	*	< 0.023	U		< 0.5	U	*
Gasoline Range Organics	8006-61-9	1,500	800		*	88		*	82		*	540		*
Diesel Range Organics	68334-30-5	2,300	51,000		*	7,700		*	15,000		*	21,000		*
Extended Range Organics	NA	2,300	950		*	3,200		*	2,300		*	9,900		*
Tetraethyl Lead	78-00-2	0.082	< 0.390	U	*	< 0.390	U	*	< 0.400	U	*	< 0.270	U	*

**Notes:**

1 - Results for benzene, ethylbenzene, toluene, and total xylenes compared to US EPA Regional Screening Levels for Industrial Soil.

2 - Results for gasoline range organics and diesel range organics compared to State of Indiana Risk Integrated System of Closure (RISC) standards for site closure for Industrial Soil

\* - Result reported from the diluted analysis

**Result** Analytical result is in exceedence of relevant screening level

U - Analyte not detected above the listed reporting limit

**TABLE B-3  
SURFACE WATER SAMPLE ANALYTICAL RESULTS  
ECI - SOUTH TANK FARM SITE  
EAST CHICAGO, LAKE COUNTY, INDIANA**

Sample Number :		14090649-002	14090649-004	14090649-007	14090649-008	14090649-010	14090649-012									
Sampling Location :		ECI-01-091614-W	ECI-02-091614-W	ECI-03-091614-W	ECI-03-091614-W-D	ECI-04-091614-W	ECI-05-091614-W									
Field QC					dupl. of 14090649-007											
Matrix :		Surface Water	Surface Water	Surface Water	Surface Water	Surface Water	Surface Water									
Units :		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L									
Case #:		14090649	14090649	14090649	14090649	14090649	14090649									
Sample Date:		9/16/2014	9/16/2014	9/16/2014	9/16/2014	9/16/2014	9/16/2014									
Sample Time		10:00	10:50	11:20	11:20	12:05	13:05									
Compound	CAS #	Surface Water														
Benzene	71-43-2	0.31	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U
Ethylbenzene	100-41-4	NA	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U
Toluene	108-88-3	51	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U
Xylenes, Total	1330-20-7	NA	< 0.015	U	< 0.015	U	< 0.015	U	< 0.015	U	< 0.015	U	< 0.015	U	< 0.015	U
Gasoline Range Organics	8006-61-9	NA	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	UJ	< 0.5	U	< 0.5	U
Diesel Range Organics	68334-30-5	NA	90	*	72	*	160	*	180	*	1,200	J *	5.5	*		*
Extended Range Organics	NA	NA	2.8		3.0		90	*	62	*	350	*	3.4	*		*
Tetraethyl Lead	78-00-2	NA	< 0.0002	U	< 0.0002	U	< 0.0002	U	< 0.0002	U	0.0006	J-	< 0.0002	U		

**Notes:**

1 - Analytical results compared to State of Indiana Water Quality Criteria: Outside of Mixing Zone - Human Health standards applicable to waters within the Great Lakes System as defined in 327 IAC 2-1.5-8

\* - Result reported from the diluted analysis

**Result** Analytical result is in exceedence of relevant screening level

J - Analyte detected, but concentration is estimated

J- - Analyte detected, but concentration is estimated and may be biased low

U - Analyte not detected above the listed reporting limit

UJ - Analyte not detected and the reporting limit is considered estimated

Surface Water results not compared to screening levels

**TABLE B-4**  
**SURFACE WATER SAMPLE ANALYTICAL RESULTS**  
**ECI - WEST TANK FARM SITE**  
**EAST CHICAGO, LAKE COUNTY, INDIANA**

Sample Number :		14090648-002	14090648-005	14090648-006	14090648-008					
Sampling Location :		ECI-06-091614-W	ECI-07-091614-W	ECI-07-091614-W-D	ECI-08-091614-W					
Field QC				dupl. of 14090648-005						
Matrix :		Surface Water	Surface Water	Surface Water	Surface Water					
Units :		mg/L	mg/L	mg/L	mg/L					
Case #:		14090648	14090648	14090648	14090648					
Sample Date:		9/16/2014	9/16/2014	9/16/2014	9/16/2014					
Sample Time		13:40	14:00	14:00	14:15					
Compound	CAS #	Surface Water								
Benzene	71-43-2	0.31	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U
Ethylbenzene	100-41-4	NA	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U
Toluene	108-88-3	51	< 0.005	U	< 0.005	U	< 0.005	U	< 0.005	U
Xylenes, Total	1330-20-7	NA	< 0.015	U	< 0.015	U	< 0.015	U	< 0.015	U
Gasoline Range Organics	8006-61-9	NA	< 0.5	U	< 0.5	U	< 0.5	U	< 0.5	U
Diesel Range Organics	68334-30-5	NA	170	*	15	*	6.3	*	1.1	
Extended Range Organics	NA	NA	2.0		3.7		2.5		0.83	
Tetraethyl Lead	78-00-2	NA	< 0.0002	U	< 0.0002	U	< 0.0002	U	< 0.0002	U

**Notes:**

1 - Analytical results compared to State of Indiana Water Quality Criteria: Outside of Mixing Zone - Human Health standards applicable to waters within the Great Lakes System as defined in 327 IAC 2-1.5-8

\* - Result reported from the diluted analysis

**Result** Analytical result is in exceedence of relevant screening level

U - Analyte not detected above the listed reporting limit

UJ - Analyte not detected and the reporting limit is considered estimated

**APPENDIX C**  
**PHOTOGRAPHIC DOCUMENTATION**



## ***Photographic Documentation***

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003

**Dates:** August 1 and September 16, 2014

### **Photograph No. 1**

**Photographer:** Adam Peterca

**Photograph Date:** 8/1/14

**Photograph Time:** 11:43

**Description:** (North) View of easternmost containment boom and sorbent boom on Lake George Branch of Indiana Harbor and Shipping Canal (IHSC).



### **Photograph No. 2**

**Photographer:** Adam Peterca

**Photograph Date:** 8/1/14

**Photograph Time:** 11:46

**Description:** (Overview) Light sheen observed near northeastern corner of Energy Cooperative, Inc. (ECI) – South Tank Farm site.





**Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

**Photograph No. 3**

**Photographer:** Adam Peterca

**Photograph Date:** 8/1/14

**Photograph Time:** 11:54

**Description:** (Overview) View of contaminated soil and bank material along northern border of ECI – South Tank Farm site.



**Photograph No. 4**

**Photographer:** Adam Peterca

**Photograph Date:** 8/1/14

**Photograph Time:** 11:59

**Description:** (North) View of potential sampling location along the northern border of the ECI – South Tank Farm site.





## ***Photographic Documentation***

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

### **Photograph No. 5**

**Photographer:** Adam Peterca

**Photograph Date:** 8/1/14

**Photograph Time:** 12:04

**Description:** (West) View of contaminated bank material along northern border of the ECI – South Tank Farm site.



### **Photograph No. 6**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 08:57

**Description:** (Overview) View of pure product observed seeping from soil on ECI – South Tank Farm site during site walk.





## ***Photographic Documentation***

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

### **Photograph No. 7**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 09:01

**Description:** (Northeast) View of sorbent booms in the central portion of the Lake George Branch of the IHSC.



### **Photograph No. 8**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 09:05

**Description:** (South) View of contaminated soil and bank material located on the ECI – West Tank Farm site.





**Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

**Photograph No. 9**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 09:10

**Description:** (Overview) View of contaminated soil and petroleum sheen and mousse located on the ECI – West Tank Farm site.



**Photograph No. 10**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 09:15

**Description:** (West) View of petroleum sheen on IHSC near the ECI – West Tank Farm site. Photo taken from railroad bridge across IHSC.





## **Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003

**Dates:** August 1 and September 16, 2014

### **Photograph No. 11**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 09:15

**Description:** (West) Additional view of petroleum sheen on IHSC near the ECI – West Tank Farm site. Photo taken from railroad bridge across IHSC.



### **Photograph No. 12**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 10:23

**Description:** (Overview) View of sampling location ECI-01-091614 on ECI – South Tank Farm site.





## **Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003

**Dates:** August 1 and September 16, 2014

### **Photograph No. 13**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 11:08

**Description:** (Northeast) View of ARCADIS representative collecting split samples from sampling location ECI-02-091614 on the ECI – South Tank Farm site.



### **Photograph No. 14**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 11:08

**Description:** (North) View of sampling location ECI-02-091614 on the ECI – South Tank Farm site.





## **Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

### **Photograph No. 15**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 11:41

**Description:** (Northeast) View of sampling location ECI-03-091614 on the ECI – South Tank Farm site, with notable petroleum mousse on IHSC.



### **Photograph No. 16**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 11:55

**Description:** (Overview) Additional view of sampling location ECI-03-091614 on the ECI – South Tank Farm site.





## **Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

### **Photograph No. 17**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 12:48

**Description:** (Overview) View of sampling location ECI-04-091614 on the ECI – South Tank Farm site.



### **Photograph No. 18**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 13:17

**Description:** (North) View of sampling location ECI-05-091614 on the ECI – South Tank Farm site.





## **Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

### **Photograph No. 19**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 13:50

**Description:** (Southwest) View of sampling location ECI-06-091614 on the ECI – West Tank Farm site.



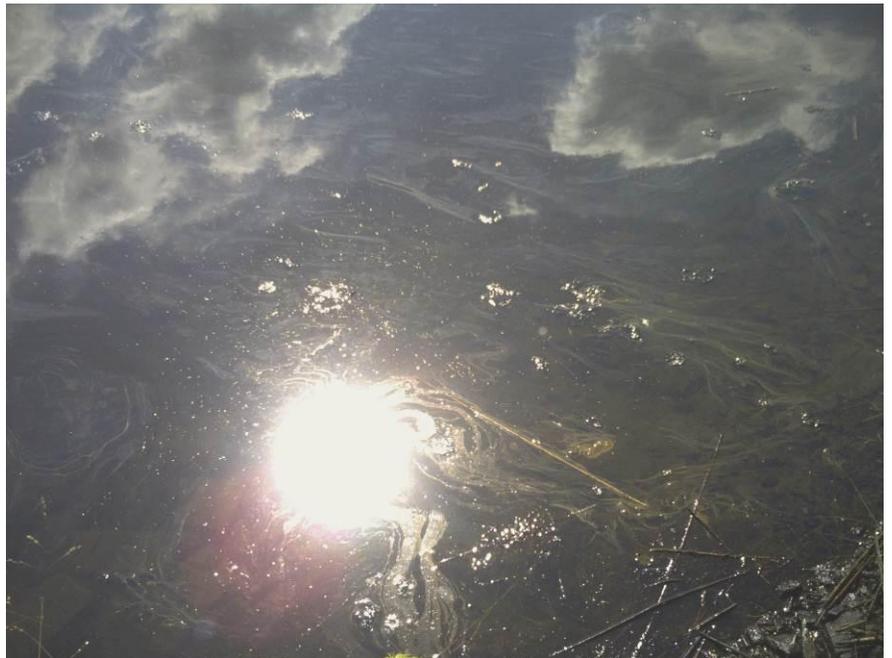
### **Photograph No. 20**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 13:51

**Description:** (Overview) View of sheen in the IHSC at sampling location ECI-06-091614 on the ECI – West Tank Farm site.





**Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

**Photograph No. 21**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 14:11

**Description:** (Southwest) View of sampling location ECI-07-091614 on the ECI – West Tank Farm site.



**Photograph No. 22**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 14:11

**Description:** (West) Additional view of sampling location ECI-07-091614 on the ECI – West Tank Farm site.





**Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

**Photograph No. 23**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 14:28

**Description:** (Overview) View of sampling location ECI-08-091614 on the ECI – West Tank Farm site.



**Photograph No. 24**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 14:29

**Description:** (Northeast) View of petroleum sheen on the IHSC.





## **Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

### **Photograph No. 25**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 14:40

**Description:** (Northwest) View of westernmost sorbent booms in the IHSC, with debris and notable petroleum mousse adjacent.



### **Photograph No. 26**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 14:44

**Description:** (North) View of sorbent and containment booms running parallel to the bank of the ECI – South Tank Farm site in the IHSC.





**Photographic Documentation**

**Client:** U.S. EPA Region 5  
**Site Name:** ECI – South and West Tank Farms  
**Location:** East Chicago, Indiana

**Prepared by:** Tetra Tech, Inc.  
**TDD Number:** S05-0004-1406-009/  
S05-0004-1408-003  
**Dates:** August 1 and September 16, 2014

**Photograph No. 27**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 14:51

**Description:** (West) View of sorbent and containment booms along the bank of the ECI – South Tank Farm site in the IHSC.



**Photograph No. 28**

**Photographer:** Adam Peterca

**Photograph Date:** 9/16/14

**Photograph Time:** 14:52

**Description:** (Northeast) View of the easternmost containment boom in the IHSC.



**APPENDIX D**  
**START FIELD NOTES**



9/16/2014

- 0730 START on-site 62°F, sunny, no wind. Waiting for OGC Paul Atkinson to arrive. AP
- 0745 OGC on-site. Conducting daily safety briefing. AP
- 0800 USFWS on-site; Dan Sparks. AP
- 0820 Conducting site walk to identify sampling locations. OGC Mike Beslow on-site, Environmental Restoration on-site to conduct boom maintenance.
- 0830 Vince Eckert from Arcadis conducting oversight and split sampling for Area BP. AP
- 0907 Great Blue Heron observed on-site, Mike expert observed on-site. AP
- 0930 Site walk complete, identified sample locations on South + West Tule River, preparing to begin sampling. AP
- 1000 Collecting sample ECI-01-091614. AP
- 1033 Finish collecting sample ECI-01-091614. AP
- 1050 Collecting sample ECI-02-091614. AP
- 1110 Finish collecting sample ECI-02-091614. AP
- 1120 Collecting sample ECI-03-091614 + ECI-03-091614-D. AP
- 1150 Finish collecting sample ECI-03-091614 + ECI-03-091614-D. AP
- 1205 Collecting sample ECI-04-091614 + ECI-04-091614-MSMSB. AP
- 1305 Collecting sample ECI-05-091614. AP
- 1320 Finish collecting sample ECI-05-091614. AP
- 1340 Collecting sample ECI-05-091614 + ECI-05-091614-MSMSB. AP

9/16/2014

- 1350 Finish collecting ECI-05-091614 + ECI-05-091614-MSMSB. AP
- 1400 Collecting ECI-07-091614 + ECI-07-091614-D. AP
- 1410 Finish collecting ECI-07-091614 + ECI-07-091614-D. AP
- 1415 Collecting ECI-08-091614. AP
- 1435 Finish collecting ECI-08-091614. AP
- 1450 Processing samples + preparing samples for shipment to laboratories. AP
- 1600 START Finish processing samples; START off-site. AP

*[Handwritten signature]*

9/16/2014

*Rite in the Rain*

**APPENDIX E**  
**LABORATORY REPORTS**

**STAT** Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

October 06, 2014

Tetra Tech EM Inc.  
1 South Wacker Drive  
Chicago, IL 60606

Telephone: (312) 201-7700  
Fax: (312) 938-0118

Analytical Report for STAT Work Order: 14090649 Revision 0

RE: ECI - Indianapolis Blvd

Dear Adam Peterca:

STAT Analysis received 12 samples for the referenced project on 9/16/2014 7:30:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,



Craig Chawla  
Project Manager

*The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory. This analytical report shall become property of the Customer upon payment in full. Otherwise, STAT will be under no obligation to support, defend or discuss the analytical report.*

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**Client:** Tetra Tech EM Inc.  
**Project:** ECI - Indianapolis Blvd  
**Work Order:** 14090649 Revision 0

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**Work Order Sample Summary**

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<b>Lab Sample ID</b>	<b>Client Sample ID</b>	<b>Tag Number</b>	<b>Collection Date</b>	<b>Date Received</b>
14090649-001A	ECI-01-091614-S		9/16/2014 10:00:00 AM	9/16/2014
14090649-001B	ECI-01-091614-S		9/16/2014 10:00:00 AM	9/16/2014
14090649-002A	ECI-01-091614-W		9/16/2014 10:00:00 AM	9/16/2014
14090649-002B	ECI-01-091614-W		9/16/2014 10:00:00 AM	9/16/2014
14090649-003A	ECI-02-091614-S		9/16/2014 10:50:00 AM	9/16/2014
14090649-003B	ECI-02-091614-S		9/16/2014 10:50:00 AM	9/16/2014
14090649-004A	ECI-02-091614-W		9/16/2014 10:50:00 AM	9/16/2014
14090649-004B	ECI-02-091614-W		9/16/2014 10:50:00 AM	9/16/2014
14090649-005A	ECI-03-091614-S		9/16/2014 11:02:00 AM	9/16/2014
14090649-005B	ECI-03-091614-S		9/16/2014 11:20:00 AM	9/16/2014
14090649-006A	ECI-03-091614-S-D		9/16/2014 11:20:00 AM	9/16/2014
14090649-006B	ECI-03-091614-S-D		9/16/2014 11:20:00 AM	9/16/2014
14090649-007A	ECI-03-091614-W		9/16/2014 11:20:00 AM	9/16/2014
14090649-007B	ECI-03-091614-W		9/16/2014 11:20:00 AM	9/16/2014
14090649-008A	ECI-03-091614-W-D		9/16/2014 11:20:00 AM	9/16/2014
14090649-008B	ECI-03-091614-W-D		9/16/2014 11:20:00 AM	9/16/2014
14090649-009A	ECI-04-091614-S		9/16/2014 12:05:00 PM	9/16/2014
14090649-009B	ECI-04-091614-S		9/16/2014 12:05:00 PM	9/16/2014
14090649-010A	ECI-04-091614-W		9/16/2014 12:05:00 PM	9/16/2014
14090649-010B	ECI-04-091614-W		9/16/2014 12:05:00 PM	9/16/2014
14090649-011A	ECI-05-091614-S		9/16/2014 1:05:00 PM	9/16/2014
14090649-011B	ECI-05-091614-S		9/16/2014 1:05:00 PM	9/16/2014
14090649-012A	ECI-05-091614-W		9/16/2014 1:05:00 PM	9/16/2014
14090649-012B	ECI-05-091614-W		9/16/2014 1:05:00 PM	9/16/2014

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**CLIENT:** Tetra Tech EM Inc.  
**Project:** ECI - Indianapolis Blvd  
**Work Order:** 14090649 Revision 0

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**CASE NARRATIVE**

Due to matrix interference, BTEX results for the following samples are reported at 1:50 dilution:

- ECI-01-091614-S (14090649-001)
- ECI-02-091614-S (14090649-003)
- ECI-03-091614-S (14090649-005)
- ECI-03-091614-S-D (14090649-006)

Please refer to Analytical QC Summary Report for QC outliers.

**STAT Analysis Corporation**

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-001

Client Sample ID: ECI-01-091614-S  
 Collection Date: 9/16/2014 10:00:00 AM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	41000	15000		mg/Kg-dry	50	9/29/2014
TPH (ERO)	1600	310	*	mg/Kg-dry	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.14		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.14		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.14		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.42		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	300	70	*	mg/Kg-dry	100	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	35.3	0.2	*	wt%	1	9/17/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-002

Client Sample ID: ECI-01-091614-W  
 Collection Date: 9/16/2014 10:00:00 AM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	90	5.0		mg/L	50	9/29/2014
TPH (ERO)	2.8	0.10	*	mg/L	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>PS</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-003

Client Sample ID: ECI-02-091614-S  
 Collection Date: 9/16/2014 10:50:00 AM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	43000	15000		mg/Kg-dry	50	9/29/2014
TPH (ERO)	1600	290	*	mg/Kg-dry	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.13		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.13		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.13		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.40		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	210	33	*	mg/Kg-dry	50	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	31.8	0.2	*	wt%	1	9/17/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-004

Client Sample ID: ECI-02-091614-W  
 Collection Date: 9/16/2014 10:50:00 AM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	72	5.0		mg/L	50	9/29/2014
TPH (ERO)	3.0	0.10	*	mg/L	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>PS</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
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Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-005

Client Sample ID: ECI-03-091614-S  
 Collection Date: 9/16/2014 11:20:00 AM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	36000	18000		mg/Kg-dry	50	9/30/2014
TPH (ERO)	9000	1800	*	mg/Kg-dry	5	9/29/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.21		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.21		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.21		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.62		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	260	52	*	mg/Kg-dry	50	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	43.8	0.2	*	wt%	1	9/17/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-005

Client Sample ID: ECI-03-091614-S  
 Collection Date: 9/16/2014 11:02:00 AM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	36000	18000		mg/Kg-dry	50	9/30/2014
TPH (ERO)	9000	1800	*	mg/Kg-dry	5	9/29/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.21		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.21		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.21		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.62		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	260	52	*	mg/Kg-dry	50	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	43.8	0.2	*	wt%	1	9/17/2014

**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

**STAT Analysis Corporation**

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-006

Client Sample ID: ECI-03-091614-S-D  
 Collection Date: 9/16/2014 11:20:00 AM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	14000	3600		mg/Kg-dry	100	9/28/2014
TPH (ERO)	3600	3600	*	mg/Kg-dry	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.21		mg/Kg-dry	50	9/21/2014
Ethylbenzene	ND	0.21		mg/Kg-dry	50	9/21/2014
Toluene	ND	0.21		mg/Kg-dry	50	9/21/2014
Xylenes, Total	ND	0.63		mg/Kg-dry	50	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	380	110	*	mg/Kg-dry	100	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	44.5	0.2	*	wt%	1	9/17/2014

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 HT - Sample received past holding time  
 \* - Non-accredited parameter

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 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-007

Client Sample ID: ECI-03-091614-W  
 Collection Date: 9/16/2014 11:20:00 AM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	160	10		mg/L	100	9/28/2014
TPH (ERO)	90	10	*	mg/L	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>PS</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

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 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-008

Client Sample ID: ECI-03-091614-W-D  
 Collection Date: 9/16/2014 11:20:00 AM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	180	10		mg/L	100	9/28/2014
TPH (ERO)	62	10	*	mg/L	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>PS</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-009

Client Sample ID: ECI-04-091614-S  
 Collection Date: 9/16/2014 12:05:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	3800	3700		mg/Kg-dry	100	9/28/2014
TPH (ERO)	1300	190	*	mg/Kg-dry	5	9/30/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Benzene	0.015	0.0099		mg/Kg-dry	1	9/23/2014
Ethylbenzene	ND	0.0099		mg/Kg-dry	1	9/23/2014
Toluene	ND	0.0099		mg/Kg-dry	1	9/23/2014
Xylenes, Total	ND	0.030		mg/Kg-dry	1	9/23/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	60	55	*	mg/Kg-dry	50	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	46.2	0.2	*	wt%	1	9/17/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
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 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

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 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-010

Client Sample ID: ECI-04-091614-W  
 Collection Date: 9/16/2014 12:05:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	1200	100		mg/L	100	9/28/2014
TPH (ERO)	350	10	*	mg/L	10	9/30/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>PS</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
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 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-011

Client Sample ID: ECI-05-091614-S  
 Collection Date: 9/16/2014 1:05:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	40000	25000		mg/Kg-dry	100	9/28/2014
TPH (ERO)	42000	25000	*	mg/Kg-dry	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Benzene	ND	0.0067		mg/Kg-dry	1	9/23/2014
Ethylbenzene	ND	0.0067		mg/Kg-dry	1	9/23/2014
Toluene	0.0090	0.0067		mg/Kg-dry	1	9/23/2014
Xylenes, Total	ND	0.020		mg/Kg-dry	1	9/23/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	17	0.88	*	mg/Kg-dry	1	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	20.8	0.2	*	wt%	1	9/17/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

Date Reported: October 06, 2014

**ANALYTICAL RESULTS**

Date Printed: October 06, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 0  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-012

Client Sample ID: ECI-05-091614-W  
 Collection Date: 9/16/2014 1:05:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	5.5	0.50		mg/L	5	9/30/2014
TPH (ERO)	3.4	0.10	*	mg/L	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>PS</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
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 \* - Non-accredited parameter

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Analysis Corporation

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AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

N<sup>o</sup>: 858291 Page: of

Company: **TETRA TECH** Client Tracking No.: \_\_\_\_\_

Project Number: \_\_\_\_\_

Project Name: **ECI - INDIANAPOLIS BLVD**

Project Location: \_\_\_\_\_

Sampler(s): **ADAM PETREKA + MAT KUCIOWA**

Report To: **ADAM PETREKA** Phone: \_\_\_\_\_

QC Level: 1 2 3 4

e-mail: **ADAM.PETREKA@TETRA TECH.COM**

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Remarks	Lab No.:	am/pm
ECI-01-091614-S	9/16/14	1000	SOIL	X	X		4		001	
ECI-01-091614-W		1000	WATER	X	X		4		002	
ECI-02-091614-S		1050	SOIL	X	X		4		003	
ECI-02-091614-W		1050	WATER	X	X		4		004	
ECI-03-091614-S		1120	SOIL	X	X		4		005	
ECI-03-091614-W		1120	SOIL	X	X		4		006	
ECI-03-091614-W		1120	WATER	X	X		4		007	
ECI-03-091614-W		1120	WATER	X	X		4		008	
ECI-04-091614-S		1205	SOIL	X	X		4		009	
ECI-04-091614-S-MS/MSD		1205	SOIL	X	X		8	MS/MSD	010	
ECI-04-091614-W		1205	WATER	X	X		4			
ECI-04-091614-W-MS/MSD		1205	WATER	X	X		8	MS/MSD	011	
ECI-05-091614-S		1305	SOIL	X	X		4		012	
ECI-06-091614-W		1305	WATER	X	X		4			

Turn Around: **STANDARD JAW**

Results Needed: \_\_\_\_\_

Lab No.: \_\_\_\_\_

Remarks: \_\_\_\_\_

Am/pm: \_\_\_\_\_

Relinquished by: (Signature) *[Signature]* Date/Time: 9/16/14 07:30 PM

Received by: (Signature) *[Signature]* Date/Time: 9/16/14 19:20

Relinquished by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Preservation Code: A = None B = HNO<sub>3</sub> C = NaOH  
D = H<sub>2</sub>SO<sub>4</sub> E = HCl F = 5035/EnCore G = Other

Laboratory Work Order No.: **14020649**

Received on Ice: Yes  No

Temperature: **4.3 °C**

Sample Receipt Checklist

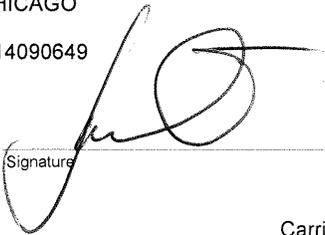
Client Name TETRA CHICAGO

Date and Time Received: 9/16/2014 7:30:00 PM

Work Order Number 14090649

Received by: JOK

Checklist completed by:

  
Signature

9/16/14  
Date

Reviewed by:

 10/06/14  
Initials Date

Matrix:

Carrier name Client Delivered

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels/containers? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container or Temp Blank temperature in compliance? Yes  No  Temperature 4.3 °C
- Water - VOA vials have zero headspace? No VOA vials submitted  Yes  No
- Water - Samples pH checked? Yes  No  Checked by: \_\_\_\_\_
- Water - Samples properly preserved? Yes  No  pH Adjusted? \_\_\_\_\_

Any No response must be detailed in the comments section below.

-----

Comments:

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-----  
-----  
-----

Client / Person contacted: \_\_\_\_\_

Date contacted: \_\_\_\_\_

Contacted by: \_\_\_\_\_

Response: \_\_\_\_\_

-----  
-----  
-----

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd  
**Test No:** SW5035/8260B

**Matrix:** S

**QC SUMMARY REPORT  
 SURROGATE RECOVERIES**

Sample ID	BR4FBZ	BZMED8	DBFM	DCA12D4				
VBLK092014-2	99.3	99.7	95.6	98.8				
VLCS092014-2	98.3	102	99.9	98.6				
VLCSD092014-2	98.2	100	102	97.2				
14090648-001AMS	93.0	112 *	97.6	97.4				
14090648-001AMSD	96.6	114 *	92.5	95.7				
14090649-001A:50	92.8	101	90.6	101				
14090649-003A:50	97.9	101	89.5	100				
14090649-005A:50	95.6	102	90.2	101				
14090649-006A:50	90.5	103	91.0	100				

Acronym	Surrogate	QC Limits
BR4FBZ	= 4-Bromofluorobenzene	63-110
BZMED8	= Toluene-d8	85-110
DBFM	= Dibromofluoromethane	83-119
DCA12D4	= 1,2-Dichloroethane-d4	84-129

\* Surrogate recovery outside acceptance limit

# Analytical Run Summary

Run ID: VOA-2\_140920A (R103154)

Analyst: PS

Printed: 06-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2798441	BFB092014-2	TUNE	BFB	R103154	1	H:\VOC-2\092014\0920	09/20/2014 14:51
2798442	VSTD050	CCV	VOC_ENCORE+	R103154	1	H:\VOC-2\092014\0920	09/20/2014 15:58
2798443	VBLK092014-2	MBLK	VOC_ENCORE+	R103154	1	H:\VOC-2\092014\0920	09/20/2014 16:36
2798444	VLCS092014-2	LCS	VOC_ENCORE+	R103154	1	H:\VOC-2\092014\0920	09/20/2014 17:12
2798445	VLCS092014-2	LCSD	VOC_ENCORE+	R103154	1	H:\VOC-2\092014\0920	09/20/2014 17:48
2798747	14090648-001A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 18:25
2798760	14090648-001A	SAMP	VOC_5035+	79639	50	H:\VOC-2\092014\0920	09/20/2014 18:25
2798768	14090648-001AMS	MS	VOC_5035+	79639	50	H:\VOC-2\092014\0920	09/20/2014 19:37
2798773	14090648-001AMSD	MSD	VOC_5035+	79639	50	H:\VOC-2\092014\0920	09/20/2014 20:13
2798776	14090648-003A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 20:49
2798778	14090648-004A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 21:24
2798781	14090648-007A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 22:00
2798783	14090649-001A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 22:36
2798785	14090649-003A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 23:11
2798791	14090649-005A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 23:51
2798792	14090649-006A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/21/2014 0:27
2798793	14090649-011A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/21/2014 1:03

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103154**

Sample ID: <b>14090648-001AMS</b>		SampType: <b>MS</b>		TestCode: <b>VOC_5035+</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>9/17/2014</b>		Run ID: <b>VOA-2_140920A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103154</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/20/2014</b>		SeqNo: <b>2798768</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2.826	0.11	2.73	0.04259	102	70	130	0	0		
Ethylbenzene	2.916	0.11	2.73	0.05024	105	70	130	0	0		
Toluene	2.831	0.11	2.73	0.04751	102	70	130	0	0		
Xylenes, Total	8.653	0.33	8.191	0.1731	104	70	130	0	0		

Sample ID: <b>14090648-001AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>VOC_5035+</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>9/17/2014</b>		Run ID: <b>VOA-2_140920A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103154</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/20/2014</b>		SeqNo: <b>2798773</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2.796	0.11	2.73	0.04259	101	70	130	2.826	1.07	20	
Ethylbenzene	2.933	0.11	2.73	0.05024	106	70	130	2.916	0.560	20	
Toluene	2.786	0.11	2.73	0.04751	100	70	130	2.831	1.61	20	
Xylenes, Total	8.741	0.33	8.191	0.1731	105	70	130	8.653	1.00	20	

Sample ID: <b>VBLK092014-2</b>		SampType: <b>MBLK</b>		TestCode: <b>VOC_ENCOR</b>		Units: <b>mg/Kg</b>		Prep Date:		Run ID: <b>VOA-2_140920A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103154</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/20/2014</b>		SeqNo: <b>2798443</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0050									
Ethylbenzene	ND	0.0050									
Toluene	ND	0.0050									
Xylenes, Total	ND	0.015									

Sample ID: <b>VLCS092014-2</b>		SampType: <b>LCS</b>		TestCode: <b>VOC_ENCOR</b>		Units: <b>mg/Kg</b>		Prep Date:		Run ID: <b>VOA-2_140920A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103154</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/20/2014</b>		SeqNo: <b>2798444</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.04847	0.0050	0.05	0	96.9	70	130	0	0		
Ethylbenzene	0.05064	0.0050	0.05	0	101	70	130	0	0		
Toluene	0.049	0.0050	0.05	0	98	70	130	0	0		
Xylenes, Total	0.1502	0.015	0.15	0	100	70	130	0	0		

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
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**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103154**

Sample ID: <b>VLCS092014-2</b>	SampType: <b>LCSD</b>	TestCode: <b>VOC_ENCOR</b>	Units: <b>mg/Kg</b>	Prep Date:	Run ID: <b>VOA-2_140920A</b>
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103154</b>	TestNo: <b>SW5035/8260</b>		Analysis Date: <b>9/20/2014</b>	SeqNo: <b>2798445</b>

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.04918	0.0050	0.05	0	98.4	70	130	0.04847	1.45	20	
Ethylbenzene	0.05221	0.0050	0.05	0	104	70	130	0.05064	3.05	20	
Toluene	0.05067	0.0050	0.05	0	101	70	130	0.049	3.35	20	
Xylenes, Total	0.1524	0.015	0.15	0	102	70	130	0.1502	1.48	20	

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
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**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd  
**Test No:** SW5035/8260B

**Matrix:** S

**QC SUMMARY REPORT  
 SURROGATE RECOVERIES**

Sample ID	BR4FBZ	BZMED8	DBFM	DCA12D4				
VBLK092314-2	96.6	97.0	94.0	93.4				
VLCS092314-2	98.1	101	101	98.9				
VLCS092314-2	97.0	99.9	100	96.8				
14090649-011A	89.2	95.9	108	119				
14090649-009A	72.9	94.2	121	132				
14090649-009AMS	80.4	95.5	115	119				
14090649-009AMSD	68.0	90.3	124	127				

Acronym	Surrogate	QC Limits
BR4FBZ	= 4-Bromofluorobenzene	44-114
BZMED8	= Toluene-d8	62-122
DBFM	= Dibromofluoromethane	74-150
DCA12D4	= 1,2-Dichloroethane-d4	78-160

\* Surrogate recovery outside acceptance limit

# Analytical Run Summary

Run ID: VOA-2\_140923A (R103272)

Analyst: ART

Printed: 06-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2801272	BFB092314-2	TUNE	BFB	R103272	1	H:\VOC-2\092314\0923	09/23/2014 8:53
2801273	VSTD050	CCV	VOC_ENCORE+	R103272	1	H:\VOC-2\092314\0923	09/23/2014 9:33
2801274	VBLK092314-2	MBLK	VOC_ENCORE+	R103272	1	H:\VOC-2\092314\0923	09/23/2014 10:08
2801275	VLCS092314-2	LCS	VOC_ENCORE+	R103272	1	H:\VOC-2\092314\0923	09/23/2014 10:44
2801276	VLCS092314-2	LCSD	VOC_ENCORE+	R103272	1	H:\VOC-2\092314\0923	09/23/2014 11:20
2801279	14090648-004A	SAMP	BTEX_5035	79544	1	H:\VOC-2\092314\0923	09/23/2014 12:22
2801280	14090649-011A	SAMP	BTEX_5035	79544	1	H:\VOC-2\092314\0923	09/23/2014 12:57
2801283	14090649-009A	SAMP	VOC_5035+	79544	1	H:\VOC-2\092314\0923	09/23/2014 13:33
2801281	14090649-009A	SAMP	BTEX_5035	79544	1	H:\VOC-2\092314\0923	09/23/2014 13:33
2801284	14090649-009AMS	MS	VOC_5035+	79544	1	H:\VOC-2\092314\0923	09/23/2014 14:09
2801285	14090649-009AMSD	MSD	VOC_5035+	79544	1	H:\VOC-2\092314\0923	09/23/2014 14:46
2801289	14090762-001A	SAMP	F-LIST_VOC	79636	1	H:\VOC-2\092314\0923	09/23/2014 15:22
2801290	14090762-001A	SAMP	VOC_S+	79636	1	H:\VOC-2\092314\0923	09/23/2014 15:22
2801291	14090759-005A	SAMP	VOC_5035	79719	1	H:\VOC-2\092314\0923	09/23/2014 15:59
2801292	14090759-006A	SAMP	VOC_5035	79719	1	H:\VOC-2\092314\0923	09/23/2014 16:35
2801293	14090894-001A	SAMP	VOC_5035	79639	50	H:\VOC-2\092314\0923	09/23/2014 17:13
2801294	14090894-002A	SAMP	VOC_5035	79639	50	H:\VOC-2\092314\0923	09/23/2014 18:21
2801295	14090894-003A	SAMP	VOC_5035	79639	50	H:\VOC-2\092314\0923	09/23/2014 18:56

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103272**

Sample ID: <b>14090649-009AMS</b>		SampType: <b>MS</b>		TestCode: <b>VOC_5035+</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>9/17/2014</b>		Run ID: <b>VOA-2_140923A</b>	
Client ID: <b>ECI-04-091614-S</b>		Batch ID: <b>R103272</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/23/2014</b>		SeqNo: <b>2801284</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.08067	0.0098	0.09768	0.0151	67.1	70	130	0	0		S
Ethylbenzene	0.05545	0.0098	0.09768	0.007796	48.8	70	130	0	0		S
Toluene	0.05382	0.0098	0.09768	0.006335	48.6	70	130	0	0		S
Xylenes, Total	0.1577	0.029	0.2931	0.02335	45.8	70	130	0	0		S

Sample ID: <b>14090649-009AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>VOC_5035+</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>9/17/2014</b>		Run ID: <b>VOA-2_140923A</b>	
Client ID: <b>ECI-04-091614-S</b>		Batch ID: <b>R103272</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/23/2014</b>		SeqNo: <b>2801285</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.07415	0.010	0.1008	0.0151	58.6	70	130	0.08067	8.42	20	S
Ethylbenzene	0.04424	0.010	0.1008	0.007796	36.2	70	130	0.05545	22.5	20	SR
Toluene	0.04583	0.010	0.1008	0.006335	39.2	70	130	0.05382	16.0	20	S
Xylenes, Total	0.1238	0.030	0.3023	0.02335	33.2	70	130	0.1577	24.1	20	SR

Sample ID: <b>VBLK092314-2</b>		SampType: <b>MBLK</b>		TestCode: <b>VOC_ENCOR</b>		Units: <b>mg/Kg</b>		Prep Date:		Run ID: <b>VOA-2_140923A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103272</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/23/2014</b>		SeqNo: <b>2801274</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0050									
Ethylbenzene	ND	0.0050									
Toluene	ND	0.0050									
Xylenes, Total	ND	0.015									

Sample ID: <b>VLCS092314-2</b>		SampType: <b>LCS</b>		TestCode: <b>VOC_ENCOR</b>		Units: <b>mg/Kg</b>		Prep Date:		Run ID: <b>VOA-2_140923A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103272</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/23/2014</b>		SeqNo: <b>2801275</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.05501	0.0050	0.05	0	110	70	130	0	0		
Ethylbenzene	0.05671	0.0050	0.05	0	113	70	130	0	0		
Toluene	0.05616	0.0050	0.05	0	112	70	130	0	0		
Xylenes, Total	0.1678	0.015	0.15	0	112	70	130	0	0		

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
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**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103272**

Sample ID: <b>VLCS092314-2</b>	SampType: <b>LCSD</b>	TestCode: <b>VOC_ENCOR</b>	Units: <b>mg/Kg</b>	Prep Date:	Run ID: <b>VOA-2_140923A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103272</b>	TestNo: <b>SW5035/8260</b>		Analysis Date: <b>9/23/2014</b>	SeqNo: <b>2801276</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.05351	0.0050	0.05	0	107	70	130	0.05501	2.76	20	
Ethylbenzene	0.05671	0.0050	0.05	0	113	70	130	0.05671	0	20	
Toluene	0.05542	0.0050	0.05	0	111	70	130	0.05616	1.33	20	
Xylenes, Total	0.1666	0.015	0.15	0	111	70	130	0.1678	0.712	20	

**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 \* - Non Accredited Parameter

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 H/HT - Holding Time Exceeded

B - Analyte detected in the associated Method Blank  
 E - Value above quantitation range

# Analytical Run Summary

Run ID: VOA-7\_140923A (R103230)

Analyst: ART

Printed: 06-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2800323	BFB092314A-7	TUNE	BFB	R103230	1	09231401.D	09/23/2014 14:20
2800324	GSTD500	ICAL	VOC-GRO_S	R103230	1	09231404.D	09/23/2014 15:52
2800325	GSTD1000	ICAL	VOC-GRO_S	R103230	1	09231405.D	09/23/2014 16:28
2800326	GSTD2000	ICAL	VOC-GRO_S	R103230	1	09231406.D	09/23/2014 17:04
2800327	GSTD5000	ICAL	VOC-GRO_S	R103230	1	09231407.D	09/23/2014 17:40
2800328	GSTD10000	ICAL	VOC-GRO_S	R103230	1	09231408.D	09/23/2014 18:16
2800329	GLCS092314A-7	ICV	VOC-GRO_S	R103230	1	09231410.D	09/23/2014 19:31
2800330	GLCS092314A-7	LCS	VOC-GRO_S	R103230	1	09231410.D	09/23/2014 19:31
2800331	GLCSD092314A-7	LCSD	VOC-GRO_S	R103230	1	09231411.D	09/23/2014 20:07
2800332	VBLK092314A-7	MBLK	VOC-GRO_S	R103230	1	09231412.D	09/23/2014 20:43
2800858	14090648-001A	SAMP	VOC-GRO_S	79639	500	09231413.D	09/23/2014 21:25
2800859	14090648-001AMS	MS	VOC-GRO_S	79639	500	09231414.D	09/23/2014 22:01
2800860	14090648-001AMSD	MSD	VOC-GRO_S	79639	500	09231415.D	09/23/2014 22:37
2800861	14090648-003A	SAMP	VOC-GRO_S	79639	50	09231416.D	09/23/2014 23:12
2800862	14090648-004A	SAMP	VOC-GRO_S	79639	50	09231417.D	09/23/2014 23:48
2800863	14090648-007A	SAMP	VOC-GRO_S	79639	100	09231418.D	09/24/2014 0:24
2800864	14090649-001A	SAMP	VOC-GRO_S	79639	100	09231419.D	09/24/2014 1:00
2800866	14090649-003A	SAMP	VOC-GRO_S	79639	50	09231420.D	09/24/2014 1:36
2800867	14090649-005A	SAMP	VOC-GRO_S	79639	50	09231421.D	09/24/2014 2:12



# Analytical Run Summary

Run ID: VOA-7\_140924A (R103266)

Analyst: ART

Printed: 06-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2801223	BFB092414-7	TUNE	BFB	R103266	1	09241401.D	09/24/2014 9:41
2801224	GSTD2000	CCV	VOC-GRO_S	R103266	1	09241402.D	09/24/2014 10:12
2801225	VBLK092414-7	MBLK	VOC-GRO_S	R103266	1	09241405.D	09/24/2014 12:08
2801226	GLCS092414-7	LCS	VOC-GRO_S	R103266	1	09241406.D	09/24/2014 12:44
2801227	GLCSD092414-7	LCSD	VOC-GRO_S	R103266	1	09241407.D	09/24/2014 13:21
2801228	14090649-009A	SAMP	VOC-GRO_S	79639	50	09241410.D	09/24/2014 15:09
2801229	14090649-009AMS	MS	VOC-GRO_S	79639	50	09241411.D	09/24/2014 15:52
2801230	14090649-009AMSD	MSD	VOC-GRO_S	79639	50	09241412.D	09/24/2014 16:28
2801231	14090649-006A	SAMP	VOC-GRO_S	79639	100	09241413.D	09/24/2014 17:04
2801232	14090649-011A	SAMP	VOC-GRO_S	79639	50	09241414.D	09/24/2014 17:40
2801267	14090649-011A	SAMP	VOC-GRO_S	79710	1	09241415.D	09/24/2014 18:25
2801268	14090649-009A	SAMP	VOC-GRO_S	79639	50	09241417.D	09/24/2014 19:49
2801269	14090649-009AMS	MS	VOC-GRO_S	79639	50	09241418.D	09/24/2014 20:25
2801270	14090649-009AMSD	MSD	VOC-GRO_S	79639	50	09241419.D	09/24/2014 21:01



**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd  
**Test No:** SW8260B

**Matrix:** W

**QC SUMMARY REPORT  
 SURROGATE RECOVERIES**

Sample ID	BR4FBZ	BZMED8	DBFM	DCA12D4				
VBLK092114-4	96.4	97.3	107	102				
VLCS092114-4	106	101	100	106				
14090649-010A	99.9	101	99.5	106				
14090649-010AMS	97.9	99.5	99.5	98.8				
14090649-010AMSD	96.3	99.1	99.9	97.7				
14090649-002A	96.9	95.8	99.5	96.1				
14090649-004A	95.6	96.0	96.8	99.3				
14090649-007A	95.8	96.9	96.8	98.2				
14090649-008A	97.0	96.7	98.2	97.8				
14090649-012A	97.6	97.8	98.0	100				

Acronym	Surrogate	QC Limits
BR4FBZ	= 4-Bromofluorobenzene	86-115
BZMED8	= Toluene-d8	88-110
DBFM	= Dibromofluoromethane	86-118
DCA12D4	= 1,2-Dichloroethane-d4	80-120

\* Surrogate recovery outside acceptance limit

# Analytical Run Summary

Run ID: VOA-4\_140921A (R103149)

Analyst: PS

Printed: 06-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2798329	BFB091114-4	TUNE	BFB_624	R103149	1	K:\VOC-4\092114\0921	09/21/2014 7:47
2798330	VSTD050	CCV	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 8:09
2798331	VBLK092114-4	MBLK	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 9:23
2798332	VLCS092114-4	LCS	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 10:00
2798333	14090649-010A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 11:13
2798334	14090649-010A	SAMP	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 11:13
2798335	14090649-010AMS	MS	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 11:49
2798336	14090649-010AMSD	MSD	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 12:25
2798346	14090649-002A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 13:02
2798354	14090649-004A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 13:39
2798355	14090649-007A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 14:15
2798356	14090649-008A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 14:52
2798357	14090649-012A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 15:28
2798358	14090648-005A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 16:04
2798359	14090648-006A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 16:41
2798360	14090648-008A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 17:17
2798371	14090648-002A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 17:53

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103149**

Sample ID: <b>VBLK092114-4</b>	SampType: <b>MBLK</b>	TestCode: <b>VOC_W+</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-4_140921A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103149</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/21/2014</b>	SeqNo: <b>2798331</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	ND	0.0050									
Ethylbenzene	0.00049	0.0050									J
Toluene	ND	0.0050									
Xylenes, Total	0.00137	0.015									J

Sample ID: <b>VLCS092114-4</b>	SampType: <b>LCS</b>	TestCode: <b>VOC_W+</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-4_140921A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103149</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/21/2014</b>	SeqNo: <b>2798332</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	0.02011	0.0050	0.02	0	101	70	130	0	0		
Ethylbenzene	0.02262	0.0050	0.02	0.00049	111	70	130	0	0		
Toluene	0.02073	0.0050	0.02	0	104	70	130	0	0		
Xylenes, Total	0.06683	0.015	0.06	0.00137	109	70	130	0	0		

Sample ID: <b>14090649-010AMS</b>	SampType: <b>MS</b>	TestCode: <b>VOC_W+</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-4_140921A</b>						
Client ID: <b>ECI-04-091614-W</b>	Batch ID: <b>R103149</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/21/2014</b>	SeqNo: <b>2798335</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	0.0221	0.0050	0.02	0.00238	98.6	70	130	0	0		
Ethylbenzene	0.01987	0.0050	0.02	0.00085	95.1	70	130	0	0		
Toluene	0.01953	0.0050	0.02	0	97.6	70	130	0	0		
Xylenes, Total	0.05907	0.015	0.06	0.00681	87.1	70	130	0	0		

Sample ID: <b>14090649-010AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>VOC_W+</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-4_140921A</b>						
Client ID: <b>ECI-04-091614-W</b>	Batch ID: <b>R103149</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/21/2014</b>	SeqNo: <b>2798336</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	0.02277	0.0050	0.02	0.00238	102	70	130	0.0221	2.99	15	
Ethylbenzene	0.01848	0.0050	0.02	0.00085	88.2	70	130	0.01987	7.25	15	
Toluene	0.0191	0.0050	0.02	0	95.5	70	130	0.01953	2.23	15	
Xylenes, Total	0.05503	0.015	0.06	0.00681	80.4	70	130	0.05907	7.08	15	

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value above quantitation range
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded	

# Analytical Run Summary

Run ID: VOA-3\_140925A (R103294)

Analyst: PS

Printed: 06-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2801747	BFB092514-3	TUNE	BFB	R103294	1	J:\VOC-3\092514\09251	09/25/2014 8:05
2801740	GSTD2000	CCV	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 9:00
2801742	VBLK092514-3	MBLK	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 9:35
2801743	VLCS092514-3	LCS	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 10:10
2801744	14090649-010A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 10:48
2801745	14090649-010AMS	MS	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 11:23
2801748	14090649-010AMSD	MSD	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 11:58
2801750	14090649-004A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 13:08
2801752	14090649-007A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 13:43
2801753	14090649-008A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 14:18
2801986	14090649-012A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 14:54
2801987	14090648-006A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 16:39
2801988	14090649-002A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 17:49

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103294**

Sample ID: <b>VBLK092514-3</b>	SampType: <b>MBLK</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103294</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/25/2014</b>	SeqNo: <b>2801742</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics	0.2957	0.50								J*
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Sample ID: <b>VLCS092514-3</b>	SampType: <b>LCS</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103294</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/25/2014</b>	SeqNo: <b>2801743</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics	0.8637	0.50	1	0.2957	56.8	50	150	0	0	*
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Sample ID: <b>14090649-010AMS</b>	SampType: <b>MS</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925A</b>						
Client ID: <b>ECI-04-091614-W</b>	Batch ID: <b>R103294</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/25/2014</b>	SeqNo: <b>2801745</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics	0.746	0.50	1	0.3315	41.5	50	150	0	0	S*
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Sample ID: <b>14090649-010AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925A</b>						
Client ID: <b>ECI-04-091614-W</b>	Batch ID: <b>R103294</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/25/2014</b>	SeqNo: <b>2801748</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics	0.6236	0.50	1	0.3315	29.2	50	150	0.746	17.9	25	S*
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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded
		B - Analyte detected in the associated Method Blank
		E - Value above quantitation range

Prep Start Date: **9/23/2014 2:26:08 P**

Prep End Date: **9/23/2014 5:04:41 P**

Prep Factor Units:

mL / g

Prep Batch **79679**

Prep Code: **3550\_TPH**

Technician: **ET**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-79679-TPH			0.03	0	0	1	33.333	9/23/2014	9/23/2014
LCS-79679-TPH			0.03	0	0	1	33.333	9/23/2014	9/23/2014
14090648-001B	Soil		0.03027	0	0	10	330.360	9/23/2014	9/23/2014
14090648-001BMS	Soil		0.03027	0	0	10	330.360	9/23/2014	9/23/2014
14090648-001BMSD	Soil		0.03028	0	0	10	330.251	9/23/2014	9/23/2014
14090648-003B	Soil		0.03048	0	0	1	32.808	9/23/2014	9/23/2014
14090648-004B	Soil		0.03031	0	0	1	32.992	9/23/2014	9/23/2014
14090648-007B	Soil		0.03018	0	0	10	331.345	9/23/2014	9/23/2014
14090649-001B	Soil		0.03024	0	0	10	330.688	9/23/2014	9/23/2014
14090649-003B	Soil		0.03029	0	0	10	330.142	9/23/2014	9/23/2014
14090649-005B	Soil		0.03033	0	0	10	329.707	9/23/2014	9/23/2014
14090649-006B	Soil		0.03037	0	0	1	32.927	9/23/2014	9/23/2014
14090649-009B	Soil		0.03009	0	0	1	33.234	9/23/2014	9/23/2014
14090649-011B	Soil		0.03014	0	0	10	331.785	9/23/2014	9/23/2014

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: 79679**

Sample ID: <b>MB-79679-TPH</b>	SampType: <b>MBLK</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/27/2014</b>	SeqNo: <b>2803681</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (DRO)	ND	20									
TPH (ERO)	ND	20									*

Sample ID: <b>LCS-79679-TPH</b>	SampType: <b>LCS</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140930A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/30/2014</b>	SeqNo: <b>2805944</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (DRO)	33.12	20	33.3	0	99.5	30	150	0	0		
TPH (ERO)	38.62	20	33.3	0	116	30	150	0	0		*

Sample ID: <b>14090648-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/27/2014</b>	SeqNo: <b>2803684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (ERO)	868.5	260	43.65	946.5	-179	30	150	0	0		S*

Sample ID: <b>14090648-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/28/2014</b>	SeqNo: <b>2804642</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (DRO)	52070	26000	43.65	51330	1700	30	150	0	0		S

Sample ID: <b>14090648-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/27/2014</b>	SeqNo: <b>2803685</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (ERO)	752.3	260	43.64	946.5	-445	30	150	868.5	14.3	25	S*

**Qualifiers:** ND - Not Detected at the Reporting Limit      S - Spike Recovery outside accepted recovery limits      B - Analyte detected in the associated Method Blank  
 J - Analyte detected below quantitation limits      R - RPD outside accepted recovery limits      E - Value above quantitation range  
 \* - Non Accredited Parameter      H/HT - Holding Time Exceeded

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: 79679**

Sample ID: <b>14090648-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/28/2014</b>	SeqNo: <b>2804643</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (DRO)	52540	26000	43.64	51330	2790	30	150	52070	0.907	25	S

**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 \* - Non Accredited Parameter

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 H/HT - Holding Time Exceeded

B - Analyte detected in the associated Method Blank  
 E - Value above quantitation range

Prep Start Date: **9/19/2014 9:38:13 A**

Prep End Date: **9/23/2014 5:01:20 P**

Prep Factor Units:  
mL / L

Prep Batch **79601** Prep Code: **3510\_TPH** Technician: **VCC**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-79601-TPH			1	0	0	1	1.000	9/19/2014	9/19/2014
LCS-79601-TPH			1	0	0	1	1.000	9/19/2014	9/19/2014
14090648-002B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090648-005B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090648-006B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090648-008B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-002B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-004B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-007B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-008B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-010B	Water		1	0	0	10	10.000	9/19/2014	9/19/2014
14090649-010BMS	Water		1	0	0	10	10.000	9/19/2014	9/19/2014
14090649-010BMSD	Water		1	0	0	10	10.000	9/19/2014	9/19/2014
14090649-012B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: 79601**

Sample ID: <b>MB-79601-TPH</b>	SampType: <b>MBLK</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/26/2014</b>	SeqNo: <b>2802710</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	0.037	0.10									J
TPH (ERO)	0.08113	0.10									J*

Sample ID: <b>LCS-79601-TPH</b>	SampType: <b>LCS</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/26/2014</b>	SeqNo: <b>2802711</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	1.227	0.10	1	0.037	119	30	150	0	0		
TPH (ERO)	1.303	0.10	1	0.08113	122	30	150	0	0		*

Sample ID: <b>14090649-010BMS</b>	SampType: <b>MS</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ECI-04-091614-W</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/28/2014</b>	SeqNo: <b>2804636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	825.9	100	1	1168	-34200	30	150	0	0		S
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Sample ID: <b>14090649-010BMS</b>	SampType: <b>MS</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140929A</b>						
Client ID: <b>ECI-04-091614-W</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/30/2014</b>	SeqNo: <b>2804770</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (ERO)	239	5.0	1	255.6	-1650	30	150	0	0		S*
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Sample ID: <b>14090649-010BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ECI-04-091614-W</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/28/2014</b>	SeqNo: <b>2804638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	421.9	100	1	1168	-74600	30	150	825.9	64.7	25	SR
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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value above quantitation range
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded	

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: 79601**

Sample ID: <b>14090649-010BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140929A</b>						
Client ID: <b>ECI-04-091614-W</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/30/2014</b>	SeqNo: <b>2804771</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (ERO)	150.2	5.0	1	255.6	-10500	30	150	239	45.6	25	SR*

**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 \* - Non Accredited Parameter

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 H/HT - Holding Time Exceeded

B - Analyte detected in the associated Method Blank  
 E - Value above quantitation range

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090649  
**Project:** ECI - Indianapolis Blvd

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103026**

Sample ID: <b>PMMBK2 9/17/14</b>	SampType: <b>MBLK</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794015</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	ND	0.200									*
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Sample ID: <b>PMLCS-S2 9/17/14</b>	SampType: <b>LCS</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794016</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	4.49	0.200	5	0	89.8	80	120	0	0		*
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Sample ID: <b>PMLCS-W2 9/17/14</b>	SampType: <b>LCS</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794017</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	99.8	0.200	99.8	0	100	80	120	0	0		*
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Sample ID: <b>14090648-001B DUP</b>	SampType: <b>DUP</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794019</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	25.43	0.200	0	0	0	0	0	24.39	4.18	20	*
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Sample ID: <b>14090649-009BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ECI-04-091614-S</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794038</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	42.58	0.200	0	0	0	0	0	46.2	8.15	20	*
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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value above quantitation range
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded	



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September 26, 2014

Adam Peterca  
Tetra Tech  
1 S. Wacker Drive, 37th Floor  
  
Chicago, IL 60606

Work Order: **HS14090741**

Laboratory Results for: **ECI-Indianapolis Blvd**

Dear Adam,

ALS Environmental received 12 sample(s) on Sep 18, 2014 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in cursive script that reads "Bethany McDaniel".

Generated By: Jumoke.Lawal  
Bethany McDaniel  
Project Manager

**Client:** Tetra Tech  
**Project:** ECI-Indianapolis Blvd  
**Work Order:** HS14090741

**SAMPLE SUMMARY**

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS14090741-01	ECI-01-091614-S	Soil		16-Sep-2014 10:00	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-02	ECI-01-091614-W	Water		16-Sep-2014 10:00	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-03	ECI-02-091614-S	Soil		16-Sep-2014 10:50	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-04	ECI-02-091614-W	Water		16-Sep-2014 10:50	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-05	ECI-03-091614-S	Soil		16-Sep-2014 11:20	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-06	ECI-03-091614-S-D	Soil		16-Sep-2014 11:20	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-07	ECI-03-091614-W	Water		16-Sep-2014 11:20	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-08	ECI-03-091614-W-D	Water		16-Sep-2014 11:20	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-09	ECI-04-091614-S	Soil		16-Sep-2014 00:05	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-10	ECI-04-091614-W	Water		16-Sep-2014 12:05	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-11	ECI-05-091614-S	Soil		16-Sep-2014 13:05	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090741-12	ECI-05-091614-W	Water		16-Sep-2014 13:05	18-Sep-2014 09:45	<input type="checkbox"/>

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**Client:** Tetra Tech  
**Project:** ECI-Indianapolis Blvd  
**Work Order:** HS14090741

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**CASE NARRATIVE**

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**GCMS Semivolatiles by Method SW8270**

**Batch ID: 86218**

- Soil samples were analyzed at a dilution due to matrix interference.

Sample ID: **HS14090749-01MSD**

- Surrogate Nitrobenzene-d5; MS/MSD RPD performed on unrelated sample.

**Batch ID: 86255**

Sample ID: **ECI-04-091614-W (HS14090741-10MS)**

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: **ECI-04-091614-W (HS14090741-10MSD)**

- The RPD between the MS and MSD was outside of the control limit.

Sample ID: **ECI-04-091614-W (HS14090741-10)**

- Internal standards phenanthrene-d10, chrysene-d12 and perylene-d12 have low area counts. Similar failure in the MS/MSD confirms matrix interference. These internal standards are not associated with the target compound.

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**WetChemistry by Method SW3550**

**Batch ID: R241208**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-01-091614-S  
 Collection Date: 16-Sep-2014 10:00

**ANALYTICAL REPORT**

WorkOrder:HS14090741  
 Lab ID:HS14090741-01  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	27.0		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		270	270	ug/Kg-dry	5	23-Sep-2014 17:46
Surr: 2,4,6-Tribromophenol	89.7			36-126	%REC	5	23-Sep-2014 17:46
Surr: 2-Fluorobiphenyl	64.9			43-125	%REC	5	23-Sep-2014 17:46
Surr: 2-Fluorophenol	75.4			37-125	%REC	5	23-Sep-2014 17:46
Surr: 4-Terphenyl-d14	97.4			32-125	%REC	5	23-Sep-2014 17:46
Surr: Nitrobenzene-d5	77.9			37-125	%REC	5	23-Sep-2014 17:46
Surr: Phenol-d6	74.7			40-125	%REC	5	23-Sep-2014 17:46

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-01-091614-W  
 Collection Date: 16-Sep-2014 10:00

**ANALYTICAL REPORT**

WorkOrder:HS14090741  
 Lab ID:HS14090741-02  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				Prep:SW3510 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		0.20	0.20	ug/L	1	22-Sep-2014 21:22
Surr: 2,4,6-Tribromophenol	58.1			34-129	%REC	1	22-Sep-2014 21:22
Surr: 2-Fluorobiphenyl	43.5			40-125	%REC	1	22-Sep-2014 21:22
Surr: 2-Fluorophenol	64.6			20-120	%REC	1	22-Sep-2014 21:22
Surr: 4-Terphenyl-d14	83.7			40-135	%REC	1	22-Sep-2014 21:22
Surr: Nitrobenzene-d5	73.4			41-120	%REC	1	22-Sep-2014 21:22
Surr: Phenol-d6	72.5			20-120	%REC	1	22-Sep-2014 21:22

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-02-091614-S  
 Collection Date: 16-Sep-2014 10:50

**ANALYTICAL REPORT**

WorkOrder:HS14090741  
 Lab ID:HS14090741-03  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	39.0		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		480	480	ug/Kg-dry	5	23-Sep-2014 18:05
Surr: 2,4,6-Tribromophenol	119			36-126	%REC	5	23-Sep-2014 18:05
Surr: 2-Fluorobiphenyl	78.3			43-125	%REC	5	23-Sep-2014 18:05
Surr: 2-Fluorophenol	69.1			37-125	%REC	5	23-Sep-2014 18:05
Surr: 4-Terphenyl-d14	121			32-125	%REC	5	23-Sep-2014 18:05
Surr: Nitrobenzene-d5	73.2			37-125	%REC	5	23-Sep-2014 18:05
Surr: Phenol-d6	82.5			40-125	%REC	5	23-Sep-2014 18:05

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-02-091614-W  
 Collection Date: 16-Sep-2014 10:50

**ANALYTICAL REPORT**

WorkOrder:HS14090741  
 Lab ID:HS14090741-04  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				Prep:SW3510 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		0.20	0.20	ug/L	1	23-Sep-2014 17:26
Surr: 2,4,6-Tribromophenol	66.6			34-129	%REC	1	23-Sep-2014 17:26
Surr: 2-Fluorobiphenyl	63.3			40-125	%REC	1	23-Sep-2014 17:26
Surr: 2-Fluorophenol	57.2			20-120	%REC	1	23-Sep-2014 17:26
Surr: 4-Terphenyl-d14	83.9			40-135	%REC	1	23-Sep-2014 17:26
Surr: Nitrobenzene-d5	78.2			41-120	%REC	1	23-Sep-2014 17:26
Surr: Phenol-d6	68.0			20-120	%REC	1	23-Sep-2014 17:26

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-03-091614-S  
 Collection Date: 16-Sep-2014 11:20

**ANALYTICAL REPORT**

WorkOrder:HS14090741  
 Lab ID:HS14090741-05  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	8.15		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		320	320	ug/Kg-dry	5	23-Sep-2014 18:24
Surr: 2,4,6-Tribromophenol	73.2			36-126	%REC	5	23-Sep-2014 18:24
Surr: 2-Fluorobiphenyl	102			43-125	%REC	5	23-Sep-2014 18:24
Surr: 2-Fluorophenol	67.0			37-125	%REC	5	23-Sep-2014 18:24
Surr: 4-Terphenyl-d14	110			32-125	%REC	5	23-Sep-2014 18:24
Surr: Nitrobenzene-d5	95.0			37-125	%REC	5	23-Sep-2014 18:24
Surr: Phenol-d6	66.1			40-125	%REC	5	23-Sep-2014 18:24

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-03-091614-S-D  
 Collection Date: 16-Sep-2014 11:20

**ANALYTICAL REPORT**

WorkOrder:HS14090741  
 Lab ID:HS14090741-06  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	45.8		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		360	360	ug/Kg-dry	5	23-Sep-2014 18:43
Surr: 2,4,6-Tribromophenol	82.1			36-126	%REC	5	23-Sep-2014 18:43
Surr: 2-Fluorobiphenyl	64.4			43-125	%REC	5	23-Sep-2014 18:43
Surr: 2-Fluorophenol	47.4			37-125	%REC	5	23-Sep-2014 18:43
Surr: 4-Terphenyl-d14	74.3			32-125	%REC	5	23-Sep-2014 18:43
Surr: Nitrobenzene-d5	80.6			37-125	%REC	5	23-Sep-2014 18:43
Surr: Phenol-d6	52.3			40-125	%REC	5	23-Sep-2014 18:43

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-03-091614-W  
 Collection Date: 16-Sep-2014 11:20

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-07  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				Prep:SW3510 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		0.20	0.20	ug/L	1	23-Sep-2014 17:07
Surr: 2,4,6-Tribromophenol	77.6			34-129	%REC	1	23-Sep-2014 17:07
Surr: 2-Fluorobiphenyl	65.6			40-125	%REC	1	23-Sep-2014 17:07
Surr: 2-Fluorophenol	64.6			20-120	%REC	1	23-Sep-2014 17:07
Surr: 4-Terphenyl-d14	78.7			40-135	%REC	1	23-Sep-2014 17:07
Surr: Nitrobenzene-d5	92.7			41-120	%REC	1	23-Sep-2014 17:07
Surr: Phenol-d6	66.5			20-120	%REC	1	23-Sep-2014 17:07

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-03-091614-W-D  
 Collection Date: 16-Sep-2014 11:20

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-08  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				Prep:SW3510 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		0.20	0.20	ug/L	1	23-Sep-2014 16:48
Surr: 2,4,6-Tribromophenol	44.3			34-129	%REC	1	23-Sep-2014 16:48
Surr: 2-Fluorobiphenyl	47.1			40-125	%REC	1	23-Sep-2014 16:48
Surr: 2-Fluorophenol	64.8			20-120	%REC	1	23-Sep-2014 16:48
Surr: 4-Terphenyl-d14	83.5			40-135	%REC	1	23-Sep-2014 16:48
Surr: Nitrobenzene-d5	102			41-120	%REC	1	23-Sep-2014 16:48
Surr: Phenol-d6	65.3			20-120	%REC	1	23-Sep-2014 16:48

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-04-091614-S  
 Collection Date: 16-Sep-2014 00:05

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-09  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	44.7		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		530	530	ug/Kg-dry	5	23-Sep-2014 19:02
Surr: 2,4,6-Tribromophenol	108			36-126	%REC	5	23-Sep-2014 19:02
Surr: 2-Fluorobiphenyl	97.5			43-125	%REC	5	23-Sep-2014 19:02
Surr: 2-Fluorophenol	93.4			37-125	%REC	5	23-Sep-2014 19:02
Surr: 4-Terphenyl-d14	124			32-125	%REC	5	23-Sep-2014 19:02
Surr: Nitrobenzene-d5	102			37-125	%REC	5	23-Sep-2014 19:02
Surr: Phenol-d6	96.7			40-125	%REC	5	23-Sep-2014 19:02

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-04-091614-W  
 Collection Date: 16-Sep-2014 12:05

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-10  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				Prep:SW3510 / 22-Sep-2014		Analyst: LG
<b>Tetraethyl lead</b>	<b>0.60</b>		<b>0.20</b>	<b>0.20</b>	<b>ug/L</b>	1	23-Sep-2014 00:13
<i>Surr: 2,4,6-Tribromophenol</i>	59.2			34-129	%REC	1	23-Sep-2014 00:13
<i>Surr: 2-Fluorobiphenyl</i>	57.2			40-125	%REC	1	23-Sep-2014 00:13
<i>Surr: 2-Fluorophenol</i>	36.2			20-120	%REC	1	23-Sep-2014 00:13
<i>Surr: 4-Terphenyl-d14</i>	79.5			40-135	%REC	1	23-Sep-2014 00:13
<i>Surr: Nitrobenzene-d5</i>	95.8			41-120	%REC	1	23-Sep-2014 00:13
<i>Surr: Phenol-d6</i>	40.9			20-120	%REC	1	23-Sep-2014 00:13

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-05-091614-S  
 Collection Date: 16-Sep-2014 13:05

**ANALYTICAL REPORT**

WorkOrder:HS14090741  
 Lab ID:HS14090741-11  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	31.7		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		4600	4600	ug/Kg-dry	10	23-Sep-2014 19:59
Surr: 2,4,6-Tribromophenol	83.3	J		36-126	%REC	10	23-Sep-2014 19:59
Surr: 2-Fluorobiphenyl	94.7	J		43-125	%REC	10	23-Sep-2014 19:59
Surr: 2-Fluorophenol	99.7	J		37-125	%REC	10	23-Sep-2014 19:59
Surr: 4-Terphenyl-d14	110	J		32-125	%REC	10	23-Sep-2014 19:59
Surr: Nitrobenzene-d5	67.7	J		37-125	%REC	10	23-Sep-2014 19:59
Surr: Phenol-d6	45.5	J		40-125	%REC	10	23-Sep-2014 19:59

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-05-091614-W  
 Collection Date: 16-Sep-2014 13:05

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-12  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				Prep:SW3510 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		0.20	0.20	ug/L	1	23-Sep-2014 15:32
Surr: 2,4,6-Tribromophenol	103			34-129	%REC	1	23-Sep-2014 15:32
Surr: 2-Fluorobiphenyl	70.6			40-125	%REC	1	23-Sep-2014 15:32
Surr: 2-Fluorophenol	71.4			20-120	%REC	1	23-Sep-2014 15:32
Surr: 4-Terphenyl-d14	86.2			40-135	%REC	1	23-Sep-2014 15:32
Surr: Nitrobenzene-d5	72.7			41-120	%REC	1	23-Sep-2014 15:32
Surr: Phenol-d6	73.2			20-120	%REC	1	23-Sep-2014 15:32

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Tetra Tech  
**Project:** ECI-Indianapolis Blvd  
**WorkOrder:** HS14090741

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
<b>Batch ID 86218</b>		<b>Test Name : LOW-LEVEL SEMIVOLATILES</b>		<b>Matrix: Soil</b>		
HS14090741-01	ECI-01-091614-S	16 Sep 2014 10:00		22 Sep 2014 11:32	23 Sep 2014 17:46	5
HS14090741-03	ECI-02-091614-S	16 Sep 2014 10:50		22 Sep 2014 11:32	23 Sep 2014 18:05	5
HS14090741-05	ECI-03-091614-S	16 Sep 2014 11:20		22 Sep 2014 11:32	23 Sep 2014 18:24	5
HS14090741-06	ECI-03-091614-S-D	16 Sep 2014 11:20		22 Sep 2014 11:32	23 Sep 2014 18:43	5
HS14090741-09	ECI-04-091614-S	16 Sep 2014 00:05		22 Sep 2014 11:32	23 Sep 2014 19:02	5
HS14090741-11	ECI-05-091614-S	16 Sep 2014 13:05		22 Sep 2014 11:32	23 Sep 2014 19:59	10
<b>Batch ID 86255</b>		<b>Test Name : LOW-LEVEL SEMIVOLATILES</b>		<b>Matrix: Water</b>		
HS14090741-02	ECI-01-091614-W	16 Sep 2014 10:00		22 Sep 2014 19:46	22 Sep 2014 21:22	1
HS14090741-04	ECI-02-091614-W	16 Sep 2014 10:50		22 Sep 2014 19:46	23 Sep 2014 17:26	1
HS14090741-07	ECI-03-091614-W	16 Sep 2014 11:20		22 Sep 2014 19:46	23 Sep 2014 17:07	1
HS14090741-08	ECI-03-091614-W-D	16 Sep 2014 11:20		22 Sep 2014 19:46	23 Sep 2014 16:48	1
HS14090741-10	ECI-04-091614-W	16 Sep 2014 12:05		22 Sep 2014 19:46	23 Sep 2014 00:13	1
HS14090741-12	ECI-05-091614-W	16 Sep 2014 13:05		22 Sep 2014 19:46	23 Sep 2014 15:32	1
<b>Batch ID R241208</b>		<b>Test Name : MOISTURE</b>		<b>Matrix: Soil</b>		
HS14090741-01	ECI-01-091614-S	16 Sep 2014 10:00			19 Sep 2014 14:35	1
HS14090741-03	ECI-02-091614-S	16 Sep 2014 10:50			19 Sep 2014 14:35	1
HS14090741-05	ECI-03-091614-S	16 Sep 2014 11:20			19 Sep 2014 14:35	1
HS14090741-06	ECI-03-091614-S-D	16 Sep 2014 11:20			19 Sep 2014 14:35	1
HS14090741-09	ECI-04-091614-S	16 Sep 2014 00:05			19 Sep 2014 14:35	1
HS14090741-11	ECI-05-091614-S	16 Sep 2014 13:05			19 Sep 2014 14:35	1

Client: Tetra Tech  
 WorkOrder: HS14090741  
 Project: ECI-Indianapolis Blvd

**QC BATCH REPORT**

<b>Batch ID:</b> 86218	<b>Instrument:</b> SV-7	<b>Method:</b> SW8270
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<b>MBLK</b>	Sample ID: <b>MBLK-86218</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 13:57</b>							
Client ID:	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019145</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	U	6.6								
Surr: 2,4,6-Tribromophenol	134.6	6.6	167	0	80.6	36 - 126				
Surr: 2-Fluorobiphenyl	120.7	6.6	167	0	72.3	43 - 125				
Surr: 2-Fluorophenol	141.5	6.6	167	0	84.7	37 - 125				
Surr: 4-Terphenyl-d14	140.8	6.6	167	0	84.3	32 - 125				
Surr: Nitrobenzene-d5	119.4	6.6	167	0	71.5	37 - 125				
Surr: Phenol-d6	133.5	6.6	167	0	80.0	40 - 125				

<b>LCS</b>	Sample ID: <b>LCS-86218</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 14:15</b>							
Client ID:	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019146</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	156.9	6.6	167	0	93.9	40 - 140				
Surr: 2,4,6-Tribromophenol	157.8	6.6	167	0	94.5	36 - 126				
Surr: 2-Fluorobiphenyl	134.6	6.6	167	0	80.6	43 - 125				
Surr: 2-Fluorophenol	125	6.6	167	0	74.8	37 - 125				
Surr: 4-Terphenyl-d14	158.2	6.6	167	0	94.7	32 - 125				
Surr: Nitrobenzene-d5	141.5	6.6	167	0	84.7	37 - 125				
Surr: Phenol-d6	127.8	6.6	167	0	76.5	40 - 125				

<b>MS</b>	Sample ID: <b>HS14090749-01MS</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 20:37</b>							
Client ID:	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019156</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>5</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	791.2	300	996	0	79.4	40 - 140				
Surr: 2,4,6-Tribromophenol	713.4	300	996	0	71.6	36 - 126				
Surr: 2-Fluorobiphenyl	619.3	300	996	0	62.2	43 - 125				
Surr: 2-Fluorophenol	422.5	300	996	0	42.4	37 - 125				
Surr: 4-Terphenyl-d14	1000	300	996	0	100	32 - 125				
Surr: Nitrobenzene-d5	611.1	300	996	0	61.3	37 - 125				
Surr: Phenol-d6	688.3	300	996	0	69.1	40 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 WorkOrder: HS14090741  
 Project: ECI-Indianapolis Blvd

**QC BATCH REPORT**

<b>Batch ID:</b> 86218	<b>Instrument:</b> SV-7	<b>Method:</b> SW8270
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<b>MS</b>	Sample ID: <b>HS14090741-09MS</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 19:21</b>							
Client ID: <b>ECI-04-091614-S</b>	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019152</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>5</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Tetraethyl lead	824	190	984.3	0	83.7	40 - 140				
Surr: 2,4,6-Tribromophenol	887.1	190	984.3	0	90.1	36 - 126				
Surr: 2-Fluorobiphenyl	702.2	190	984.3	0	71.3	43 - 125				
Surr: 2-Fluorophenol	648.9	190	984.3	0	65.9	37 - 125				
Surr: 4-Terphenyl-d14	934.6	190	984.3	0	95.0	32 - 125				
Surr: Nitrobenzene-d5	802.7	190	984.3	0	81.5	37 - 125				
Surr: Phenol-d6	688.3	190	984.3	0	69.9	40 - 125				

<b>MSD</b>	Sample ID: <b>HS14090749-01MSD</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 20:56</b>							
Client ID:	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019157</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>5</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Tetraethyl lead	857.6	290	994	0	86.3	40 - 140	791.2	8.06	30	
Surr: 2,4,6-Tribromophenol	830.1	290	994	0	83.5	36 - 126	713.4	15.1	30	
Surr: 2-Fluorobiphenyl	693.4	290	994	0	69.8	43 - 125	619.3	11.3	30	
Surr: 2-Fluorophenol	511.8	290	994	0	51.5	37 - 125	422.5	19.1	30	
Surr: 4-Terphenyl-d14	1078	290	994	0	108	32 - 125	1000	7.44	30	
Surr: Nitrobenzene-d5	874.4	290	994	0	88.0	37 - 125	611.1	35.5	30	R
Surr: Phenol-d6	881.6	290	994	0	88.7	40 - 125	688.3	24.6	30	

<b>MSD</b>	Sample ID: <b>HS14090741-09MSD</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 19:40</b>							
Client ID: <b>ECI-04-091614-S</b>	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019153</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>5</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	RPD Qual
Tetraethyl lead	824.9	200	998	0	82.7	40 - 140	824	0.11	30	
Surr: 2,4,6-Tribromophenol	929.8	200	998	0	93.2	36 - 126	887.1	4.7	30	
Surr: 2-Fluorobiphenyl	724.4	200	998	0	72.6	43 - 125	702.2	3.1	30	
Surr: 2-Fluorophenol	720.8	200	998	0	72.2	37 - 125	648.9	10.5	30	
Surr: 4-Terphenyl-d14	925.4	200	998	0	92.7	32 - 125	934.6	0.994	30	
Surr: Nitrobenzene-d5	718.4	200	998	0	72.0	37 - 125	802.7	11.1	30	
Surr: Phenol-d6	654.4	200	998	0	65.6	40 - 125	688.3	5.05	30	

The following samples were analyzed in this batch: HS14090741-01 HS14090741-03 HS14090741-05 HS14090741-06  
 HS14090741-09 HS14090741-11

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 WorkOrder: HS14090741  
 Project: ECI-Indianapolis Blvd

**QC BATCH REPORT**

<b>Batch ID:</b> 86255	<b>Instrument:</b> SV-7	<b>Method:</b> SW8270
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<b>MBLK</b>	Sample ID: <b>MBLK-86255</b>	Units: <b>ug/L</b>	Analysis Date: <b>22-Sep-2014 15:57</b>							
Client ID:	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018879</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	U	0.20								
Surr: 2,4,6-Tribromophenol	3.344	0.20	5	0	66.9	34 - 129				
Surr: 2-Fluorobiphenyl	3.769	0.20	5	0	75.4	40 - 125				
Surr: 2-Fluorophenol	3.226	0.20	5	0	64.5	20 - 120				
Surr: 4-Terphenyl-d14	4.347	0.20	5	0	86.9	40 - 135				
Surr: Nitrobenzene-d5	4.001	0.20	5	0	80.0	41 - 120				
Surr: Phenol-d6	3.562	0.20	5	0	71.2	20 - 120				

<b>LCS</b>	Sample ID: <b>LCS-86255</b>	Units: <b>ug/L</b>	Analysis Date: <b>22-Sep-2014 16:16</b>							
Client ID:	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018880</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	3.357	0.20	5	0	67.1	40 - 140				
Surr: 2,4,6-Tribromophenol	2.938	0.20	5	0	58.8	34 - 129				
Surr: 2-Fluorobiphenyl	3.428	0.20	5	0	68.6	40 - 125				
Surr: 2-Fluorophenol	2.82	0.20	5	0	56.4	20 - 120				
Surr: 4-Terphenyl-d14	4.146	0.20	5	0	82.9	40 - 135				
Surr: Nitrobenzene-d5	3.564	0.20	5	0	71.3	41 - 120				
Surr: Phenol-d6	3.196	0.20	5	0	63.9	20 - 120				

<b>LCSD</b>	Sample ID: <b>LCSD-86255</b>	Units: <b>ug/L</b>	Analysis Date: <b>22-Sep-2014 16:36</b>							
Client ID:	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018881</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	3.662	0.20	5	0	73.2	40 - 140	3.357	8.68	20	
Surr: 2,4,6-Tribromophenol	2.944	0.20	5	0	58.9	34 - 129	2.938	0.207		
Surr: 2-Fluorobiphenyl	3.792	0.20	5	0	75.8	40 - 125	3.428	10.1		
Surr: 2-Fluorophenol	3.232	0.20	5	0	64.6	20 - 120	2.82	13.6		
Surr: 4-Terphenyl-d14	4.479	0.20	5	0	89.6	40 - 135	4.146	7.71		
Surr: Nitrobenzene-d5	3.916	0.20	5	0	78.3	41 - 120	3.564	9.43		
Surr: Phenol-d6	3.514	0.20	5	0	70.3	20 - 120	3.196	9.46		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 WorkOrder: HS14090741  
 Project: ECI-Indianapolis Blvd

**QC BATCH REPORT**

<b>Batch ID:</b> 86255	<b>Instrument:</b> SV-7	<b>Method:</b> SW8270
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<b>MS</b>	Sample ID: <b>HS14090741-10MS</b>	Units: <b>ug/L</b>	Analysis Date: <b>23-Sep-2014 00:32</b>							
Client ID: <b>ECI-04-091614-W</b>	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018885</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	2.151	0.20	5	0.5965	31.1	40 - 140				S
Surr: 2,4,6-Tribromophenol	1.987	0.20	5	0	39.7	34 - 129				
Surr: 2-Fluorobiphenyl	2.248	0.20	5	0	45.0	40 - 125				
Surr: 2-Fluorophenol	1.262	0.20	5	0	25.2	20 - 120				
Surr: 4-Terphenyl-d14	3.349	0.20	5	0	67.0	40 - 135				
Surr: Nitrobenzene-d5	3.642	0.20	5	0	72.8	41 - 120				
Surr: Phenol-d6	1.691	0.20	5	0	33.8	20 - 120				

<b>MSD</b>	Sample ID: <b>HS14090741-10MSD</b>	Units: <b>ug/L</b>	Analysis Date: <b>23-Sep-2014 00:51</b>							
Client ID: <b>ECI-04-091614-W</b>	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018886</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	2.652	0.20	5	0.5965	41.1	40 - 140	2.151	20.9	20	R
Surr: 2,4,6-Tribromophenol	2.881	0.20	5	0	57.6	34 - 129	1.987	36.8		
Surr: 2-Fluorobiphenyl	3.23	0.20	5	0	64.6	40 - 125	2.248	35.8		
Surr: 2-Fluorophenol	1.947	0.20	5	0	38.9	20 - 120	1.262	42.7		
Surr: 4-Terphenyl-d14	5.132	0.20	5	0	103	40 - 135	3.349	42.1		
Surr: Nitrobenzene-d5	3.266	0.20	5	0	65.3	41 - 120	3.642	10.9		
Surr: Phenol-d6	2.494	0.20	5	0	49.9	20 - 120	1.691	38.3		

The following samples were analyzed in this batch: HS14090741-02 HS14090741-04 HS14090741-07 HS14090741-08  
 HS14090741-10 HS14090741-12

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 WorkOrder: HS14090741  
 Project: ECI-Indianapolis Blvd

**QC BATCH REPORT**

<b>Batch ID:</b> R241208	<b>Instrument:</b> Balance1	<b>Method:</b> SW3550
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<b>DUP</b>	Sample ID: <b>HS14090749-01DUP</b>	Units: <b>wt%</b>	Analysis Date: <b>19-Sep-2014 14:35</b>							
Client ID:	Run ID: <b>Balance1_241208</b>	SeqNo: <b>3011518</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Percent Moisture	25.72	0.0100	23.55	8.81	20
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<b>DUP</b>	Sample ID: <b>HS14090741-09DUP</b>	Units: <b>wt%</b>	Analysis Date: <b>19-Sep-2014 14:35</b>							
Client ID: <b>ECI-04-091614-S</b>	Run ID: <b>Balance1_241208</b>	SeqNo: <b>3011515</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Percent Moisture	42	0.0100	44.74	6.33	20
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<b>The following samples were analyzed in this batch:</b>	HS14090741-01	HS14090741-03	HS14090741-05	HS14090741-06
	HS14090741-09	HS14090741-11		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Tetra Tech  
**Project:** ECI-Indianapolis Blvd  
**WorkOrder:** HS14090741

**QUALIFIERS,  
ACRONYMS, UNITS**

<b>Qualifier</b>	<b>Description</b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

<b>Acronym</b>	<b>Description</b>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

**CERTIFICATIONS,ACCREDITATIONS & LICENSES**

<b>Agency</b>	<b>Number</b>	<b>Expire Date</b>
Arkansas	AR - 2014	27-Mar-2015
California	2919	31-Jul-2015
Dept of Defense	L2231 Rev 3-20-2014	22-Dec-2015
Illinois	003403	09-May-2015
Kansas	E-10352 8/15/2013-2014	01-Oct-2014
Kentucky	KY 2014-2015	30-Apr-2015
Louisiana	03087 2014/2015	30-Jun-2015
North Carolina	624 - 2014	31-Dec-2014
North Dakota	R-193 2025	30-Apr-2015
Oklahoma	2014-128	31-Aug-2015
Texas	TX104704231-14-13	30-Apr-2015

**Client:** Tetra Tech  
**Project:** ECI-Indianapolis Blvd  
**Work Order:** HS14090741

**SAMPLE TRACKING**

Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS14090741-01	ECI-01-091614-S	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-02	ECI-01-091614-W	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-03	ECI-02-091614-S	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-04	ECI-02-091614-W	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-05	ECI-03-091614-S	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-06	ECI-03-091614-S-D	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-07	ECI-03-091614-W	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-08	ECI-03-091614-W-D	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-09	ECI-04-091614-S	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-10	ECI-04-091614-W	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-11	ECI-05-091614-S	Login	9/18/2014 5:21:56 PM	SLS	26C
HS14090741-12	ECI-05-091614-W	Login	9/18/2014 5:21:56 PM	SLS	26C

Sample Receipt Checklist

Client Name: Tetra Tech-Chicago  
 Work Order: HS14090741

Date/Time Received: **18-Sep-2014 09:45**  
 Received by: **JOD**

Checklist completed by: Stephen L. Smith 18-Sep-2014  
 eSignature Date

Reviewed by: Bethany McDaniel 19-Sep-2014  
 eSignature Date

Matrices: **water**

Carrier name: **FedEx**

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container/Temp Blank temperature in compliance? Yes  No

Temperature(s)/Thermometer(s): 4.3/4.3 c/u; 7.2/7.2 c/u 1

Cooler(s)/Kit(s): red/blue

Date/Time sample(s) sent to storage: 09/18/2014 1900

Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted

Water - pH acceptable upon receipt? Yes  No  N/A

pH adjusted? Yes  No  N/A

pH adjusted by:

Login Notes: Soils in blue cooler - out of temp, delayed by fed ex one day.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:



Environmental

Cincinnati, OH  
+1 513 733 5336  
Everett, WA  
+1 425 356 2600

Fort Collins, CO  
+1 970 490 1511  
Holland, MI  
+1 616 399 6070

Chain of Custody Form

Page 2 of 2

COC ID: 107011

HS14090741

Tetra Tech  
ECI-Indianapolis Blvd



ALS Project Manager:

Customer Information		Project Information		
Purchase Order	1108956	Project Name	ECI-INDIANAPOLIS BLVD	A TETRA ETHYL LEAD
Work Order		Project Number		B
Company Name	Tetra Tech EM Inc.	Bill To Company	Tetra Tech EM Inc.	C
Send Report To	ADAM PETERCA	Invoice Attn	11	D
Address	1 South Wacker Dr	Address	1 South Wacker Dr	E
	Suite 3700		Suite 3700	F
City/State/Zip	Chicago, IL 60606	City/State/Zip	Chicago, IL 60606	G
Phone	(312) 201-7411	Phone	(312) 201-7411	H
Fax	(312) 938-0118	Fax	(312) 938-0118	I
e-Mail Address	ADAM.PETERCA@TETRATECH.COM	e-Mail Address		J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	ECI-04-091614-W	9/16/14	1205	WATER	-	2	X										
2	ECI-04-091614-W-MS/MSD	9/16/14	1205	WATER	-	4	X										
3	ECI-05-091614-S	9/16/14	1305	SOIL	-	1	X										
4	ECI-05-091614-W	9/16/14	1305	WATER	-	2	X										
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s) Please Print & Sign: MATT VILICANA / [Signature] Shipment Method: COURIER Required Turnaround Time: (Check Box)  10 WK Days  5 WK Days  2 WK Days  24 Hour Results Due Date: \_\_\_\_\_

Relinquished by: ADAM PETERCA / [Signature] Date: 9/16/14 Time: 1619 Received by: [Signature] Notes: \_\_\_\_\_  
 Relinquished by: [Signature] Date: \_\_\_\_\_ Time: \_\_\_\_\_ Received by (Laboratory): \_\_\_\_\_ Cooler ID: red Cooler Temp: 4.3  
 Logged by (Laboratory): \_\_\_\_\_ Date: 9/18/14 Time: 945 Checked by (Laboratory): [Signature] QC Package: (Check One Box Below)  Level II Std CoC  TRRP Check List  Level III Std CoC/Raw Data  TRRP Level IV  Level IV SW846/CLP  Other

Preservative Key: 1-HCl 2-HNO<sub>3</sub> 3-H<sub>2</sub>SO<sub>4</sub> 4-NaOH 5-Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> 6-NaHSO<sub>4</sub> 7-Other 8-4°C 9-5035

ote: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.  
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.  
 3. The Chain of Custody is a legal document. All information provided is for informational purposes only.

From: (219) 405-5409  
Pete Wesson  
ALS Environmental  
100 N Jackson Blvd  
  
Chesterton, IN 46304

Origin ID: MGCA



Ship Date: 16SEP14  
ActWgt: 55.0 LB  
CAD: 2264840/INET3550

Delivery Address Bar Code



SHIP TO: (281) 530-5656  
**Accounts Payable**  
**ALS Environmental**  
**10450 Stancliff Rd**  
**St 210**  
**HOUSTON, TX 77099**

BILL RECIPIENT

Ref #  
Invoice #  
PO #  
Dept #

1 of 2

WED - 17 SEP 10:30A  
PRIORITY OVERNIGHT

TRK# 7711 7883 2400

0201

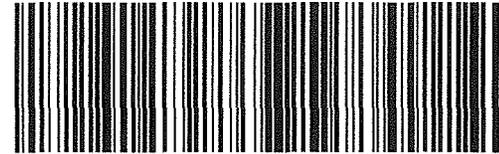
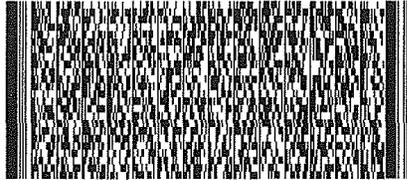
## MASTER ##

77099

TX-US

IAH

**NB SGRA**



522G1/CDB4/8AC9

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on [fedex.com](http://fedex.com). FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

From: (219) 405-5409  
Pete Wasson  
ALS Environmental  
100 N Jackson Blvd  
Chesterton, IN 46304

Origin ID: MGCA



Ship Date: 16SEP14  
ActWgt: 62.0 LB  
CAD: 2264840/INET3550

Delivery Address Bar Code



SHIP TO: (281) 530-3656  
**Accounts Payable**  
**ALS Environmental**  
**10450 Stancliff Rd**  
**St 210**  
**HOUSTON, TX 77099**

BILL RECIPIENT

Ref #  
Invoice #  
PO #  
Dept #

2 of 2

WED - 17 SEP 10:30A  
PRIORITY OVERNIGHT

MPS# 7711 7883 2065

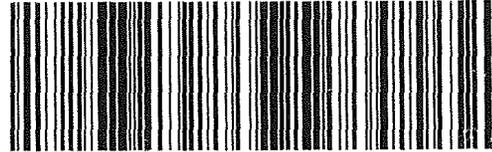
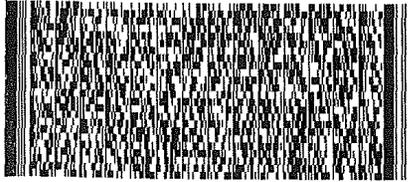
0263

Mstr# 7711 7883 2400

0201

77099  
TX-US  
IAH

**NB SGRA**



52261103948102

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 **ALS Environmental**  
3352 128th Avenue  
Holland, Michigan 49424  
Tel. +1 616 399 6070  
Fax. +1 616 399 6185

Environmental	<b>CUSTOMER SEAL</b>	Seal Broken By:
149424	Date: 9/16/14	Time: 1800
70	Name: [Signature]	Date: 9/19/14
85	Company: [Signature]	

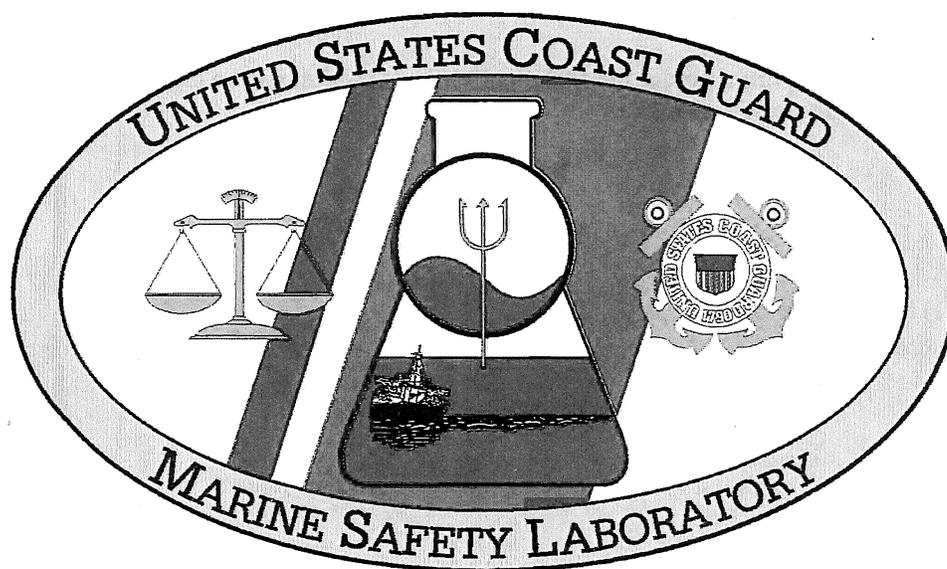
2400 3817		<b>ALS Environmental</b> 3352 128th Avenue Holland, Michigan 49424 Tel. +1 616 399 6070 Fax. +1 616 399 6185	<b>CUST</b> Date: १०/११/१५ Name: Company:

<b>ODY SEAL</b> Time: 130 PJB	Seal Broken By: Date:

# **Oil Sample Analysis Report**

**U. S. EPA Region V  
Case Number E13502**

**Marine Safety Laboratory  
Case Number 14-224**



U.S. Department of  
Homeland Security

**United States  
Coast Guard**



Manager  
U.S. Coast Guard  
Marine Safety Laboratory

1 Chelsea Street  
New London, CT 06320  
Phone: (860) 271-2704  
Fax: (860) 271-2641

16450  
15 Oct 2014

U. S. Environmental Protection Agency  
Attn: On-Scene Coordinator  
77 West Jackson Blvd  
Chicago, IL 60604

Dear On-Scene Coordinator:

The laboratory analysis of this case has been completed and our report is forwarded. The technical data supporting the report (spectrograms and chromatograms) have been archived at our facility and are available upon request. We will maintain the oil samples in refrigerated storage pending final case disposition.

Questions concerning this report or the analytical methods used should be directed to the Supervisor of Analysis, Kristy Juare.

  
K. JUAIRE

Encl: (1) MSL Report 14-224

**United States Coast Guard  
Marine Safety Laboratory  
Oil Sample Analysis Report  
14-224**

**Requestor:** U. S. EPA Region V

**Unit Case/Activity Number:** E13502

**Received:** 18-Sep-14                      **Via:** Federal Express      8060 9116 2819 / 2841

**Number Of Samples:** 10  
    **Lab NO. of Spills:** 1 through 10  
    **Lab NO. of Suspects:** n/a  
    **Lab NO. of Background:** n/a

**Analysis Methods:**

- GAS CHROMATOGRAPHY (GC)
- GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS)
- INFRARED SPECTROSCOPY (IR)

**Laboratory's Conclusion (as explained below): MATCH**

SPECIAL INSTRUCTIONS: Compare to samples 13-049-1 and 5 and to samples 13-118-1, 2, 3, 4, 8, 9, 10, and 11. Samples 13-049-1 and 5 do not contain sufficient volume for analysis. Samples 13-118-8, 9, 10, and 11 were reanalyzed as representative samples, as prior analysis determined samples 13-118-1, 2, 3, 4, and 8 derive from a common source of petroleum oil.

**RESULTS:**

1. Samples 14-224-1, 2, 3, 4, 5, 6, 7, 8, 9, and 10 were specified to be representative of spilled oil. Analysis indicates:
  - A. Samples 14-224-1, 2, 3, 4, and 5 are similar to each other and contain moderately biodegraded intermediate to heavy petroleum oil. Differences are attributable to weathering.
  - B. Samples 14-224-6 and 8 are similar to each other and contain moderately biodegraded intermediate to heavy petroleum oil with overall characteristics somewhat similar to those of spill samples 14-224-1, 2, 3, 4, and 5. However, not all differences are attributable to weathering.
  - C. Samples 14-224-9 and 10 contain moderately biodegraded intermediate to heavy petroleum oil with characteristics different from each other and from samples 14-224-1, 2, 3, 4, 5, 6, and 8. Differences are not attributable to weathering or to the non-petroleum contamination observed in sample 14-224-10.
  - D. Sample 14-224-7 contains moderately biodegraded intermediate to heavy petroleum oil. The quantity of petroleum oil present is not sufficient for comparison purposes based on the analysis conducted.
2. Sample 13-118-8 contains moderately biodegraded intermediate to heavy petroleum oil with characteristics similar to those of spill samples 14-224-6 and 8. Differences are attributable to weathering.
3. Samples 13-118-9, 10, and 11 are different from samples 14-224-1, 2, 3, 4, 5, 6, 8, 9, and 10. The differences are not attributable to weathering.

**SUPERVISOR OF ANALYSIS**

K. JUAIRE



**DATE**

15-Oct-14

**United States Coast Guard  
Marine Safety Laboratory  
Oil Sample Analysis Report  
Continuation  
14-224**

CONCLUSIONS:

1. Samples 14-224-1, 2, 3, 4, and 5 represent different portions of the same spilled oil.
2. Samples 14-224-6 and 8 represent different portions of the same spilled oil.
3. Sample 13-118-8 and samples 14-224-6 and 8 are derived from a common source of petroleum oil.
4. Samples 14-224-9 and 10 are different from samples 14-224-1, 2, 3, 4, 5, 6, and 8.
5. Samples 13-118-9, 10, and 11 are different from samples 14-224-1, 2, 3, 4, 5, 6, 8, 9, and 10.
6. Sample 14-224-7 does not contain a quantity of petroleum oil sufficient for conclusive comparison purposes.

SUPERVISOR OF ANALYSIS K. JUAIRE  DATE 15-Oct-14

---

**United States Coast Guard  
Marine Safety Laboratory**

**Oil Spill Identification Analysis  
Cost Recovery Documentation**

---

**Laboratory Case Number:** 14-224

**Requestor:** U. S. EPA Region V

**Unit Case Number:** E13502

**Number of Samples:** 12

**Cost Per Sample Prepared:** \$20.00

**Total Costs of Sample Preparation:** \$240.00

**Number of Analyses:** 34

**Cost Per Sample Analyzed:** \$86.00

**Total Costs for Analysis:** \$2,924.00

**TOTAL COSTS:** \$3,164.00

This documentation is provided for purposes of Phase IV - Documentation and  
Cost Recovery under the National Oil and Hazardous Substances Pollution  
Contingency Plan (40 CFR Part 300)

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



**Date:** 15 Oct 2014

**United States Coast Guard  
Marine Safety Laboratory Sample  
Check-In Log**

**MSL Case/Activity Number: 14-224**

**Requestor:** U. S. EPA Region V

**Unit Case Number** E13502

**Federal Project Number:** E13502

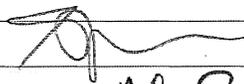
**Delivery Method:** Federal Express

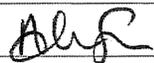
**Received Date:** 18 Sep 14

**Delivery Number:** 8060 9116 2819 / 2841

**Priority:** No                      **Rush:** No                      **Comparison** Yes

Lab Number 14-224	Sample Descriptions from Sample Jars	Spill	Source
1	01 SOIL FROM ECI-01-091614-S 9/16/14 1000	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	02 WATER/ SHEEN FROM ECI-01-091614-W 9/16/14 1000	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	03 SOIL FROM ECI-02-091614-S 9/16/14 1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	04 WATER/ SHEEN FROM ECI-02-091614-W 9/16/14 1050	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	05 SOIL FROM ECI-03-091614-S 9/16/14 1120	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	06 WATER/ SHEEN FROM ECI-03-091614-W 9/16/14 1120	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	07 SOIL FROM ECI-04-091614-S 9/16/14 1205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	08 WATER/ SHEEN FROM ECI-04-091614-W 9/16/14 1205	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	09 SOIL FROM ECI-05-091614-S 9/16/14 1305	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	10 WATER/SHEEN FROM ECI-05-091614-W 9/16/14 1305	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Remarks:</b> Compare to 13-049 samples 1 and 5, and case 13-118 samples 1, 2, 3, 4, 8, 9, 10 and 11. Received samples 09 and 10 on 22 Sep 14.			

**Samples checked in by:** MST1 SEAN JANNE  **Date:** 18 Sep 14

**Sample Custodian:** MST1 ALEXANDER SHUNDA  **Date:** 22 Sep 14

**Supervisor of Analysis:** K. JUAIRE  **Date:** 15 Oct 14

**United States Coast Guard  
Marine Safety Laboratory Sample  
Check-In Log**

**MSL Case/Activity Number: 13-049**

**Requestor:** U. S. EPA Region V

**Unit Case Number** E13502

**Federal Project Number:** E13502

**Delivery Method:** Federal Express

**Received Date:** 23 Nov 12

**Delivery Number:** 8001 3250 9229

**Priority:** No                      **Rush:** No                      **Comparison:** No

Lab Number 13-049	Sample Descriptions from Sample Jars	Spill	Source
1	1 SHEEN ON INDIANA HARBOR CANAL 11/21/12 0915 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	2 SHEEN ON SORBENT MATERIAL 11/21/12 0917 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	3 SHEEN ON WATER - CENTRAL CANAL 11/21/12 0941 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	4 OUTFALL WATER 11/21/12 1000 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	5 SHEEN - NORTH SIDE OF CANAL 11/21/12 1012 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	6 WATER FROM CANAL - BACKGROUND 11/21/12 1016 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	7 SHEEN/OIL SAMPLE 11/21/12 1019 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	8 SATURATED SORBENT PAD 11/21/12 1024 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	9 SATURATED SEDIMENT 11/21/12 1025 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	10 SHEEN SAMPLE FROM RECOVERY AREA 11/16/12 1315 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Remarks:</b> Sample 6 designated as "Spill" for comparison purposes.			

**Samples checked in by:** SK2 FRANKLIN PINE *20:02*                      **Date:** 23 Nov 12

**Sample Custodian:** MST3 ZACHARY COTE *Zachary A. Cote*                      **Date:** 28 Nov 12

**Supervisor of Analysis:** K. JUAIRE *Kristy Juaine*                      **Date:** 03 Dec 12

**United States Coast Guard  
Marine Safety Laboratory Sample  
Check-In Log**

**MSL Case/Activity Number: 13-118**

**Requestor:** U. S. EPA Region V

**Unit Case Number** E13502

**Federal Project Number:** E13502

**Delivery Method:** Federal Express

**Received Date:** 03 Apr 13

**Delivery Number:** 8025 3722 9456

**Priority:** No                      **Rush:** No                      **Comparison** Yes

Lab Number 13-118	Sample Descriptions from Sample Jars	Spill	Source
1	1 LIQUID SHEEN 4/1/13 1115	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	2 OILED SEDIMENT 4/1/13 1120	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	3 MOUSSE 4/1/13 1130	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	4 SHEEN 4/1/13 1132	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	5 SEDIMENT 4/1/13 1137	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	6 SHEEN 4/1/13 1140	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	7 SHEEN 4/1/13 1142	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	8 OIL/SHEEN 4/1/13 1150	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	9 OIL/SHEEN 4/1/13 1152	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	10 MOUSSE 4/1/13 1215	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Remarks:</b> Compare to 13-049.			

**Samples checked in by:** SK2 FRANKLIN PINE ZEOR                      **Date:** 03 Apr 13

**Sample Custodian:** MST3 MICHELLE KOSMO Michelle Kosmo                      **Date:** 10 APR 13

**Supervisor of Analysis:** K. JUAIRE K. Juare                      **Date:** 10 APR 13

**United States Coast Guard  
Marine Safety Laboratory  
Check-In Log**

**MSL Case Number: 13-118**

Lab Number 13-118	Sample Descriptions from Sample Jars	Spill	Source
11	11 SHEEN  4/1/13 1230	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12		<input type="checkbox"/>	<input type="checkbox"/>
13		<input type="checkbox"/>	<input type="checkbox"/>
14		<input type="checkbox"/>	<input type="checkbox"/>
15		<input type="checkbox"/>	<input type="checkbox"/>
16		<input type="checkbox"/>	<input type="checkbox"/>
17		<input type="checkbox"/>	<input type="checkbox"/>
18		<input type="checkbox"/>	<input type="checkbox"/>
19		<input type="checkbox"/>	<input type="checkbox"/>
20		<input type="checkbox"/>	<input type="checkbox"/>

Samples checked in by: SK2 FRANKLIN PINE *reor* Date: 03 Apr 13

Sample Custodian: MST3 MICHELLE KOSMO *Michelle Kosmo* Date: 10 APR 13

Supervisor of Analysis: K. JUAIRE *K. Juairé* Date: 10 Apr 13

**STAT** Analysis Corporation

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

October 03, 2014

Tetra Tech EM Inc.  
1 South Wacker Drive  
Chicago, IL 60606

Telephone: (312) 201-7700  
Fax: (312) 938-0118

Analytical Report for STAT Work Order: 14090648 Revision 0

RE: ECI - Lake George

Dear Adam Peterca:

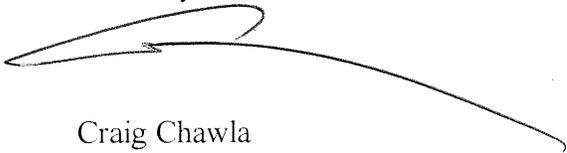
STAT Analysis received 8 samples for the referenced project on 9/16/2014 7:30:00 PM. The analytical results are presented in the following report.

All analyses were performed in accordance with the requirements of 35 IAC Part 186 / NELAC standards. Analyses were performed in accordance with methods as referenced on the analytical report. Those analytical results expressed on a dry weight basis are also noted on the analytical report.

All analyses were performed within established holding time criteria, and all Quality Control criteria met EPA or laboratory specifications except when noted in the Case Narrative or Analytical Report. If required, an estimate of uncertainty for the analyses can be provided. A listing of accredited methods/parameters can also be provided.

Thank you for the opportunity to serve you and I look forward to working with you in the future. If you have any questions regarding the enclosed materials, please contact me at (312) 733-0551.

Sincerely,



Craig Chawla  
Project Manager

*The information contained in this report and any attachments is confidential information intended only for the use of the individual or entities named above. The results of this report relate only to the samples tested. If you have received this report in error, please notify us immediately by phone. This report shall not be reproduced, except in its entirety, unless written approval has been obtained from the laboratory. This analytical report shall become property of the Customer upon payment in full. Otherwise, STAT will be under no obligation to support, defend or discuss the analytical report.*

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**Client:** Tetra Tech EM Inc.  
**Project:** ECI - Lake George  
**Work Order:** 14090648 Revision 0

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**Work Order Sample Summary**

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Lab Sample ID	Client Sample ID	Tag Number	Collection Date	Date Received
14090648-001A	ECI-06-091614-S	MS/MSD	9/16/2014 1:40:00 PM	9/16/2014
14090648-001B	ECI-06-091614-S	MS/MSD	9/16/2014 1:40:00 PM	9/16/2014
14090648-002A	ECI-06-091614-W		9/16/2014 1:40:00 PM	9/16/2014
14090648-002B	ECI-06-091614-W		9/16/2014 1:40:00 PM	9/16/2014
14090648-003A	ECI-07-091614-S		9/16/2014 2:00:00 PM	9/16/2014
14090648-003B	ECI-07-091614-S		9/16/2014 2:00:00 PM	9/16/2014
14090648-004A	ECI-07-091614-S-D		9/16/2014 2:00:00 PM	9/16/2014
14090648-004B	ECI-07-091614-S-D		9/16/2014 2:00:00 PM	9/16/2014
14090648-005A	ECI-07-091614-W		9/16/2014 2:00:00 PM	9/16/2014
14090648-005B	ECI-07-091614-W		9/16/2014 2:00:00 PM	9/16/2014
14090648-006A	ECI-07-091614-W-D		9/16/2014 2:00:00 PM	9/16/2014
14090648-006B	ECI-07-091614-W-D		9/16/2014 2:00:00 PM	9/16/2014
14090648-007A	ECI-08-091614-S		9/16/2014 2:15:00 PM	9/16/2014
14090648-007B	ECI-08-091614-S		9/16/2014 2:15:00 PM	9/16/2014
14090648-008A	ECI-08-091614-W		9/16/2014 2:15:00 PM	9/16/2014
14090648-008B	ECI-08-091614-W		9/16/2014 2:15:00 PM	9/16/2014

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**STAT Analysis Corporation**

2242 West Harrison St., Suite 200, Chicago, IL 60612-3766

Tel: (312) 733-0551 Fax: (312) 733-2386 STATinfo@STATAnalysis.com

Accreditations: IEPA ELAP 100445; ORELAP IL300001; AIHA-LAP, LLC 101160; NVLAP LabCode 101202-0

Date Reported: October 03, 2014

**ANALYTICAL RESULTS**

Date Printed: October 03, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 0  
 Project: ECI - Lake George  
 Lab ID: 14090648-001

Client Sample ID: ECI-06-091614-S  
 Collection Date: 9/16/2014 1:40:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	51000	26000		mg/Kg-dry	100	9/28/2014
TPH (ERO)	950	260	*	mg/Kg-dry	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.11		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.11		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.11		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.33		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	800	270	*	mg/Kg-dry	500	9/23/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	24.4	0.2	*	wt%	1	9/17/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 03, 2014

**ANALYTICAL RESULTS**

Date Printed: October 03, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 0  
 Project: ECI - Lake George  
 Lab ID: 14090648-002

Client Sample ID: ECI-06-091614-W  
 Collection Date: 9/16/2014 1:40:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	170	10		mg/L	100	9/28/2014
TPH (ERO)	2.0	0.10	*	mg/L	1	9/26/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>ERP</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/26/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
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 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

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 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 03, 2014

**ANALYTICAL RESULTS**

Date Printed: October 03, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 0  
 Project: ECI - Lake George  
 Lab ID: 14090648-003

Client Sample ID: ECI-07-091614-S  
 Collection Date: 9/16/2014 2:00:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	7700	3100		mg/Kg-dry	100	9/28/2014
TPH (ERO)	3200	3100	*	mg/Kg-dry	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.16		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.16		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.16		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.47		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	88	39	*	mg/Kg-dry	50	9/23/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	36.8	0.2	*	wt%	1	9/17/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 03, 2014

**ANALYTICAL RESULTS**

Date Printed: October 03, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 0  
 Project: ECI - Lake George  
 Lab ID: 14090648-004

Client Sample ID: ECI-07-091614-S-D  
 Collection Date: 9/16/2014 2:00:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	15000	2800		mg/Kg-dry	100	9/28/2014
TPH (ERO)	2300	280	*	mg/Kg-dry	10	9/29/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Benzene	ND	0.0077		mg/Kg-dry	1	9/23/2014
Ethylbenzene	ND	0.0077		mg/Kg-dry	1	9/23/2014
Toluene	ND	0.0077		mg/Kg-dry	1	9/23/2014
Xylenes, Total	ND	0.023		mg/Kg-dry	1	9/23/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	82	36	*	mg/Kg-dry	50	9/23/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	28.9	0.2	*	wt%	1	9/17/2014

**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 03, 2014

**ANALYTICAL RESULTS**

Date Printed: October 03, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 0  
 Project: ECI - Lake George  
 Lab ID: 14090648-005

Client Sample ID: ECI-07-091614-W  
 Collection Date: 9/16/2014 2:00:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	15	1.0		mg/L	10	9/29/2014
TPH (ERO)	3.7	0.10	*	mg/L	1	9/26/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>ERP</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/26/2014

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

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Date Reported: October 03, 2014

**ANALYTICAL RESULTS**

Date Printed: October 03, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 0  
 Project: ECI - Lake George  
 Lab ID: 14090648-006

Client Sample ID: ECI-07-091614-W-D  
 Collection Date: 9/16/2014 2:00:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	6.3	0.50		mg/L	5	9/29/2014
TPH (ERO)	2.5	0.10	*	mg/L	1	9/26/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>PS</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

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Date Reported: October 03, 2014

**ANALYTICAL RESULTS**

Date Printed: October 03, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 0  
 Project: ECI - Lake George  
 Lab ID: 14090648-007

Client Sample ID: ECI-08-091614-S  
 Collection Date: 9/16/2014 2:15:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	21000	6400		mg/Kg-dry	20	9/30/2014
TPH (ERO)	9900	1600	*	mg/Kg-dry	5	9/29/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.17		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.17		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.17		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.50		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	540	83	*	mg/Kg-dry	100	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	37.6	0.2	*	wt%	1	9/17/2014

**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

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 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
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Date Reported: October 03, 2014

**ANALYTICAL RESULTS**

Date Printed: October 03, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 0  
 Project: ECI - Lake George  
 Lab ID: 14090648-008

Client Sample ID: ECI-08-091614-W  
 Collection Date: 9/16/2014 2:15:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: <b>9/19/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	1.1	0.10		mg/L	1	9/26/2014
TPH (ERO)	0.83	0.10	*	mg/L	1	9/26/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: <b>PS</b>
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: <b>ERP</b>
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/26/2014

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Analysis Corporation

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e-mail address: STATinfo@STATAnalysis.com

AIHA, NVLAP and NELAP accredited

CHAIN OF CUSTODY RECORD

N<sup>o</sup>: 858292

Page: of

Company: TETRA TECH Client Tracking No.: \_\_\_\_\_

Project Number: \_\_\_\_\_

Project Name: ECI - LAKE GEORGE

Project Location: \_\_\_\_\_

Sampler(s): ADAM PEREIRA + MATT VILLACASA

Report To: ADAM PEREIRA Phone: \_\_\_\_\_

Fax: \_\_\_\_\_

e-mail: ADAM.PEREIRA@TETRA TECH.COM

QC Level: 1 \_\_\_\_\_ 2 \_\_\_\_\_ 3 \_\_\_\_\_ 4

Turn Around: STANDARD JAR

Results Needed: \_\_\_\_\_

am/ppm \_\_\_\_\_

Client Sample Number/Description:	Date Taken	Time Taken	Matrix	Comp.	Grab	Preserv.	No. of Containers	Remarks	Lab No.:
ECI-06-091614-S	9/16/14	1340	SOIL	X	X		4		001
ECI-06-091614-S-MS/MSD		1340	SOIL	X	X		8		002
ECI-06-091614-W		1340	WATER	X	X		4		003
ECI-07-091614-S		1400	SOIL	X	X		4		004
ECI-07-091614-S-D		1400	SOIL	X	X		4		005
ECI-07-091614-W		1400	WATER	X	X		4		006
ECI-07-091614-W-D		1400	WATER	X	X		4		007
ECI-08-091614-S		1415	SOIL	X	X		4		008
ECI-08-091614-W		1415	WATER	X	X		4		009

Relinquished by: (Signature) [Signature] Date/Time: 9/16/14 0730 PM

Received by: (Signature) [Signature] Date/Time: 9/16/14 1930

Relinquished by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Relinquished by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Received by: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

Comments: \_\_\_\_\_

Preservation Code: A = None B = HNO<sub>3</sub> C = NaOH  
D = H<sub>2</sub>SO<sub>4</sub> E = HCl F = 5035/EmCore G = Other

Laboratory Work Order No.: 14090648

Received on Ice: Yes  No

Temperature: 4.3 °C

**Sample Receipt Checklist**

Client Name TETRA CHICAGO

Date and Time Received: 9/16/2014 7:30:00 PM

Work Order Number 14090648

Received by: JOK

Checklist completed by: [Signature] 9/16/14  
Signature Date

Reviewed by: [Signature] 10/03/2014  
Initials Date

Matrix: Carrier name Client Delivered

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels/containers? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container or Temp Blank temperature in compliance? Yes  No  Temperature 4.3 °C
- Water - VOA vials have zero headspace? No VOA vials submitted  Yes  No
- Water - Samples pH checked? Yes  No  Checked by: \_\_\_\_\_
- Water - Samples properly preserved? Yes  No  pH Adjusted? \_\_\_\_\_

Any No response must be detailed in the comments section below.

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Comments: \_\_\_\_\_

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Client / Person contacted: \_\_\_\_\_ Date contacted: \_\_\_\_\_ Contacted by: \_\_\_\_\_

Response: \_\_\_\_\_

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**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George  
**Test No:** SW5035/8260B

**Matrix:** S

**QC SUMMARY REPORT  
 SURROGATE RECOVERIES**

Sample ID	BR4FBZ	BZMED8	DBFM	DCA12D4				
VBLK092014-2	99.3	99.7	95.6	98.8				
VLCS092014-2	98.3	102	99.9	98.6				
VLCS092014-2	98.2	100	102	97.2				
14090648-001A:50	91.7	112 *	97.8	99.0				
14090648-001AMS	93.0	112 *	97.6	97.4				
14090648-001AMSD	96.6	114 *	92.5	95.7				
14090648-003A:50	103	99.5	93.6	99.3				
14090648-007A:50	92.4	105	90.4	93.5				
VBLK092314-2	96.6	97.0	94.0	93.4				
VLCS092314-2	98.1	101	101	98.9				
VLCS092314-2	97.0	99.9	100	96.8				
14090648-004A	71.3	112	118	119				
14090649-009AMS	80.4	95.5	115	119				
14090649-009AMSD	68.0	90.3	124	127				

Acronym	Surrogate	QC Limits
BR4FBZ	= 4-Bromofluorobenzene	63-110
BR4FBZ	= 4-Bromofluorobenzene	44-114
BZMED8	= Toluene-d8	85-110
BZMED8	= Toluene-d8	62-122
DBFM	= Dibromofluoromethane	83-119
DBFM	= Dibromofluoromethane	74-150
DCA12D4	= 1,2-Dichloroethane-d4	84-129
DCA12D4	= 1,2-Dichloroethane-d4	78-160

\* Surrogate recovery outside acceptance limit

# Analytical Run Summary

Run ID: VOA-2\_140920A (R103154)

Analyst: PS

Printed: 03-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2798441	BFB092014-2	TUNE	BFB	R103154	1	H:\VOC-2\092014\0920	09/20/2014 14:51
2798442	VSTD050	CCV	VOC_ENCORE+	R103154	1	H:\VOC-2\092014\0920	09/20/2014 15:58
2798443	VBLK092014-2	MBLK	VOC_ENCORE+	R103154	1	H:\VOC-2\092014\0920	09/20/2014 16:36
2798444	VLCS092014-2	LCS	VOC_ENCORE+	R103154	1	H:\VOC-2\092014\0920	09/20/2014 17:12
2798445	VLCS092014-2	LCSD	VOC_ENCORE+	R103154	1	H:\VOC-2\092014\0920	09/20/2014 17:48
2798747	14090648-001A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 18:25
2798760	14090648-001A	SAMP	VOC_5035+	79639	50	H:\VOC-2\092014\0920	09/20/2014 18:25
2798768	14090648-001AMS	MS	VOC_5035+	79639	50	H:\VOC-2\092014\0920	09/20/2014 19:37
2798773	14090648-001AMSD	MSD	VOC_5035+	79639	50	H:\VOC-2\092014\0920	09/20/2014 20:13
2798776	14090648-003A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 20:49
2798778	14090648-004A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 21:24
2798781	14090648-007A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 22:00
2798783	14090649-001A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 22:36
2798785	14090649-003A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 23:11
2798791	14090649-005A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/20/2014 23:51
2798792	14090649-006A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/21/2014 0:27
2798793	14090649-011A	SAMP	BTEX_5035	79639	50	H:\VOC-2\092014\0920	09/21/2014 1:03

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103154**

Sample ID: <b>14090648-001AMS</b>		SampType: <b>MS</b>		TestCode: <b>VOC_5035+</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>9/17/2014</b>		Run ID: <b>VOA-2_140920A</b>	
Client ID: <b>ECI-06-091614-S</b>		Batch ID: <b>R103154</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/20/2014</b>		SeqNo: <b>2798778</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2.826	0.11	2.73	0.04259	102	70	130	0	0		
Ethylbenzene	2.916	0.11	2.73	0.05024	105	70	130	0	0		
Toluene	2.831	0.11	2.73	0.04751	102	70	130	0	0		
Xylenes, Total	8.653	0.33	8.191	0.1731	104	70	130	0	0		

Sample ID: <b>14090648-001AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>VOC_5035+</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>9/17/2014</b>		Run ID: <b>VOA-2_140920A</b>	
Client ID: <b>ECI-06-091614-S</b>		Batch ID: <b>R103154</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/20/2014</b>		SeqNo: <b>2798773</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	2.796	0.11	2.73	0.04259	101	70	130	2.826	1.07	20	
Ethylbenzene	2.933	0.11	2.73	0.05024	106	70	130	2.916	0.560	20	
Toluene	2.786	0.11	2.73	0.04751	100	70	130	2.831	1.61	20	
Xylenes, Total	8.741	0.33	8.191	0.1731	105	70	130	8.653	1.00	20	

Sample ID: <b>VBLK092014-2</b>		SampType: <b>MBLK</b>		TestCode: <b>VOC_ENCOR</b>		Units: <b>mg/Kg</b>		Prep Date:		Run ID: <b>VOA-2_140920A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103154</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/20/2014</b>		SeqNo: <b>2798443</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0050									
Ethylbenzene	ND	0.0050									
Toluene	ND	0.0050									
Xylenes, Total	ND	0.015									

Sample ID: <b>VLCS092014-2</b>		SampType: <b>LCS</b>		TestCode: <b>VOC_ENCOR</b>		Units: <b>mg/Kg</b>		Prep Date:		Run ID: <b>VOA-2_140920A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103154</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/20/2014</b>		SeqNo: <b>2798444</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.04847	0.0050	0.05	0	96.9	70	130	0	0		
Ethylbenzene	0.05064	0.0050	0.05	0	101	70	130	0	0		
Toluene	0.049	0.0050	0.05	0	98	70	130	0	0		
Xylenes, Total	0.1502	0.015	0.15	0	100	70	130	0	0		

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
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**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103154**

Sample ID: <b>VLCS092014-2</b>	SampType: <b>LCSD</b>	TestCode: <b>VOC_ENCOR</b>	Units: <b>mg/Kg</b>	Prep Date:	Run ID: <b>VOA-2_140920A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103154</b>	TestNo: <b>SW5035/8260</b>		Analysis Date: <b>9/20/2014</b>	SeqNo: <b>2798445</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.04918	0.0050	0.05	0	98.4	70	130	0.04847	1.45	20	
Ethylbenzene	0.05221	0.0050	0.05	0	104	70	130	0.05064	3.05	20	
Toluene	0.05067	0.0050	0.05	0	101	70	130	0.049	3.35	20	
Xylenes, Total	0.1524	0.015	0.15	0	102	70	130	0.1502	1.48	20	

**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 \* - Non Accredited Parameter

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 H/HT - Holding Time Exceeded

B - Analyte detected in the associated Method Blank  
 E - Value above quantitation range

# Analytical Run Summary

Run ID: VOA-2\_140923A (R103272)

Analyst: ART

Printed: 06-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2801272	BFB092314-2	TUNE	BFB	R103272	1	H:\VOC-2\092314\0923	09/23/2014 8:53
2801273	VSTD050	CCV	VOC_ENCORE+	R103272	1	H:\VOC-2\092314\0923	09/23/2014 9:33
2801274	VBLK092314-2	MBLK	VOC_ENCORE+	R103272	1	H:\VOC-2\092314\0923	09/23/2014 10:08
2801275	VLCS092314-2	LCS	VOC_ENCORE+	R103272	1	H:\VOC-2\092314\0923	09/23/2014 10:44
2801276	VLCS092314-2	LCSD	VOC_ENCORE+	R103272	1	H:\VOC-2\092314\0923	09/23/2014 11:20
2801279	14090648-004A	SAMP	BTEX_5035	79544	1	H:\VOC-2\092314\0923	09/23/2014 12:22
2801280	14090649-011A	SAMP	BTEX_5035	79544	1	H:\VOC-2\092314\0923	09/23/2014 12:57
2801283	14090649-009A	SAMP	VOC_5035+	79544	1	H:\VOC-2\092314\0923	09/23/2014 13:33
2801281	14090649-009A	SAMP	BTEX_5035	79544	1	H:\VOC-2\092314\0923	09/23/2014 13:33
2801284	14090649-009AMS	MS	VOC_5035+	79544	1	H:\VOC-2\092314\0923	09/23/2014 14:09
2801285	14090649-009AMSD	MSD	VOC_5035+	79544	1	H:\VOC-2\092314\0923	09/23/2014 14:46
2801289	14090762-001A	SAMP	F-LIST_VOC	79636	1	H:\VOC-2\092314\0923	09/23/2014 15:22
2801290	14090762-001A	SAMP	VOC_S+	79636	1	H:\VOC-2\092314\0923	09/23/2014 15:22
2801291	14090759-005A	SAMP	VOC_5035	79719	1	H:\VOC-2\092314\0923	09/23/2014 15:59
2801292	14090759-006A	SAMP	VOC_5035	79719	1	H:\VOC-2\092314\0923	09/23/2014 16:35
2801293	14090894-001A	SAMP	VOC_5035	79639	50	H:\VOC-2\092314\0923	09/23/2014 17:13
2801294	14090894-002A	SAMP	VOC_5035	79639	50	H:\VOC-2\092314\0923	09/23/2014 18:21
2801295	14090894-003A	SAMP	VOC_5035	79639	50	H:\VOC-2\092314\0923	09/23/2014 18:56

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103272**

Sample ID: <b>14090649-009AMS</b>		SampType: <b>MS</b>		TestCode: <b>VOC_5035+</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>9/17/2014</b>		Run ID: <b>VOA-2_140923A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103272</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/23/2014</b>		SeqNo: <b>2801284</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.08067	0.0098	0.09768	0.0151	67.1	70	130	0	0		S
Ethylbenzene	0.05545	0.0098	0.09768	0.007796	48.8	70	130	0	0		S
Toluene	0.05382	0.0098	0.09768	0.006335	48.6	70	130	0	0		S
Xylenes, Total	0.1577	0.029	0.2931	0.02335	45.8	70	130	0	0		S

Sample ID: <b>14090649-009AMSD</b>		SampType: <b>MSD</b>		TestCode: <b>VOC_5035+</b>		Units: <b>mg/Kg-dry</b>		Prep Date: <b>9/17/2014</b>		Run ID: <b>VOA-2_140923A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103272</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/23/2014</b>		SeqNo: <b>2801285</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.07415	0.010	0.1008	0.0151	58.6	70	130	0.08067	8.42	20	S
Ethylbenzene	0.04424	0.010	0.1008	0.007796	36.2	70	130	0.05545	22.5	20	SR
Toluene	0.04583	0.010	0.1008	0.006335	39.2	70	130	0.05382	16.0	20	S
Xylenes, Total	0.1238	0.030	0.3023	0.02335	33.2	70	130	0.1577	24.1	20	SR

Sample ID: <b>VBLK092314-2</b>		SampType: <b>MBLK</b>		TestCode: <b>VOC_ENCOR</b>		Units: <b>mg/Kg</b>		Prep Date:		Run ID: <b>VOA-2_140923A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103272</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/23/2014</b>		SeqNo: <b>2801274</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.0050									
Ethylbenzene	ND	0.0050									
Toluene	ND	0.0050									
Xylenes, Total	ND	0.015									

Sample ID: <b>VLCS092314-2</b>		SampType: <b>LCS</b>		TestCode: <b>VOC_ENCOR</b>		Units: <b>mg/Kg</b>		Prep Date:		Run ID: <b>VOA-2_140923A</b>	
Client ID: <b>ZZZZ</b>		Batch ID: <b>R103272</b>		TestNo: <b>SW5035/8260</b>				Analysis Date: <b>9/23/2014</b>		SeqNo: <b>2801275</b>	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.05501	0.0050	0.05	0	110	70	130	0	0		
Ethylbenzene	0.05671	0.0050	0.05	0	113	70	130	0	0		
Toluene	0.05616	0.0050	0.05	0	112	70	130	0	0		
Xylenes, Total	0.1678	0.015	0.15	0	112	70	130	0	0		

<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
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**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103272**

Sample ID: <b>VLCS092314-2</b>	SampType: <b>LCSD</b>	TestCode: <b>VOC_ENCOR</b>	Units: <b>mg/Kg</b>	Prep Date:	Run ID: <b>VOA-2_140923A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103272</b>	TestNo: <b>SW5035/8260</b>		Analysis Date: <b>9/23/2014</b>	SeqNo: <b>2801276</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	0.05351	0.0050	0.05	0	107	70	130	0.05501	2.76	20	
Ethylbenzene	0.05671	0.0050	0.05	0	113	70	130	0.05671	0	20	
Toluene	0.05542	0.0050	0.05	0	111	70	130	0.05616	1.33	20	
Xylenes, Total	0.1666	0.015	0.15	0	111	70	130	0.1678	0.712	20	

<p><b>Qualifiers:</b> ND - Not Detected at the Reporting Limit          J - Analyte detected below quantitation limits          * - Non Accredited Parameter</p>	<p>S - Spike Recovery outside accepted recovery limits          R - RPD outside accepted recovery limits          H/HT - Holding Time Exceeded</p>	<p>B - Analyte detected in the associated Method Blank          E - Value above quantitation range</p>
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# Analytical Run Summary

Run ID: VOA-7\_140923A (R103230)

Analyst: ART

Printed: 03-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2800323	BFB092314A-7	TUNE	BFB	R103230	1	09231401.D	09/23/2014 14:20
2800324	GSTD500	ICAL	VOC-GRO_S	R103230	1	09231404.D	09/23/2014 15:52
2800325	GSTD1000	ICAL	VOC-GRO_S	R103230	1	09231405.D	09/23/2014 16:28
2800326	GSTD2000	ICAL	VOC-GRO_S	R103230	1	09231406.D	09/23/2014 17:04
2800327	GSTD5000	ICAL	VOC-GRO_S	R103230	1	09231407.D	09/23/2014 17:40
2800328	GSTD10000	ICAL	VOC-GRO_S	R103230	1	09231408.D	09/23/2014 18:16
2800329	GLCS092314A-7	ICV	VOC-GRO_S	R103230	1	09231410.D	09/23/2014 19:31
2800330	GLCS092314A-7	LCS	VOC-GRO_S	R103230	1	09231410.D	09/23/2014 19:31
2800331	GLCSD092314A-7	LCSD	VOC-GRO_S	R103230	1	09231411.D	09/23/2014 20:07
2800332	VBLK092314A-7	MBLK	VOC-GRO_S	R103230	1	09231412.D	09/23/2014 20:43
2800858	14090648-001A	SAMP	VOC-GRO_S	79639	500	09231413.D	09/23/2014 21:25
2800859	14090648-001AMS	MS	VOC-GRO_S	79639	500	09231414.D	09/23/2014 22:01
2800860	14090648-001AMSD	MSD	VOC-GRO_S	79639	500	09231415.D	09/23/2014 22:37
2800861	14090648-003A	SAMP	VOC-GRO_S	79639	50	09231416.D	09/23/2014 23:12
2800862	14090648-004A	SAMP	VOC-GRO_S	79639	50	09231417.D	09/23/2014 23:48
2800863	14090648-007A	SAMP	VOC-GRO_S	79639	100	09231418.D	09/24/2014 0:24
2800864	14090649-001A	SAMP	VOC-GRO_S	79639	100	09231419.D	09/24/2014 1:00
2800866	14090649-003A	SAMP	VOC-GRO_S	79639	50	09231420.D	09/24/2014 1:36
2800867	14090649-005A	SAMP	VOC-GRO_S	79639	50	09231421.D	09/24/2014 2:12



**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George  
**Test No:** SW8260B

**Matrix:** W

**QC SUMMARY REPORT  
 SURROGATE RECOVERIES**

Sample ID	BR4FBZ	BZMED8	DBFM	DCA12D4				
VBLK092114-4	96.4	97.3	107	102				
VLCS092114-4	106	101	100	106				
14090649-010AMS	97.9	99.5	99.5	98.8				
14090649-010AMSD	96.3	99.1	99.9	97.7				
14090648-005A	97.0	95.6	99.2	96.0				
14090648-006A	95.5	96.7	99.6	100				
14090648-008A	98.3	96.1	96.6	100				
14090648-002A	96.9	97.7	96.7	99.4				

Acronym	Surrogate	QC Limits
BR4FBZ	= 4-Bromofluorobenzene	86-115
BZMED8	= Toluene-d8	88-110
DBFM	= Dibromofluoromethane	86-118
DCA12D4	= 1,2-Dichloroethane-d4	80-120

\* Surrogate recovery outside acceptance limit

# Analytical Run Summary

Run ID: VOA-4\_140921A (R103149)

Analyst: PS

Printed: 03-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2798329	BFB091114-4	TUNE	BFB_624	R103149	1	K:\VOC-4\092114\0921	09/21/2014 7:47
2798330	VSTD050	CCV	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 8:09
2798331	VBLK092114-4	MBLK	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 9:23
2798332	VLCS092114-4	LCS	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 10:00
2798333	14090649-010A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 11:13
2798334	14090649-010A	SAMP	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 11:13
2798335	14090649-010AMS	MS	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 11:49
2798336	14090649-010AMSD	MSD	VOC_W+	R103149	1	K:\VOC-4\092114\0921	09/21/2014 12:25
2798346	14090649-002A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 13:02
2798354	14090649-004A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 13:39
2798355	14090649-007A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 14:15
2798356	14090649-008A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 14:52
2798357	14090649-012A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 15:28
2798358	14090648-005A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 16:04
2798359	14090648-006A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 16:41
2798360	14090648-008A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 17:17
2798371	14090648-002A	SAMP	BTEX_W-MS	R103149	1	K:\VOC-4\092114\0921	09/21/2014 17:53

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103149**

Sample ID: <b>VBLK092114-4</b>	SampType: <b>MBLK</b>	TestCode: <b>VOC_W+</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-4_140921A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103149</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/21/2014</b>	SeqNo: <b>2798331</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	ND	0.0050									
Ethylbenzene	0.00049	0.0050									J
Toluene	ND	0.0050									
Xylenes, Total	0.00137	0.015									J

Sample ID: <b>VLCS092114-4</b>	SampType: <b>LCS</b>	TestCode: <b>VOC_W+</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-4_140921A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103149</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/21/2014</b>	SeqNo: <b>2798332</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	0.02011	0.0050	0.02	0	101	70	130	0	0		
Ethylbenzene	0.02262	0.0050	0.02	0.00049	111	70	130	0	0		
Toluene	0.02073	0.0050	0.02	0	104	70	130	0	0		
Xylenes, Total	0.06683	0.015	0.06	0.00137	109	70	130	0	0		

Sample ID: <b>14090649-010AMS</b>	SampType: <b>MS</b>	TestCode: <b>VOC_W+</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-4_140921A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103149</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/21/2014</b>	SeqNo: <b>2798335</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	0.0221	0.0050	0.02	0.00238	98.6	70	130	0	0		
Ethylbenzene	0.01987	0.0050	0.02	0.00085	95.1	70	130	0	0		
Toluene	0.01953	0.0050	0.02	0	97.6	70	130	0	0		
Xylenes, Total	0.05907	0.015	0.06	0.00681	87.1	70	130	0	0		

Sample ID: <b>14090649-010AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>VOC_W+</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-4_140921A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103149</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/21/2014</b>	SeqNo: <b>2798336</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Benzene	0.02277	0.0050	0.02	0.00238	102	70	130	0.0221	2.99	15	
Ethylbenzene	0.01848	0.0050	0.02	0.00085	88.2	70	130	0.01987	7.25	15	
Toluene	0.0191	0.0050	0.02	0	95.5	70	130	0.01953	2.23	15	
Xylenes, Total	0.05503	0.015	0.06	0.00681	80.4	70	130	0.05907	7.08	15	

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value above quantitation range
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded	

# Analytical Run Summary

Run ID: VOA-3\_140925A (R103294)

Analyst: PS

Printed: 06-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2801747	BFB092514-3	TUNE	BFB	R103294	1	J:\VOC-3\092514\09251	09/25/2014 8:05
2801740	GSTD2000	CCV	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 9:00
2801742	VBLK092514-3	MBLK	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 9:35
2801743	VLCS092514-3	LCS	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 10:10
2801744	14090649-010A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 10:48
2801745	14090649-010AMS	MS	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 11:23
2801748	14090649-010AMSD	MSD	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 11:58
2801750	14090649-004A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 13:08
2801752	14090649-007A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 13:43
2801753	14090649-008A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 14:18
2801986	14090649-012A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 14:54
2801987	14090648-006A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 16:39
2801988	14090649-002A	SAMP	VOC-GRO_W	R103294	1	J:\VOC-3\092514\09251	09/25/2014 17:49

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103294**

Sample ID: <b>VBLK092514-3</b>	SampType: <b>MBLK</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103294</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/25/2014</b>	SeqNo: <b>2801742</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics	0.2957	0.50							J*
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Sample ID: <b>VLCS092514-3</b>	SampType: <b>LCS</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103294</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/25/2014</b>	SeqNo: <b>2801743</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics	0.8637	0.50	1	0.2957	56.8	50	150	0	0	*
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Sample ID: <b>14090649-010AMS</b>	SampType: <b>MS</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103294</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/25/2014</b>	SeqNo: <b>2801745</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics	0.746	0.50	1	0.3315	41.5	50	150	0	0	S*
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Sample ID: <b>14090649-010AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103294</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/25/2014</b>	SeqNo: <b>2801748</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Gasoline Range Organics	0.6236	0.50	1	0.3315	29.2	50	150	0.746	17.9	25	S*
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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	B - Analyte detected in the associated Method Blank
	* - Non Accredited Parameter	R - RPD outside accepted recovery limits
		E - Value above quantitation range
		H/HT - Holding Time Exceeded

# Analytical Run Summary

Run ID: VOA-3\_140925B (R103323)

Analyst: ERP

Printed: 06-Oct-14

SeqNo	Sample ID	Type	Test Code	Batch	DF	File ID	Date/Time Analyzed
2802391	BFB092514B-3	TUNE	BFB_624	R103323	1	J:\VOC-3\092514B\092	09/25/2014 22:04
2802392	GSTD2000R	CCV	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/25/2014 23:15
2802393	VBLK092514B-3	MBLK	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/25/2014 23:57
2802394	VLCS092514B-3	LCS	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 0:32
2802398	VLCS092514B-3	LCSD	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 1:08
2802399	14090648-002A	SAMP	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 1:44
2802400	14090648-005A	SAMP	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 2:20
2802401	14090648-008A	SAMP	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 2:55
2802402	14090982-005A	SAMP	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 3:30
2802404	14090982-005AMS	MS	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 4:06
2802405	14090982-005AMSD	MSD	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 4:42
2802407	14090982-006A	SAMP	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 5:17
2802409	14090982-007A	SAMP	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 5:52
2802411	14090982-008A	SAMP	VOC-GRO_W	R103323	1	J:\VOC-3\092514B\092	09/26/2014 6:28

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103323**

Sample ID: <b>VLBK092514B-3</b>	SampType: <b>MBLK</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103323</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/25/2014</b>	SeqNo: <b>2802393</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	0.239	0.50									J*

Sample ID: <b>VLCS092514B-3</b>	SampType: <b>LCS</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103323</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/26/2014</b>	SeqNo: <b>2802394</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	0.8609	0.50	1	0.239	62.2	50	150	0	0		*

Sample ID: <b>VLCS092514B-3</b>	SampType: <b>LCS</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103323</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/26/2014</b>	SeqNo: <b>2802398</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	0.8854	0.50	1	0.239	64.6	50	150	0.8609	2.80	25	*

Sample ID: <b>14090982-005AMS</b>	SampType: <b>MS</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103323</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/26/2014</b>	SeqNo: <b>2802404</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	0.8296	0.50	1	0.2252	60.4	50	150	0	0		*

Sample ID: <b>14090982-005AMSD</b>	SampType: <b>MSD</b>	TestCode: <b>VOC-GRO_W</b>	Units: <b>mg/L</b>	Prep Date:	Run ID: <b>VOA-3_140925B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103323</b>	TestNo: <b>SW8260B</b>		Analysis Date: <b>9/26/2014</b>	SeqNo: <b>2802405</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Gasoline Range Organics	0.8215	0.50	1	0.2252	59.6	50	150	0.8296	0.979	25	*

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value above quantitation range
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded	

Prep Start Date: **9/23/2014 2:26:08 P**

Prep End Date: **9/23/2014 5:04:41 P**

Prep Factor Units:

mL / g

Prep Batch **79679**

Prep Code: **3550\_TPH**

Technician: **ET**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-79679-TPH			0.03	0	0	1	33.333	9/23/2014	9/23/2014
LCS-79679-TPH			0.03	0	0	1	33.333	9/23/2014	9/23/2014
14090648-001B	Soil		0.03027	0	0	10	330.360	9/23/2014	9/23/2014
14090648-001BMS	Soil		0.03027	0	0	10	330.360	9/23/2014	9/23/2014
14090648-001BMSD	Soil		0.03028	0	0	10	330.251	9/23/2014	9/23/2014
14090648-003B	Soil		0.03048	0	0	1	32.808	9/23/2014	9/23/2014
14090648-004B	Soil		0.03031	0	0	1	32.992	9/23/2014	9/23/2014
14090648-007B	Soil		0.03018	0	0	10	331.345	9/23/2014	9/23/2014
14090649-001B	Soil		0.03024	0	0	10	330.688	9/23/2014	9/23/2014
14090649-003B	Soil		0.03029	0	0	10	330.142	9/23/2014	9/23/2014
14090649-005B	Soil		0.03033	0	0	10	329.707	9/23/2014	9/23/2014
14090649-006B	Soil		0.03037	0	0	1	32.927	9/23/2014	9/23/2014
14090649-009B	Soil		0.03009	0	0	1	33.234	9/23/2014	9/23/2014
14090649-011B	Soil		0.03014	0	0	10	331.785	9/23/2014	9/23/2014

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: 79679**

Sample ID: <b>MB-79679-TPH</b>	SampType: <b>MBLK</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/27/2014</b>	SeqNo: <b>2803681</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (DRO)	ND	20									
TPH (ERO)	ND	20									*

Sample ID: <b>LCS-79679-TPH</b>	SampType: <b>LCS</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140930A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/30/2014</b>	SeqNo: <b>2805944</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (DRO)	33.12	20	33.3	0	99.5	30	150	0	0		
TPH (ERO)	38.62	20	33.3	0	116	30	150	0	0		*

Sample ID: <b>14090648-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ECI-06-091614-S</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/27/2014</b>	SeqNo: <b>2803684</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (ERO)	868.5	260	43.65	946.5	-179	30	150	0	0		S*

Sample ID: <b>14090648-001BMS</b>	SampType: <b>MS</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ECI-06-091614-S</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/28/2014</b>	SeqNo: <b>2804642</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (DRO)	52070	26000	43.65	51330	1700	30	150	0	0		S

Sample ID: <b>14090648-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ECI-06-091614-S</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/27/2014</b>	SeqNo: <b>2803685</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (ERO)	752.3	260	43.64	946.5	-445	30	150	868.5	14.3	25	S*

<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
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**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: 79679**

Sample ID: <b>14090648-001BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPH_S</b>	Units: <b>mg/Kg-dry</b>	Prep Date: <b>9/23/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ECI-06-091614-S</b>	Batch ID: <b>79679</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/28/2014</b>	SeqNo: <b>2804643</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (DRO)	52540	26000	43.64	51330	2790	30	150	52070	0.907	25	S

**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 \* - Non Accredited Parameter

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 H/HT - Holding Time Exceeded

B - Analyte detected in the associated Method Blank  
 E - Value above quantitation range

Prep Start Date: **9/19/2014 9:38:13 A**

Prep End Date: **9/23/2014 5:01:20 P**

Prep Factor Units:

mL / L

Prep Batch **79601**

Prep Code: **3510\_TPH**

Technician: **VCC**

Sample ID	Matrix	pH	SampAmt	Sol Added	Sol Recov	Fin Vol	factor	PrepStart	PrepEnd
MB-79601-TPH			1	0	0	1	1.000	9/19/2014	9/19/2014
LCS-79601-TPH			1	0	0	1	1.000	9/19/2014	9/19/2014
14090648-002B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090648-005B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090648-006B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090648-008B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-002B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-004B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-007B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-008B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014
14090649-010B	Water		1	0	0	10	10.000	9/19/2014	9/19/2014
14090649-010BMS	Water		1	0	0	10	10.000	9/19/2014	9/19/2014
14090649-010BMSD	Water		1	0	0	10	10.000	9/19/2014	9/19/2014
14090649-012B	Water		1	0	0	1	1.000	9/19/2014	9/19/2014

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: 79601**

Sample ID: <b>MB-79601-TPH</b>	SampType: <b>MBLK</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/26/2014</b>	SeqNo: <b>2802710</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	0.037	0.10									J
TPH (ERO)	0.08113	0.10									J*

Sample ID: <b>LCS-79601-TPH</b>	SampType: <b>LCS</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/26/2014</b>	SeqNo: <b>2802711</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	1.227	0.10	1	0.037	119	30	150	0	0		
TPH (ERO)	1.303	0.10	1	0.08113	122	30	150	0	0		*

Sample ID: <b>14090649-010BMS</b>	SampType: <b>MS</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/28/2014</b>	SeqNo: <b>2804636</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	825.9	100	1	1168	-34200	30	150	0	0		S
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Sample ID: <b>14090649-010BMS</b>	SampType: <b>MS</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140929A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/30/2014</b>	SeqNo: <b>2804770</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (ERO)	239	5.0	1	255.6	-1650	30	150	0	0		S*
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Sample ID: <b>14090649-010BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140925A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/28/2014</b>	SeqNo: <b>2804638</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TPH (DRO)	421.9	100	1	1168	-74600	30	150	825.9	64.7	25	SR
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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits	B - Analyte detected in the associated Method Blank
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits	E - Value above quantitation range
	* - Non Accredited Parameter	H/HT - Holding Time Exceeded	

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: 79601**

Sample ID: <b>14090649-010BMSD</b>	SampType: <b>MSD</b>	TestCode: <b>TPH_W</b>	Units: <b>mg/L</b>	Prep Date: <b>9/19/2014</b>	Run ID: <b>GC-FID-2_140929A</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>79601</b>	TestNo: <b>SW8015M</b>		Analysis Date: <b>9/30/2014</b>	SeqNo: <b>2804771</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TPH (ERO)	150.2	5.0	1	255.6	-10500	30	150	239	45.6	25	SR*

**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 \* - Non Accredited Parameter

S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 H/HT - Holding Time Exceeded

B - Analyte detected in the associated Method Blank  
 E - Value above quantitation range

**CLIENT:** Tetra Tech EM Inc.  
**Work Order:** 14090648  
**Project:** ECI - Lake George

## ANALYTICAL QC SUMMARY REPORT

**BatchID: R103026**

Sample ID: <b>PMMBK2 9/17/14</b>	SampType: <b>MBLK</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794015</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	ND	0.200									*
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Sample ID: <b>PMLCS-S2 9/17/14</b>	SampType: <b>LCS</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794016</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	4.49	0.200	5	0	89.8	80	120	0	0		*
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Sample ID: <b>PMLCS-W2 9/17/14</b>	SampType: <b>LCS</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794017</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	99.8	0.200	99.8	0	100	80	120	0	0		*
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Sample ID: <b>14090648-001B DUP</b>	SampType: <b>DUP</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ECI-06-091614-S</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794019</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	25.43	0.200	0	0	0	0	0	24.39	4.18	20	*
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Sample ID: <b>14090649-009BDUP</b>	SampType: <b>DUP</b>	TestCode: <b>PMOIST</b>	Units: <b>wt%</b>	Prep Date: <b>9/17/2014</b>	Run ID: <b>BALANCE_140917B</b>						
Client ID: <b>ZZZZ</b>	Batch ID: <b>R103026</b>	TestNo: <b>D2974</b>		Analysis Date: <b>9/17/2014</b>	SeqNo: <b>2794038</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Percent Moisture	42.58	0.200	0	0	0	0	0	46.2	8.15	20	*
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<b>Qualifiers:</b> ND - Not Detected at the Reporting Limit J - Analyte detected below quantitation limits * - Non Accredited Parameter	S - Spike Recovery outside accepted recovery limits R - RPD outside accepted recovery limits H/HT - Holding Time Exceeded	B - Analyte detected in the associated Method Blank E - Value above quantitation range
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September 26, 2014

Adam Peterca  
Tetra Tech  
1 S. Wacker Drive, 37th Floor  
  
Chicago, IL 60606

Work Order: **HS14090749**

Laboratory Results for: **ECI-Lake George**

Dear Adam,

ALS Environmental received 8 sample(s) on Sep 18, 2014 for the analysis presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

A handwritten signature in black ink that reads "Bethany McDaniel". The signature is written in a cursive, flowing style.

Generated By: Jumoke.Lawal  
Bethany McDaniel  
Project Manager

**Client:** Tetra Tech  
**Project:** ECI-Lake George  
**Work Order:** HS14090749

**SAMPLE SUMMARY**

Lab Samp ID	Client Sample ID	Matrix	TagNo	Collection Date	Date Received	Hold
HS14090749-01	ECI-06-091614-S	Soil		16-Sep-2014 13:40	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090749-02	ECI-06-091614-W	Water		16-Sep-2014 13:40	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090749-03	ECI-08-091614-S	Soil		16-Sep-2014 14:15	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090749-04	ECI-08-091614-W	Water		16-Sep-2014 14:15	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090749-05	ECI-07-091614-S	Soil		16-Sep-2014 14:00	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090749-06	ECI-07-091614-S-D	Soil		16-Sep-2014 14:00	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090749-07	ECI-07-091614-W	Water		16-Sep-2014 14:00	18-Sep-2014 09:45	<input type="checkbox"/>
HS14090749-08	ECI-07-091614-W-D	Water		16-Sep-2014 14:00	18-Sep-2014 09:45	<input type="checkbox"/>

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**Client:** Tetra Tech  
**Project:** ECI-Lake George  
**Work Order:** HS14090749

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**CASE NARRATIVE**

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**GCMS Semivolatiles by Method SW8270**

**Batch ID: 86218**

- Soil samples were analyzed at a dilution due to matrix interference.

Sample ID: **ECI-06-091614-S (HS14090749-01) MSD**

- Surrogate Nitrobenzene-d5; The RPD between the MS and MSD was outside of the control limit.

**Batch ID: 86255**

Sample ID: **ECI-04-091614-W (HS14090741-10MS)**

- The recovery of the Matrix Spike (MS) associated to this analyte was outside of the established control limits. However, the LCS was within control limits. The recovery of the MS may be due to sample matrix interference.

Sample ID: **ECI-04-091614-W (HS14090741-10MSD)**

- The RPD between the MS and MSD was outside of the control limit.

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**WetChemistry by Method SW3550**

**Batch ID: R241208**

- The test results meet requirements of the current NELAP standards, state requirements or programs where applicable.
-

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-06-091614-S  
 Collection Date: 16-Sep-2014 13:40

**ANALYTICAL REPORT**  
 WorkOrder:HS14090749  
 Lab ID:HS14090749-01  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	23.6		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		390	390	ug/Kg-dry	5	23-Sep-2014 20:18
Surr: 2,4,6-Tribromophenol	62.4			36-126	%REC	5	23-Sep-2014 20:18
Surr: 2-Fluorobiphenyl	66.0			43-125	%REC	5	23-Sep-2014 20:18
Surr: 2-Fluorophenol	45.0			37-125	%REC	5	23-Sep-2014 20:18
Surr: 4-Terphenyl-d14	107			32-125	%REC	5	23-Sep-2014 20:18
Surr: Nitrobenzene-d5	111			37-125	%REC	5	23-Sep-2014 20:18
Surr: Phenol-d6	45.3			40-125	%REC	5	23-Sep-2014 20:18

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-06-091614-W  
 Collection Date: 16-Sep-2014 13:40

**ANALYTICAL REPORT**  
 WorkOrder:HS14090749  
 Lab ID:HS14090749-02  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				Prep:SW3510 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		0.20	0.20	ug/L	1	22-Sep-2014 22:57
Surr: 2,4,6-Tribromophenol	58.1			34-129	%REC	1	22-Sep-2014 22:57
Surr: 2-Fluorobiphenyl	71.2			40-125	%REC	1	22-Sep-2014 22:57
Surr: 2-Fluorophenol	67.9			20-120	%REC	1	22-Sep-2014 22:57
Surr: 4-Terphenyl-d14	85.3			40-135	%REC	1	22-Sep-2014 22:57
Surr: Nitrobenzene-d5	47.3			41-120	%REC	1	22-Sep-2014 22:57
Surr: Phenol-d6	65.8			20-120	%REC	1	22-Sep-2014 22:57

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-08-091614-S  
 Collection Date: 16-Sep-2014 14:15

**ANALYTICAL REPORT**

WorkOrder:HS14090749  
 Lab ID:HS14090749-03  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	27.9		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		270	270	ug/Kg-dry	5	23-Sep-2014 21:15
Surr: 2,4,6-Tribromophenol	64.8			36-126	%REC	5	23-Sep-2014 21:15
Surr: 2-Fluorobiphenyl	62.9			43-125	%REC	5	23-Sep-2014 21:15
Surr: 2-Fluorophenol	71.1			37-125	%REC	5	23-Sep-2014 21:15
Surr: 4-Terphenyl-d14	101			32-125	%REC	5	23-Sep-2014 21:15
Surr: Nitrobenzene-d5	58.7			37-125	%REC	5	23-Sep-2014 21:15
Surr: Phenol-d6	54.6			40-125	%REC	5	23-Sep-2014 21:15

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-08-091614-W  
 Collection Date: 16-Sep-2014 14:15

**ANALYTICAL REPORT**  
 WorkOrder:HS14090749  
 Lab ID:HS14090749-04  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				Prep:SW3510 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		0.20	0.20	ug/L	1	23-Sep-2014 15:51
Surr: 2,4,6-Tribromophenol	103			34-129	%REC	1	23-Sep-2014 15:51
Surr: 2-Fluorobiphenyl	68.4			40-125	%REC	1	23-Sep-2014 15:51
Surr: 2-Fluorophenol	61.5			20-120	%REC	1	23-Sep-2014 15:51
Surr: 4-Terphenyl-d14	89.5			40-135	%REC	1	23-Sep-2014 15:51
Surr: Nitrobenzene-d5	68.2			41-120	%REC	1	23-Sep-2014 15:51
Surr: Phenol-d6	62.0			20-120	%REC	1	23-Sep-2014 15:51

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-07-091614-S  
 Collection Date: 16-Sep-2014 14:00

**ANALYTICAL REPORT**  
 WorkOrder:HS14090749  
 Lab ID:HS14090749-05  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	25.4		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		390	390	ug/Kg-dry	5	23-Sep-2014 21:34
Surr: 2,4,6-Tribromophenol	94.8			36-126	%REC	5	23-Sep-2014 21:34
Surr: 2-Fluorobiphenyl	77.3			43-125	%REC	5	23-Sep-2014 21:34
Surr: 2-Fluorophenol	69.0			37-125	%REC	5	23-Sep-2014 21:34
Surr: 4-Terphenyl-d14	111			32-125	%REC	5	23-Sep-2014 21:34
Surr: Nitrobenzene-d5	74.7			37-125	%REC	5	23-Sep-2014 21:34
Surr: Phenol-d6	83.6			40-125	%REC	5	23-Sep-2014 21:34

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-07-091614-S-D  
 Collection Date: 16-Sep-2014 14:00

**ANALYTICAL REPORT**

WorkOrder:HS14090749  
 Lab ID:HS14090749-06  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	27.0		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		400	400	ug/Kg-dry	5	23-Sep-2014 21:53
Surr: 2,4,6-Tribromophenol	64.3			36-126	%REC	5	23-Sep-2014 21:53
Surr: 2-Fluorobiphenyl	69.8			43-125	%REC	5	23-Sep-2014 21:53
Surr: 2-Fluorophenol	57.6			37-125	%REC	5	23-Sep-2014 21:53
Surr: 4-Terphenyl-d14	112			32-125	%REC	5	23-Sep-2014 21:53
Surr: Nitrobenzene-d5	65.7			37-125	%REC	5	23-Sep-2014 21:53
Surr: Phenol-d6	82.0			40-125	%REC	5	23-Sep-2014 21:53

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-07-091614-W  
 Collection Date: 16-Sep-2014 14:00

**ANALYTICAL REPORT**

WorkOrder:HS14090749  
 Lab ID:HS14090749-07  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>					Prep:SW3510 / 22-Sep-2014	Analyst: LG
Tetraethyl lead	U		0.20	0.20	ug/L	1	23-Sep-2014 16:10
Surr: 2,4,6-Tribromophenol	97.4			34-129	%REC	1	23-Sep-2014 16:10
Surr: 2-Fluorobiphenyl	67.5			40-125	%REC	1	23-Sep-2014 16:10
Surr: 2-Fluorophenol	64.2			20-120	%REC	1	23-Sep-2014 16:10
Surr: 4-Terphenyl-d14	82.7			40-135	%REC	1	23-Sep-2014 16:10
Surr: Nitrobenzene-d5	67.5			41-120	%REC	1	23-Sep-2014 16:10
Surr: Phenol-d6	64.6			20-120	%REC	1	23-Sep-2014 16:10

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-07-091614-W-D  
 Collection Date: 16-Sep-2014 14:00

**ANALYTICAL REPORT**

WorkOrder:HS14090749  
 Lab ID:HS14090749-08  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				Prep:SW3510 / 22-Sep-2014		Analyst: LG
Tetraethyl lead	U		0.20	0.20	ug/L	1	23-Sep-2014 16:29
Surr: 2,4,6-Tribromophenol	89.4			34-129	%REC	1	23-Sep-2014 16:29
Surr: 2-Fluorobiphenyl	62.5			40-125	%REC	1	23-Sep-2014 16:29
Surr: 2-Fluorophenol	64.1			20-120	%REC	1	23-Sep-2014 16:29
Surr: 4-Terphenyl-d14	86.7			40-135	%REC	1	23-Sep-2014 16:29
Surr: Nitrobenzene-d5	69.5			41-120	%REC	1	23-Sep-2014 16:29
Surr: Phenol-d6	64.4			20-120	%REC	1	23-Sep-2014 16:29

Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Tetra Tech  
**Project:** ECI-Lake George  
**WorkOrder:** HS14090749

**DATES REPORT**

Sample ID	Client Samp ID	Collection Date	TCLP Date	Prep Date	Analysis Date	DF
<b>Batch ID</b> 86218		<b>Test Name :</b> LOW-LEVEL SEMIVOLATILES		<b>Matrix:</b> Soil		
HS14090749-01	ECI-06-091614-S	16 Sep 2014 13:40		22 Sep 2014 11:32	23 Sep 2014 20:18	5
HS14090749-03	ECI-08-091614-S	16 Sep 2014 14:15		22 Sep 2014 11:32	23 Sep 2014 21:15	5
HS14090749-05	ECI-07-091614-S	16 Sep 2014 14:00		22 Sep 2014 11:32	23 Sep 2014 21:34	5
HS14090749-06	ECI-07-091614-S-D	16 Sep 2014 14:00		22 Sep 2014 11:32	23 Sep 2014 21:53	5
<b>Batch ID</b> 86255		<b>Test Name :</b> LOW-LEVEL SEMIVOLATILES		<b>Matrix:</b> Water		
HS14090749-02	ECI-06-091614-W	16 Sep 2014 13:40		22 Sep 2014 19:46	22 Sep 2014 22:57	1
HS14090749-04	ECI-08-091614-W	16 Sep 2014 14:15		22 Sep 2014 19:46	23 Sep 2014 15:51	1
HS14090749-07	ECI-07-091614-W	16 Sep 2014 14:00		22 Sep 2014 19:46	23 Sep 2014 16:10	1
HS14090749-08	ECI-07-091614-W-D	16 Sep 2014 14:00		22 Sep 2014 19:46	23 Sep 2014 16:29	1
<b>Batch ID</b> R241208		<b>Test Name :</b> MOISTURE		<b>Matrix:</b> Soil		
HS14090749-01	ECI-06-091614-S	16 Sep 2014 13:40			19 Sep 2014 14:35	1
HS14090749-03	ECI-08-091614-S	16 Sep 2014 14:15			19 Sep 2014 14:35	1
HS14090749-05	ECI-07-091614-S	16 Sep 2014 14:00			19 Sep 2014 14:35	1
HS14090749-06	ECI-07-091614-S-D	16 Sep 2014 14:00			19 Sep 2014 14:35	1

Client: Tetra Tech  
 WorkOrder: HS14090749  
 Project: ECI-Lake George

**QC BATCH REPORT**

<b>Batch ID:</b> 86218	<b>Instrument:</b> SV-7	<b>Method:</b> SW8270
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<b>MBLK</b>	Sample ID: <b>MBLK-86218</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 13:57</b>							
Client ID:	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019145</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	U	6.6								
Surr: 2,4,6-Tribromophenol	134.6	6.6	167	0	80.6	36 - 126				
Surr: 2-Fluorobiphenyl	120.7	6.6	167	0	72.3	43 - 125				
Surr: 2-Fluorophenol	141.5	6.6	167	0	84.7	37 - 125				
Surr: 4-Terphenyl-d14	140.8	6.6	167	0	84.3	32 - 125				
Surr: Nitrobenzene-d5	119.4	6.6	167	0	71.5	37 - 125				
Surr: Phenol-d6	133.5	6.6	167	0	80.0	40 - 125				

<b>LCS</b>	Sample ID: <b>LCS-86218</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 14:15</b>							
Client ID:	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019146</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	156.9	6.6	167	0	93.9	40 - 140				
Surr: 2,4,6-Tribromophenol	157.8	6.6	167	0	94.5	36 - 126				
Surr: 2-Fluorobiphenyl	134.6	6.6	167	0	80.6	43 - 125				
Surr: 2-Fluorophenol	125	6.6	167	0	74.8	37 - 125				
Surr: 4-Terphenyl-d14	158.2	6.6	167	0	94.7	32 - 125				
Surr: Nitrobenzene-d5	141.5	6.6	167	0	84.7	37 - 125				
Surr: Phenol-d6	127.8	6.6	167	0	76.5	40 - 125				

<b>MS</b>	Sample ID: <b>HS14090749-01MS</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 20:37</b>							
Client ID: <b>ECI-06-091614-S</b>	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019156</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>5</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	791.2	300	996	0	79.4	40 - 140				
Surr: 2,4,6-Tribromophenol	713.4	300	996	0	71.6	36 - 126				
Surr: 2-Fluorobiphenyl	619.3	300	996	0	62.2	43 - 125				
Surr: 2-Fluorophenol	422.5	300	996	0	42.4	37 - 125				
Surr: 4-Terphenyl-d14	1000	300	996	0	100	32 - 125				
Surr: Nitrobenzene-d5	611.1	300	996	0	61.3	37 - 125				
Surr: Phenol-d6	688.3	300	996	0	69.1	40 - 125				

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 WorkOrder: HS14090749  
 Project: ECI-Lake George

**QC BATCH REPORT**

<b>Batch ID:</b> 86218	<b>Instrument:</b> SV-7	<b>Method:</b> SW8270
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<b>MS</b>	Sample ID: <b>HS14090741-09MS</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 19:21</b>							
Client ID:	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019152</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>5</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	824	190	984.3	0	83.7	40 - 140				
Surr: 2,4,6-Tribromophenol	887.1	190	984.3	0	90.1	36 - 126				
Surr: 2-Fluorobiphenyl	702.2	190	984.3	0	71.3	43 - 125				
Surr: 2-Fluorophenol	648.9	190	984.3	0	65.9	37 - 125				
Surr: 4-Terphenyl-d14	934.6	190	984.3	0	95.0	32 - 125				
Surr: Nitrobenzene-d5	802.7	190	984.3	0	81.5	37 - 125				
Surr: Phenol-d6	688.3	190	984.3	0	69.9	40 - 125				

<b>MSD</b>	Sample ID: <b>HS14090749-01MSD</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 20:56</b>							
Client ID: <b>ECI-06-091614-S</b>	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019157</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>5</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	857.6	290	994	0	86.3	40 - 140	791.2	8.06	30	
Surr: 2,4,6-Tribromophenol	830.1	290	994	0	83.5	36 - 126	713.4	15.1	30	
Surr: 2-Fluorobiphenyl	693.4	290	994	0	69.8	43 - 125	619.3	11.3	30	
Surr: 2-Fluorophenol	511.8	290	994	0	51.5	37 - 125	422.5	19.1	30	
Surr: 4-Terphenyl-d14	1078	290	994	0	108	32 - 125	1000	7.44	30	
Surr: Nitrobenzene-d5	874.4	290	994	0	88.0	37 - 125	611.1	35.5	30	R
Surr: Phenol-d6	881.6	290	994	0	88.7	40 - 125	688.3	24.6	30	

<b>MSD</b>	Sample ID: <b>HS14090741-09MSD</b>	Units: <b>ug/Kg</b>	Analysis Date: <b>23-Sep-2014 19:40</b>							
Client ID:	Run ID: <b>SV-7_241580</b>	SeqNo: <b>3019153</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>5</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	824.9	200	998	0	82.7	40 - 140	824	0.11	30	
Surr: 2,4,6-Tribromophenol	929.8	200	998	0	93.2	36 - 126	887.1	4.7	30	
Surr: 2-Fluorobiphenyl	724.4	200	998	0	72.6	43 - 125	702.2	3.1	30	
Surr: 2-Fluorophenol	720.8	200	998	0	72.2	37 - 125	648.9	10.5	30	
Surr: 4-Terphenyl-d14	925.4	200	998	0	92.7	32 - 125	934.6	0.994	30	
Surr: Nitrobenzene-d5	718.4	200	998	0	72.0	37 - 125	802.7	11.1	30	
Surr: Phenol-d6	654.4	200	998	0	65.6	40 - 125	688.3	5.05	30	

The following samples were analyzed in this batch: HS14090749-01    HS14090749-03    HS14090749-05    HS14090749-06

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 WorkOrder: HS14090749  
 Project: ECI-Lake George

**QC BATCH REPORT**

<b>Batch ID:</b> 86255	<b>Instrument:</b> SV-7	<b>Method:</b> SW8270
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<b>MBLK</b>	Sample ID: <b>MBLK-86255</b>	Units: <b>ug/L</b>	Analysis Date: <b>22-Sep-2014 15:57</b>							
Client ID:	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018879</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	U	0.20								
Surr: 2,4,6-Tribromophenol	3.344	0.20	5	0	66.9	34 - 129				
Surr: 2-Fluorobiphenyl	3.769	0.20	5	0	75.4	40 - 125				
Surr: 2-Fluorophenol	3.226	0.20	5	0	64.5	20 - 120				
Surr: 4-Terphenyl-d14	4.347	0.20	5	0	86.9	40 - 135				
Surr: Nitrobenzene-d5	4.001	0.20	5	0	80.0	41 - 120				
Surr: Phenol-d6	3.562	0.20	5	0	71.2	20 - 120				

<b>LCS</b>	Sample ID: <b>LCS-86255</b>	Units: <b>ug/L</b>	Analysis Date: <b>22-Sep-2014 16:16</b>							
Client ID:	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018880</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	3.357	0.20	5	0	67.1	40 - 140				
Surr: 2,4,6-Tribromophenol	2.938	0.20	5	0	58.8	34 - 129				
Surr: 2-Fluorobiphenyl	3.428	0.20	5	0	68.6	40 - 125				
Surr: 2-Fluorophenol	2.82	0.20	5	0	56.4	20 - 120				
Surr: 4-Terphenyl-d14	4.146	0.20	5	0	82.9	40 - 135				
Surr: Nitrobenzene-d5	3.564	0.20	5	0	71.3	41 - 120				
Surr: Phenol-d6	3.196	0.20	5	0	63.9	20 - 120				

<b>LCSD</b>	Sample ID: <b>LCSD-86255</b>	Units: <b>ug/L</b>	Analysis Date: <b>22-Sep-2014 16:36</b>							
Client ID:	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018881</b>	PrepDate: <b>22-Sep-2014</b> DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual
Tetraethyl lead	3.662	0.20	5	0	73.2	40 - 140	3.357	8.68	20	
Surr: 2,4,6-Tribromophenol	2.944	0.20	5	0	58.9	34 - 129	2.938	0.207		
Surr: 2-Fluorobiphenyl	3.792	0.20	5	0	75.8	40 - 125	3.428	10.1		
Surr: 2-Fluorophenol	3.232	0.20	5	0	64.6	20 - 120	2.82	13.6		
Surr: 4-Terphenyl-d14	4.479	0.20	5	0	89.6	40 - 135	4.146	7.71		
Surr: Nitrobenzene-d5	3.916	0.20	5	0	78.3	41 - 120	3.564	9.43		
Surr: Phenol-d6	3.514	0.20	5	0	70.3	20 - 120	3.196	9.46		

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 WorkOrder: HS14090749  
 Project: ECI-Lake George

**QC BATCH REPORT**

Batch ID: 86255		Instrument: SV-7		Method: SW8270						
<b>MS</b>	Sample ID: <b>HS14090741-10MS</b>	Units: <b>ug/L</b>			Analysis Date: <b>23-Sep-2014 00:32</b>					
Client ID:	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018885</b>		PrepDate: <b>22-Sep-2014</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Tetraethyl lead	2.151	0.20	5	0.5965	31.1	40 - 140				S
Surr: 2,4,6-Tribromophenol	1.987	0.20	5	0	39.7	34 - 129				
Surr: 2-Fluorobiphenyl	2.248	0.20	5	0	45.0	40 - 125				
Surr: 2-Fluorophenol	1.262	0.20	5	0	25.2	20 - 120				
Surr: 4-Terphenyl-d14	3.349	0.20	5	0	67.0	40 - 135				
Surr: Nitrobenzene-d5	3.642	0.20	5	0	72.8	41 - 120				
Surr: Phenol-d6	1.691	0.20	5	0	33.8	20 - 120				

<b>MSD</b>	Sample ID: <b>HS14090741-10MSD</b>	Units: <b>ug/L</b>			Analysis Date: <b>23-Sep-2014 00:51</b>					
Client ID:	Run ID: <b>SV-7_241565</b>	SeqNo: <b>3018886</b>		PrepDate: <b>22-Sep-2014</b>		DF: <b>1</b>				
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Tetraethyl lead	2.652	0.20	5	0.5965	41.1	40 - 140	2.151	20.9	20	R
Surr: 2,4,6-Tribromophenol	2.881	0.20	5	0	57.6	34 - 129	1.987	36.8		
Surr: 2-Fluorobiphenyl	3.23	0.20	5	0	64.6	40 - 125	2.248	35.8		
Surr: 2-Fluorophenol	1.947	0.20	5	0	38.9	20 - 120	1.262	42.7		
Surr: 4-Terphenyl-d14	5.132	0.20	5	0	103	40 - 135	3.349	42.1		
Surr: Nitrobenzene-d5	3.266	0.20	5	0	65.3	41 - 120	3.642	10.9		
Surr: Phenol-d6	2.494	0.20	5	0	49.9	20 - 120	1.691	38.3		

The following samples were analyzed in this batch: HS14090749-02      HS14090749-04      HS14090749-07      HS14090749-08

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Tetra Tech  
 WorkOrder: HS14090749  
 Project: ECI-Lake George

**QC BATCH REPORT**

<b>Batch ID:</b> R241208	<b>Instrument:</b> Balance1	<b>Method:</b> SW3550
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<b>DUP</b>	Sample ID: <b>HS14090749-01DUP</b>	Units: <b>wt%</b>	Analysis Date: <b>19-Sep-2014 14:35</b>							
Client ID: <b>ECI-06-091614-S</b>	Run ID: <b>Balance1_241208</b>	SeqNo: <b>3011518</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Percent Moisture	25.72	0.0100	23.55	8.81	20
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<b>DUP</b>	Sample ID: <b>HS14090741-09DUP</b>	Units: <b>wt%</b>	Analysis Date: <b>19-Sep-2014 14:35</b>							
Client ID:	Run ID: <b>Balance1_241208</b>	SeqNo: <b>3011515</b>	PrepDate: DF: <b>1</b>							
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD %RPD	RPD Limit	Qual

Percent Moisture	42	0.0100	44.74	6.33	20
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The following samples were analyzed in this batch: 

HS14090749-01	HS14090749-03	HS14090749-05	HS14090749-06
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Note: See Qualifiers Page for a list of qualifiers and their explanation.

**Client:** Tetra Tech  
**Project:** ECI-Lake George  
**WorkOrder:** HS14090749

**QUALIFIERS,  
ACRONYMS, UNITS**

<b>Qualifier</b>	<b>Description</b>
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL/SDL

<b>Acronym</b>	<b>Description</b>
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

**CERTIFICATIONS,ACCREDITATIONS & LICENSES**

<b>Agency</b>	<b>Number</b>	<b>Expire Date</b>
Arkansas	AR - 2014	27-Mar-2015
California	2919	31-Jul-2015
Dept of Defense	L2231 Rev 3-20-2014	22-Dec-2015
Illinois	003403	09-May-2015
Kansas	E-10352 8/15/2013-2014	01-Oct-2014
Kentucky	KY 2014-2015	30-Apr-2015
Louisiana	03087 2014/2015	30-Jun-2015
North Carolina	624 - 2014	31-Dec-2014
North Dakota	R-193 2025	30-Apr-2015
Oklahoma	2014-128	31-Aug-2015
Texas	TX104704231-14-13	30-Apr-2015

**Client:** Tetra Tech  
**Project:** ECI-Lake George  
**Work Order:** HS14090749

**SAMPLE TRACKING**

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Lab Samp ID	Client Sample ID	Action	Date	Person	New Location
HS14090749-01	ECI-06-091614-S	Login	9/18/2014 6:30:34 PM	SLS	26C
HS14090749-02	ECI-06-091614-W	Login	9/18/2014 6:30:34 PM	SLS	26C
HS14090749-03	ECI-08-091614-S	Login	9/18/2014 6:30:34 PM	SLS	26C
HS14090749-04	ECI-08-091614-W	Login	9/18/2014 6:30:34 PM	SLS	26C
HS14090749-05	ECI-07-091614-S	Login	9/18/2014 6:30:34 PM	SLS	26C
HS14090749-06	ECI-07-091614-S-D	Login	9/18/2014 6:30:34 PM	SLS	26C
HS14090749-07	ECI-07-091614-W	Login	9/18/2014 6:30:34 PM	SLS	26C
HS14090749-08	ECI-07-091614-W-D	Login	9/18/2014 6:30:34 PM	SLS	26C

**Sample Receipt Checklist**

Client Name: Tetra Tech-Chicago  
 Work Order: HS14090749

Date/Time Received: **18-Sep-2014 09:45**  
 Received by: **JOD**

Checklist completed by: Stephen L. Smith 18-Sep-2014 Reviewed by: Bethany McDaniel 19-Sep-2014  
 eSignature Date eSignature Date

Matrices: **water** Carrier name: **FedEx**

- Shipping container/cooler in good condition? Yes  No  Not Present
- Custody seals intact on shipping container/cooler? Yes  No  Not Present
- Custody seals intact on sample bottles? Yes  No  Not Present
- Chain of custody present? Yes  No
- Chain of custody signed when relinquished and received? Yes  No
- Chain of custody agrees with sample labels? Yes  No
- Samples in proper container/bottle? Yes  No
- Sample containers intact? Yes  No
- Sufficient sample volume for indicated test? Yes  No
- All samples received within holding time? Yes  No
- Container/Temp Blank temperature in compliance? Yes  No

Temperature(s)/Thermometer(s): 4.3/4.3 c/u; 7.2/7.2 c/u 1

Cooler(s)/Kit(s): red/blue

Date/Time sample(s) sent to storage: 09/18/2014 1900

Water - VOA vials have zero headspace? Yes  No  No VOA vials submitted

Water - pH acceptable upon receipt? Yes  No  N/A

pH adjusted? Yes  No  N/A

pH adjusted by:

Login Notes: Soils in blue cooler - out of temp, delayed by fed ex one day.

Client Contacted: Date Contacted: Person Contacted:

Contacted By: 0 Regarding:

Comments:

Corrective Action:



Cincinnati, OH  
+1 513 733 5336

Everett, WA  
+1 425 356 2600

Fort Collins, CO  
+1 970 490 1511

Holland, MI  
+1 616 399 6070

# Chain of Custody Form

Page 1 of 1

COC ID: 107010

## HS14090749

Tetra Tech  
ECI-Lake George

n, WV

### Environmental

ALS Project Manager:



Customer Information		Project Information		
Purchase Order	1108958	Project Name	ECI-LAKE GEORGE	A TETRA ETHYL LEAD
Work Order		Project Number		B
Company Name	Tetra Tech EM Inc.	Bill To Company	Tetra Tech EM Inc.	C
Send Report To	ADAM PETERCA	Invoice Attn	"	D
Address	1 South Wacker Dr Suite 3700	Address	1 South Wacker Dr Suite 3700	E
City/State/Zip	Chicago, IL 60606	City/State/Zip	Chicago, IL 60606	F
Phone	(312) 201-7411	Phone	(312) 201-7411	G
Fax	(312) 938-0118	Fax	(312) 938-0118	H
e-Mail Address	ADAM.PETERCA@TETRATECH.COM	e-Mail Address	"	I
				J

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	ECI-06-091614-S	9/16/14	1340	SOIL	+ (AD)	1	X										
2	ECI-06-091614-S-MS/MSD	9/16/14	1340	SOIL	+ (AD)	2	X										
3	ECI-06-091614-W	9/16/14	1340	WATER	-	2											
4	<del>ECI-06-091614-W-MS/MSD</del>																(AD)
5	ECI-07-091614-S	9/16/14	1400	SOIL	-	1	X										
6	ECI-07-091614-S-D	9/16/14	1400	SOIL	-	1	X										
7	ECI-07-091614-W	9/16/14	1400	WATER	-	2	X										
8	ECI-07-091614-W-D	9/16/14	1400	WATER	-	2	X										
9	ECI-08-091614-S	9/16/14	1415	SOIL	-	1	X										
10	ECI-08-091614-W	9/16/14	1415	WATER	-	2	X										

Sampler(s) Please Print & Sign		Shipment Method		Required Turnaround Time: (Check Box)			Results Due Date:	
MATT VILLICIANO / [Signature]		COAST		<input checked="" type="checkbox"/> Std 10 WK Days <input type="checkbox"/> 5 WK Days <input type="checkbox"/> Other 2 WK Days <input type="checkbox"/> 24 Hour				
Relinquished by:	Date: 9/16/14	Time: 1619	Received by:	Notes:				
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler ID	Cooler Temp.	QC Package: (Check One Box Below)		
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	<input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Check/Std <input type="checkbox"/> Level III Std QC/Raw Data <input type="checkbox"/> TRRP Level IV <input checked="" type="checkbox"/> Level IV SW/48/CLP <input type="checkbox"/> Other				
Preservative Key: 1-HCl 2-HNO <sub>3</sub> 3-H <sub>2</sub> SO <sub>4</sub> 4-NaOH 5-Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> 6-NaHSO <sub>4</sub> 7-Other 8-4°C 9-5035								

note: 1. Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.  
 2. Unless otherwise agreed in a formal contract, services provided by ALS Environmental are expressly limited to the terms and conditions stated on the reverse.  
 3. The Chain of Custody is a legal document. All information must be accurate.

From: (219) 405-5409  
Pete Wesson  
ALS Environmental  
100 N Jackson Blvd  
Chesterton, IN 46304

Origin ID: MGCA



Ship Date: 16SEP14  
ActWgt: 55.0 LB  
CAD: 2264840/INET3550

Delivery Address Bar Code



SHIP TO: (281) 530-5656

BILL RECIPIENT

Accounts Payable  
ALS Environmental  
10450 Stancliff Rd  
St 210  
HOUSTON, TX 77099

Ref #  
Invoice #  
PO #  
Dept #

1 of 2

WED - 17 SEP 10:30A  
PRIORITY OVERNIGHT

TRK# 7711 7883 2400

0201

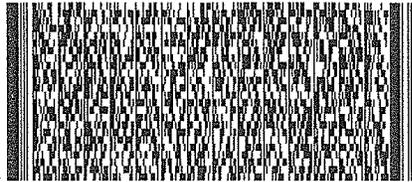
## MASTER ##

77099

TX-US

IAH

**NB SGRA**



522G1/CDB4/AC9

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

From: (219) 405-5409  
Pete Wesson  
ALS Environmental  
100 N Jackson Blvd  
Chesterton, IN 46304

Origin ID: MGCA



Ship Date: 16SEP14  
ActWgt: 62.0 LB  
CAD: 2264840/INET3550

Delivery Address Bar Code



SHIP TO: (281) 530-5656  
**Accounts Payable**  
ALS Environmental  
10450 Stancliff Rd  
St 210  
HOUSTON, TX 77099

BILL RECIPIENT

Ref #  
Invoice #  
PO #  
Dept #

2 of 2

WED - 17 SEP 10:30A  
PRIORITY OVERNIGHT

MPS# 7711 7883 2065

0263

Mstr# 7711 7883 2400

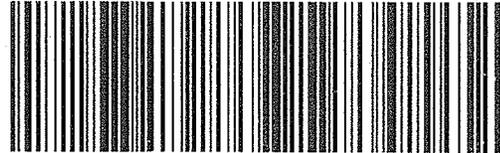
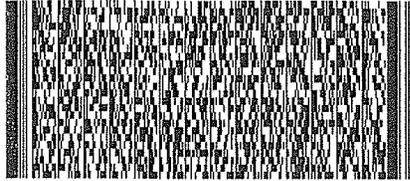
0201

77099

TX-US

IAH

**NB SGRA**



2264840/INET3550

**After printing this label:**

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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**Warning:** Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number. Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits, see current FedEx Service Guide.



Environmental	<b>CUSTODY SEAL</b>		Seal Broken By:
ie	Date: 9/16/14	Title: 1800	Date:
149424	Name: PJL		9/19/14
70	Company: ALS		
'85			

2400  
30-17



**ALS Environmental**

3352 128th Avenue  
Holland, Michigan 49424  
Tel. +1 616 399 6070  
Fax. +1 616 399 6185

**CUST**

Date: 9/12/14  
Name:  
Company: AL

**ODY SEAL**

Time: 130  
PJB  
7

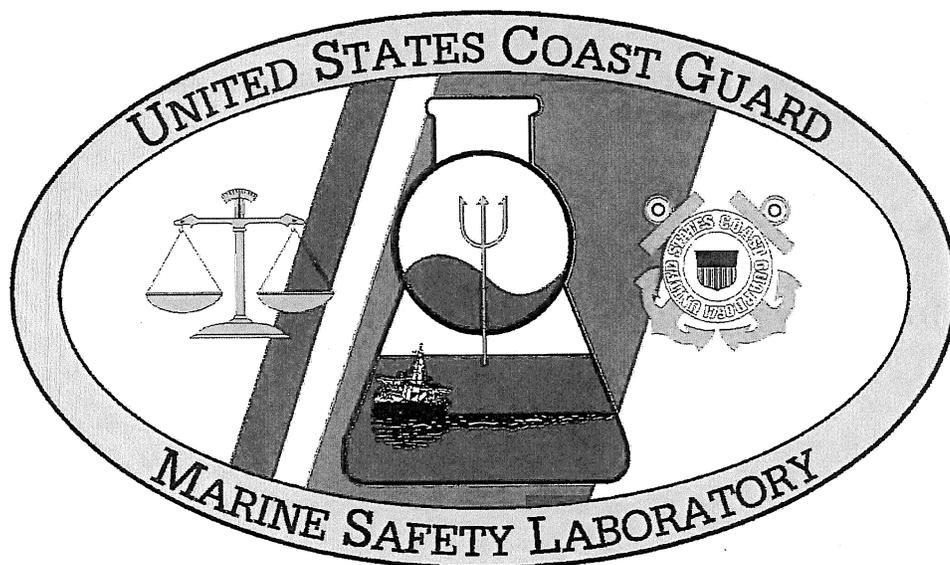
Seal Broken By:

Date:

**Oil Sample Analysis Report**

**U. S. EPA Region V  
Case Number E13502**

**Marine Safety Laboratory  
Case Number 14-226**



U.S. Department of  
Homeland Security

**United States  
Coast Guard**



Manager  
U.S. Coast Guard  
Marine Safety Laboratory

1 Chelsea Street  
New London, CT 06320  
Phone: (860) 271-2704  
Fax: (860) 271-2641

16450  
10 Oct 2014

U. S. Environmental Protection Agency  
Attn: On-Scene Coordinator  
77 West Jackson Blvd  
Chicago, IL 60604

Dear On-Scene Coordinator:

The laboratory analysis of this case has been completed and our report is forwarded. The technical data supporting the report (spectrograms and chromatograms) have been archived at our facility and are available upon request. We will maintain the oil samples in refrigerated storage pending final case disposition.

Questions concerning this report or the analytical methods used should be directed to the Supervisor of Analysis, Kristy Juare.

  
K. JUAIRE

Encl: (1) MSL Report 14-226

**United States Coast Guard  
Marine Safety Laboratory  
Oil Sample Analysis Report**

**14-226**

**Requestor:** U. S. EPA Region V

**Unit Case/Activity Number:** E13502

**Received:** 22-Sep-14

**Via:** Federal Express 8060 9116 2841

**Number Of Samples:** 6

**Lab NO. of Spills:** 1, 2, 3, 4, 5, and 6

**Lab NO. of Suspects:** n/a

**Lab NO. of Background:** n/a

**Analysis Methods:**

- GAS CHROMATOGRAPHY (GC)
- GAS CHROMATOGRAPHY-MASS SPECTROMETRY (GC-MS)
- INFRARED SPECTROSCOPY (IR)

**Laboratory's Conclusion (as explained below):NON-MATCH**

SPECIAL INSTRUCTIONS: Compare to samples 13-049-1 and 5 and to samples 13-118-1, 2, 3, 4, 8, 9, 10, and 11. Samples 13-049-1 and 5 do not contain sufficient volume for analysis. Samples 13-118-8, 9, 10, and 11 were reanalyzed as representative samples, as prior analysis determined samples 13-118-1, 2, 3, 4, and 8 derive from a common source of petroleum oil.

**RESULTS:**

1. Samples 14-226-1, 2, 3, 4, 5, and 6 were specified to be representative of spilled oil. Analysis indicates:
  - A. Samples 14-226-1, 2, 3, 4, and 5 contain moderately biodegraded intermediate to heavy petroleum oil with overall characteristics somewhat similar to each other. These samples are similar enough to suggest a relationship. However, non-weathering differences are present.
  - B. Sample 14-226-6 contains petroleum oil. The quantity is not sufficient for conclusive product identification or comparison purposes based on the analysis conducted.
2. Samples 13-118-8, 9, 10, and 11 contain moderately biodegraded intermediate to heavy petroleum oil with characteristics somewhat similar to those of samples 14-226-1, 2, 3, 4, and 5. These samples are similar enough to suggest a relationship. However, non-weathering differences are present.

**CONCLUSIONS:**

1. Samples 14-226-1, 2, 3, 4, and 5 appear related to each other and to samples 13-118-8, 9, 10, and 11 through a common source of petroleum oil. However, there are differences present that are not attributable to weathering.
2. Sample 14-226-6 does not contain a quantity of petroleum oil sufficient for correlation analysis.

**SUPERVISOR OF ANALYSIS**

K. JUAIRE

**DATE**

10-Oct-14

---

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**United States Coast Guard  
Marine Safety Laboratory**

**Oil Spill Identification Analysis  
Cost Recovery Documentation**

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**Laboratory Case Number:** 14-226  
**Requestor:** U. S. EPA Region V  
**Unit Case Number:** E13502  
**Number of Samples:** 8  
**Cost Per Sample Prepared:** \$20.00  
**Total Costs of Sample Preparation:** \$160.00  
**Number of Analyses:** 25  
**Cost Per Sample Analyzed:** \$86.00  
**Total Costs for Analysis:** \$2,150.00  
**TOTAL COSTS:** \$2,310.00

This documentation is provided for purposes of Phase IV - Documentation and  
Cost Recovery under the National Oil and Hazardous Substances Pollution  
Contingency Plan (40 CFR Part 300)

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



**Date:** 10 Oct 2014

**United States Coast Guard  
Marine Safety Laboratory Sample  
Check-In Log**

**MSL Case/Activity Number: 14-226**

**Requestor:** U. S. EPA Region V

**Unit Case Number** E13502

**Federal Project Number:** E13502

**Delivery Method:** Federal Express

**Received Date:** 22 Sep 14

**Delivery Number:** 8060 9116 2841

**Priority:** No                      **Rush:** No                      **Comparison** Yes

Lab Number 14-226	Sample Descriptions from Sample Jars	Spill	Source
1	11 SOIL FROM ECI-06-091614-S 9/16/14 1340	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	12 WATER/SHEEN FROM ECI-06-091614-W 9/16/14 1340	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	13 SOIL FROM ECI-07-091614-S 9/16/14 1400	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	14 WATER/SHEEN FROM ECI-07-091614-W 9/16/14 1400	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	15 SOIL FROM ECI-08-091614-S 9/16/14 1415	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	16 WATER/SHEEN FROM ECI-08-091614-W 9/16/14 1415	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7		<input type="checkbox"/>	<input type="checkbox"/>
8		<input type="checkbox"/>	<input type="checkbox"/>
9		<input type="checkbox"/>	<input type="checkbox"/>
10		<input type="checkbox"/>	<input type="checkbox"/>

**Remarks:** Compare to 13-049 samples 1 and 5. Compare to 13-118 samples 1, 2, 3, 4, 8, 9, 10, and 11.

**Samples checked in by:** YN3 JAMIE YINGLING *Jamie Yingling YN3*                      **Date:** 22 Sep 14  
**Sample Custodian:** MST1 ALEXANDER SHUNDA *Alexander Shunda*                      **Date:** 22 Sep 14  
**Supervisor of Analysis:** K. JUAIRE *Kristy Juare*                      **Date:** 10 Oct 14

**United States Coast Guard  
Marine Safety Laboratory Sample  
Check-In Log**

**MSL Case/Activity Number: 13-118**

**Requestor:** U. S. EPA Region V

**Unit Case Number** E13502

**Federal Project Number:** E13502

**Delivery Method:** Federal Express

**Received Date:** 03 Apr 13

**Delivery Number:** 8025 3722 9456

**Priority:** No                      **Rush:** No                      **Comparison:** Yes

Lab Number 13-118	Sample Descriptions from Sample Jars		Spill	Source
1	1	LIQUID SHEEN 4/1/13 1115	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	2	OILED SEDIMENT 4/1/13 1120	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	3	MOUSSE 4/1/13 1130	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	4	SHEEN 4/1/13 1132	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	5	SEDIMENT 4/1/13 1137	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	6	SHEEN 4/1/13 1140	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	7	SHEEN 4/1/13 1142	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	8	OIL/SHEEN 4/1/13 1150	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	9	OIL/SHEEN 4/1/13 1152	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	10	MOUSSE 4/1/13 1215	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Remarks:** Compare to 13-049.

**Samples checked in by:** SK2 FRANKLIN PINE *ZE CR*                      **Date:** 03 Apr 13

**Sample Custodian:** MST3 MICHELLE KOSMO *Michelle Kosmo*                      **Date:** 10 APR 13

**Supervisor of Analysis:** K. JUAIRE *K. Juairé*                      **Date:** 10 APR 13

**United States Coast Guard  
Marine Safety Laboratory  
Check-In Log**

**MSL Case Number: 13-118**

Lab Number 13-118	Sample Descriptions from Sample Jars	Spill	Source
11	11 SHEEN 4/1/13 1230	<input checked="" type="checkbox"/>	<input type="checkbox"/>
12		<input type="checkbox"/>	<input type="checkbox"/>
13		<input type="checkbox"/>	<input type="checkbox"/>
14		<input type="checkbox"/>	<input type="checkbox"/>
15		<input type="checkbox"/>	<input type="checkbox"/>
16		<input type="checkbox"/>	<input type="checkbox"/>
17		<input type="checkbox"/>	<input type="checkbox"/>
18		<input type="checkbox"/>	<input type="checkbox"/>
19		<input type="checkbox"/>	<input type="checkbox"/>
20		<input type="checkbox"/>	<input type="checkbox"/>

Samples checked in by: SK2 FRANKLIN PINE *FR* Date: 03 Apr 13  
 Sample Custodian: MST3 MICHELLE KOSMO *Michelle Kosmo* Date: 10 Apr 13  
 Supervisor of Analysis: K. JUAIRE *Kristy Juare* Date: 10 Apr 13

**United States Coast Guard  
Marine Safety Laboratory Sample  
Check-In Log**

**MSL Case/Activity Number: 13-049**

**Requestor:** U. S. EPA Region V

**Unit Case Number** E13502

**Federal Project Number:** E13502

**Delivery Method:** Federal Express

**Received Date:** 23 Nov 12

**Delivery Number:** 8001 3250 9229

**Priority:** No                      **Rush:** No                      **Comparison** No

Lab Number 13-049	Sample Descriptions from Sample Jars	Spill	Source
1	1 SHEEN ON INDIANA HARBOR CANAL 11/21/12 0915 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2	2 SHEEN ON SORBENT MATERIAL 11/21/12 0917 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3	3 SHEEN ON WATER - CENTRAL CANAL 11/21/12 0941 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4	4 OUTFALL WATER 11/21/12 1000 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5	5 SHEEN - NORTH SIDE OF CANAL 11/21/12 1012 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6	6 WATER FROM CANAL - BACKGROUND 11/21/12 1016 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7	7 SHEEN/OIL SAMPLE 11/21/12 1019 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8	8 SATURATED SORBENT PAD 11/21/12 1024 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9	9 SATURATED SEDIMENT 11/21/12 1025 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10	10 SHEEN SAMPLE FROM RECOVERY AREA 11/16/12 1315 CT	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Remarks:** Sample 6 designated as "Spill" for comparison purposes.

**Samples checked in by:** SK2 FRANKLIN PINE *[Signature]* **Date:** 23 Nov 12

**Sample Custodian:** MST3 ZACHARY COTE *[Signature]* **Date:** 28 Nov 12

**Supervisor of Analysis:** K. JUAIRE *[Signature]* **Date:** 03 Dec 12

**APPENDIX F**  
**DATA VALIDATION REPORT**

**DATA VALIDATION REPORT**  
**ECI- SOUTH TANK FARM AND ECI – WEST TANK FARM**  
**FOR SEPTEMBER 2014 SAMPLES**

This data validation report documents the validation of the analytical results for various samples (including eight soil samples, eight surface water samples, two field duplicate soil samples, and two field duplicate surface water samples) collected on 16 September 2014 from the ECI – South Tank Farm and ECI – West Tank Farm sites in East Chicago, Indiana. The samples were collected by Tetra Tech START personnel to determine the nature and extent of the observed contamination, an apparent oil spill. The samples were delivered by laboratory courier and overnight courier, respectively, to two laboratories, STAT Analytical Corporation (STAT) of Chicago, Illinois, and the ALS Environmental (ALS) facility in Houston, Texas, for analysis. Each laboratory divided the samples into two groups for reporting purposes (14090648 and 14090649 by STAT and HS14090741 and HS14090749 by ALS). All samples were analyzed by STAT for (1) extractable total petroleum hydrocarbons (TPH) as diesel range organics (DRO) and extractable range organics (ERO) by U.S. Environmental Protection Agency (EPA) SW-846 Method 8015-Modified, (2) volatile TPH as gasoline range organics (GRO) by EPA SW-846 Method 8260B, and (3) benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA SW-846 Method 8260B and by ALS for tetraethyllead (TEL) by EPA SW-846 Method 8270C.

Tetra Tech validated the data from the samples in general accordance with the EPA Contract Laboratory Program (CLP) National Functional Guidelines (NFG) for Organic Data Review, dated June 2008. The NFG guidelines were modified as appropriate to correspond to the specific requirements of the non-CLP methods used in these analyses and the START Quality Assurance Project Plan (QAPP) dated April 2014. The validation was based on the following quality control (QC) parameters, as applicable to each analysis:

- Holding times and sample preservation
- Initial and continuing calibrations
- Blanks
- Laboratory control sample (LCS) results

- Matrix spike/matrix spike duplicate (MS/MSD) results
- Surrogate recovery
- Internal standard results
- Sample duplicate results
- Sample quantitation

The following sections discuss the validation results for each analysis, in turn, with the focus on the QC parameters with irregularities. The final section provides an overall evaluation of the results of the validation of all analyses. The laboratory reports did not include any electronic data deliverable (EDD), so Tetra Tech annotated the sample results from STAT and ALS, added validation qualifiers, and attached that to this report. The added qualifiers may include:

- No qualifier: Data are acceptable as reported
- U: Analyte analyzed for but not detected above the listed reporting limit.
- J: Analyte detected, but concentration is estimated QC reasons
- J-: Analyte detected, but concentration is estimated for QC reasons and may be biased low
- J+: Analyte detected, but concentration is estimated for QC reasons and may be biased high
- UJ: Analyte not detected and the sample reporting limit is considered estimated for QC reasons
- R: Results are rejected ; the analyte may or may not be present. Re-sampling and re-analysis are necessary for verification

## **1.0 Extractable Total Petroleum Hydrocarbon Results**

There were no problems with holding times and sample preservation, initial and continuing calibrations, and LCS results.

Some of the laboratory (method) blanks yielded low concentrations of one or both analytes. All samples yielded much higher concentrations, so no qualifications were applied.

MS/MSD analyses were performed on samples ECI-04-091614-W and ECI-06-091614-S. Recoveries could not be determined in either set because the unspiked samples contained much higher concentrations, as much as 1,000 times higher, than the amount spiked. No qualifications were applied for these data gaps. The relative percent differences (RPD) from the soil sample were within their QC limits. However, the RPD for DRO (the only analyte spiked) in the water sample were 65 percent, well above its QC limit of 25 percent. This indicates significant heterogeneity in the distribution of DRO in the water, probably due to the presence of a separate nonaqueous phase. To reflect the uncertainty in the true concentration of DRO in sample ECI-04-091614-W, that result was qualified as estimated and flagged “J”. Similar irregularities may occur in other samples.

As one would expect from the MS/MSD irregularities, some field duplicate results were similar, and others were different. Specifically, for the surface water samples, the pair from ECI-03-091614-W yielded RPD of 12 percent for DRO, 36 percent for ERO, and 3 percent for the sum of the two fractions and the pair from ECI-07-091614-W yielded RPD of 82 percent for DRO, 39 percent for ERO, and 72 percent for the sum. For the soil samples, the pair from ECI-03-091614-S yielded RPD of 25 percent for DRO, 86 percent for ERO, and 42 percent for the sum and the pair from ECI-07-091614-S yielded RPD of 64 percent for DRO, 33 percent for ERO, and 45 percent for the sum. No qualifications were applied, but data users should note that apparent concentrations, especially the higher concentrations, may be uncertain due to heterogeneous distributions of the contaminants within the matrix.

Due to their high concentrations of analytes, many samples were re-analyzed at a 5- to 100-fold dilution for one or both analytes. These dilutions brought the observed concentrations within calibration range, so no qualifications were applied.

## 2.0 Volatile Total Petroleum Hydrocarbon Results

There were no problems with holding times and sample preservation, initial calibrations, LCS results, and sample duplicate results.

One continuing calibration standard yielded a recovery outside QC limits. STAT analyzed a second standard, which yielded an acceptable recovery, before analyzing samples. No qualifications were applied.

One method blank yielded a low concentration of GRO. All accompanying samples yielded either much higher concentrations or no GRO at all. Therefore no qualifications were applied.

Soil MS/MSD analyses yielded acceptable results, but the aqueous analyses, performed on sample ECI-04-091614-W yielded recoveries below the QC limits. This appears to be due to matrix interference from the higher-boiling TPH in the unspiked sample. The reporting limit for sample ECI-04-091614-W was qualified as estimated and flagged "UJ" to indicate that.

There were minor irregularities in the internal standard and surrogate recoveries of three samples, apparently due to matrix interference from the TPH in them, which complicated determination of the baseline of a peak. No qualifications were applied.

Most soil samples were analyzed at 50- to 500-fold dilutions to bring the GRO concentrations within calibration range. These dilutions succeeded in doing that, so no qualifications were applied.

### 3.0 **Benzene, Toluene, Ethylbenzene, and Xylenes Results**

There were no problems with holding times and sample preservation, initial and continuing calibrations, LCS results, internal standard results, and sample duplicate results.

The aqueous blank contained low concentrations of two toluene and xylenes. No BTEX was found in the field samples, so no qualifications were applied.

Although most MS/MSD analyses yielded fully acceptable results, the soil MS/MSD analyses performed on sample ECI-04-091614-S yielded low recoveries for all analytes, due to matrix interference from the TPH in the unspiked sample. Therefore all BTEX results for sample ECI-04-091614-S were qualified as estimated, possibly biased low, and flagged “J-” or “UJ”, as appropriate.

In sample ECI-06-091614-S (and the MS and MSD samples derived from it), the surrogate toluene-d8 yielded recoveries just above the QC limits. This is probably due to matrix interference from TPH in the sample. BTEX was not detected in that sample so no qualifications were applied.

Most soil samples were analyzed at 50-fold dilutions to minimize matrix interference. This dilution results in raised detection and reporting limits, so all soil sample results are not fully comparable. No qualifications were applied, but data users should note this.

#### 4.0 **Tetraethyllead Results**

There were no problems with holding times and sample preservation, initial and continuing calibrations, blanks, LCS results, and sample duplicate results.

Most MS/MSD analyses yielded acceptable results. However, TEL recoveries from the MS/MSD analyses performed on sample ECI-04-091614-W were 31 and 41 percent, versus QC limits of 40 to 140 percent. The low recoveries were due to interference from TPH in the sample. Therefore the TEL result for sample ECI-07-091614-W was qualified as estimated, probably biased low, and flagged “J-” to indicate that.

The undiluted analysis of sample ECI-05-091614-S yielded no detectable recoveries of two (of six) surrogates) due to matrix interference. The sample was re-analyzed at a 10-fold dilution and reported from the latter, which yielded acceptable recoveries for all surrogates. Therefore no qualifications were applied.

The analysis of sample ECI-04-091614-W yielded a low area count for the fourth (of six) internal standards, which elutes in the middle of the TPH in the sample. TEL is quantitated from the second internal standard, so no qualifications were applied.

Most soil samples were analyzed at 5- or 10-fold dilutions to minimize matrix interference from TPH. No qualifications were applied, but data users should note the varying detection and reporting limits for the various samples.

## 5.0 Overall Evaluation

The analyses went well, with few qualifications applied. Most qualifications were the result of the nature and quantity of the contamination at the site. As one would expect from a highly contaminated site like this, some contaminant distributions were heterogeneous. Therefore single results may not be fully representative of their location. All results may be used, as qualified, for any purpose.

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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-001

Client Sample ID: ECI-01-091614-S  
 Collection Date: 9/16/2014 10:00:00 AM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: 9/23/2014	Analyst: MDM
TPH (DRO)	41000	15000		mg/Kg-dry	50	9/29/2014
TPH (ERO)	1600	310	*	mg/Kg-dry	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: 9/17/2014	Analyst: PS
Benzene	ND	0.14		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.14		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.14		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.42		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: 9/17/2014	Analyst: ART
Gasoline Range Organics	300	70	*	mg/Kg-dry	100	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: 9/17/2014	Analyst: MD
Percent Moisture	35.3	0.2	*	wt%	1	9/17/2014

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Qualifiers: ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter  
 RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-01-091614-S  
 Collection Date: 16-Sep-2014 10:00

**ANALYTICAL REPORT**  
 WorkOrder: HS14090741  
 Lab ID: HS14090741-01  
 Matrix: Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method: SW3550					
Percent Moisture	27.0		0.0100	0.0100	wt%	1	Analyst: KAH 19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method: SW8270					
Tetraethyl lead	U	U	270	270	ug/Kg-dry	5	Prep: SW3541 / 22-Sep-2014 Analyst: LG 23-Sep-2014 17:46
Surr: 2,4,6-Tribromophenol	89.7			36-126	%REC	5	23-Sep-2014 17:46
Surr: 2-Fluorobiphenyl	64.9			43-125	%REC	5	23-Sep-2014 17:46
Surr: 2-Fluorophenol	75.4			37-125	%REC	5	23-Sep-2014 17:46
Surr: 4-Terphenyl-d14	97.4			32-125	%REC	5	23-Sep-2014 17:46
Surr: Nitrobenzene-d5	77.9			37-125	%REC	5	23-Sep-2014 17:46
Surr: Phenol-d6	74.7			40-125	%REC	5	23-Sep-2014 17:46

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Note: See Qualifiers Page for a list of qualifiers and their explanation.

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Date Reported: October 22, 2014

Date Printed: October 22, 2014

## ANALYTICAL RESULTS

Client: Tetra Tech EM Inc.  
Work Order: 14090649 Revision 1  
Project: ECI - Indianapolis Blvd  
Lab ID: 14090649-002

Client Sample ID: ECI-01-091614-W  
Collection Date: 9/16/2014 10:00:00 AM  
Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>					
TPH (DRO)	90	5.0		mg/L	50	9/29/2014
TPH (ERO)	2.8	0.10	*	mg/L	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>					
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>					
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

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### Qualifiers:

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J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

\* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-01-091614-W  
 Collection Date: 16-Sep-2014 10:00

**ANALYTICAL REPORT**  
 WorkOrder: HS14090741  
 Lab ID: HS14090741-02  
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>		Method: SW8270		Prep: SW3510 / 22-Sep-2014		Analyst: LG	
Tetraethyl lead	U	U	0.20	0.20	ug/L	1	22-Sep-2014 21:22
Surr: 2,4,6-Tribromophenol	58.1			34-129	%REC	1	22-Sep-2014 21:22
Surr: 2-Fluorobiphenyl	43.5			40-125	%REC	1	22-Sep-2014 21:22
Surr: 2-Fluorophenol	64.6			20-120	%REC	1	22-Sep-2014 21:22
Surr: 4-Terphenyl-d14	83.7			40-135	%REC	1	22-Sep-2014 21:22
Surr: Nitrobenzene-d5	73.4			41-120	%REC	1	22-Sep-2014 21:22
Surr: Phenol-d6	72.5			20-120	%REC	1	22-Sep-2014 21:22

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Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-003

Client Sample ID: ECI-02-091614-S  
 Collection Date: 9/16/2014 10:50:00 AM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: 9/23/2014	Analyst: MDM
TPH (DRO)	43000	15000		mg/Kg-dry	50	9/29/2014
TPH (ERO)	1600	290	*	mg/Kg-dry	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: 9/17/2014	Analyst: PS
Benzene	ND	0.13		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.13		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.13		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.40		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: 9/17/2014	Analyst: ART
Gasoline Range Organics	210	33	*	mg/Kg-dry	50	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: 9/17/2014	Analyst: MD
Percent Moisture	31.8	0.2	*	wt%	1	9/17/2014

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**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-02-091614-S  
 Collection Date: 16-Sep-2014 10:50

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-03  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550		Analyst: KAH			
Percent Moisture	39.0		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270		Analyst: LG			
Tetraethyl lead	U	U	480	480	ug/Kg-dry	5	23-Sep-2014 18:05
Surr: 2,4,6-Tribromophenol	119			36-126	%REC	5	23-Sep-2014 18:05
Surr: 2-Fluorobiphenyl	78.3			43-125	%REC	5	23-Sep-2014 18:05
Surr: 2-Fluorophenol	69.1			37-125	%REC	5	23-Sep-2014 18:05
Surr: 4-Terphenyl-d14	121			32-125	%REC	5	23-Sep-2014 18:05
Surr: Nitrobenzene-d5	73.2			37-125	%REC	5	23-Sep-2014 18:05
Surr: Phenol-d6	82.5			40-125	%REC	5	23-Sep-2014 18:05

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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-004

Client Sample ID: ECI-02-091614-W  
 Collection Date: 9/16/2014 10:50:00 AM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>					
TPH (DRO)	72	5.0		mg/L	50	9/29/2014
TPH (ERO)	3.0	0.10	*	mg/L	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>					
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>					
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

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 11 Nov 14

Qualifiers: ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter  
 RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-02-091614-W  
 Collection Date: 16-Sep-2014 10:50

**ANALYTICAL REPORT**  
 WorkOrder: HS14090741  
 Lab ID: HS14090741-04  
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>		Method: SW8270		Prep: SW3510 / 22-Sep-2014		Analyst: LG	
Tetraethyl lead	U	4	0.20	0.20	ug/L	1	23-Sep-2014 17:26
Surr: 2,4,6-Tribromophenol	66.6			34-129	%REC	1	23-Sep-2014 17:26
Surr: 2-Fluorobiphenyl	63.3			40-125	%REC	1	23-Sep-2014 17:26
Surr: 2-Fluorophenol	57.2			20-120	%REC	1	23-Sep-2014 17:26
Surr: 4-Terphenyl-d14	83.9			40-135	%REC	1	23-Sep-2014 17:26
Surr: Nitrobenzene-d5	78.2			41-120	%REC	1	23-Sep-2014 17:26
Surr: Phenol-d6	68.0			20-120	%REC	1	23-Sep-2014 17:26

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Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-005

Client Sample ID: ECI-03-091614-S  
 Collection Date: 9/16/2014 11:20:00 AM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: 9/23/2014	Analyst: MDM
TPH (DRO)	36000	18000		mg/Kg-dry	50	9/30/2014
TPH (ERO)	9000	1800	*	mg/Kg-dry	5	9/29/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: 9/17/2014	Analyst: PS
Benzene	ND	0.21		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.21		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.21		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.62		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: 9/17/2014	Analyst: ART
Gasoline Range Organics	260	52	*	mg/Kg-dry	50	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: 9/17/2014	Analyst: MD
Percent Moisture	43.8	0.2	*	wt%	1	9/17/2014

HUF  
 11 Nov 14

Qualifiers: ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter  
 RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-03-091614-S  
 Collection Date: 16-Sep-2014 11:20

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-05  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550		Analyst: KAH			
Percent Moisture	8.15		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270		Analyst: LG			
Tetraethyl lead	U	V	320	320	ug/Kg-dry	5	23-Sep-2014 18:24
Surr: 2,4,6-Tribromophenol	73.2			36-126	%REC	5	23-Sep-2014 18:24
Surr: 2-Fluorobiphenyl	102			43-125	%REC	5	23-Sep-2014 18:24
Surr: 2-Fluorophenol	67.0			37-125	%REC	5	23-Sep-2014 18:24
Surr: 4-Terphenyl-d14	110			32-125	%REC	5	23-Sep-2014 18:24
Surr: Nitrobenzene-d5	95.0			37-125	%REC	5	23-Sep-2014 18:24
Surr: Phenol-d6	66.1			40-125	%REC	5	23-Sep-2014 18:24

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Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-006

Client Sample ID: ECI-03-091614-S-D  
 Collection Date: 9/16/2014 11:20:00 AM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>					
TPH (DRO)	14000	3600		mg/Kg-dry	100	Prep Date: 9/23/2014 Analyst: MDM 9/28/2014
TPH (ERO)	3600	3600	*	mg/Kg-dry	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>					
Benzene	ND	0.21		mg/Kg-dry	50	Prep Date: 9/17/2014 Analyst: PS 9/21/2014
Ethylbenzene	ND	0.21		mg/Kg-dry	50	9/21/2014
Toluene	ND	0.21		mg/Kg-dry	50	9/21/2014
Xylenes, Total	ND	0.63		mg/Kg-dry	50	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>					
Gasoline Range Organics	380	110	*	mg/Kg-dry	100	Prep Date: 9/17/2014 Analyst: ART 9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>					
Percent Moisture	44.5	0.2	*	wt%	1	Prep Date: 9/17/2014 Analyst: MD 9/17/2014

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11 Nov 14

**Qualifiers:**

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

HT - Sample received past holding time

\* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-03-091614-S-D  
 Collection Date: 16-Sep-2014 11:20

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-06  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550		Analyst: KAH			
Percent Moisture	45.8		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270		Prep:SW3541 / 22-Sep-2014 Analyst: LG			
Tetraethyl lead	U	U	360	360	ug/Kg-dry	5	23-Sep-2014 18:43
Surr: 2,4,6-Tribromophenol	82.1			36-126	%REC	5	23-Sep-2014 18:43
Surr: 2-Fluorobiphenyl	64.4			43-125	%REC	5	23-Sep-2014 18:43
Surr: 2-Fluorophenol	47.4			37-125	%REC	5	23-Sep-2014 18:43
Surr: 4-Terphenyl-d14	74.3			32-125	%REC	5	23-Sep-2014 18:43
Surr: Nitrobenzene-d5	80.6			37-125	%REC	5	23-Sep-2014 18:43
Surr: Phenol-d6	52.3			40-125	%REC	5	23-Sep-2014 18:43

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Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-007

Client Sample ID: ECI-03-091614-W  
 Collection Date: 9/16/2014 11:20:00 AM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: 9/19/2014	Analyst: MDM
TPH (DRO)	160	10		mg/L	100	9/28/2014
TPH (ERO)	90	10	*	mg/L	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: PS
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: PS
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-03-091614-W  
 Collection Date: 16-Sep-2014 11:20

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-07  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270		Prep:SW3510 / 22-Sep-2014		Analyst: LG	
Tetraethyl lead	U	U	0.20	0.20	ug/L	1	23-Sep-2014 17:07
Surr: 2,4,6-Tribromophenol	77.6			34-129	%REC	1	23-Sep-2014 17:07
Surr: 2-Fluorobiphenyl	65.6			40-125	%REC	1	23-Sep-2014 17:07
Surr: 2-Fluorophenol	64.6			20-120	%REC	1	23-Sep-2014 17:07
Surr: 4-Terphenyl-d14	78.7			40-135	%REC	1	23-Sep-2014 17:07
Surr: Nitrobenzene-d5	92.7			41-120	%REC	1	23-Sep-2014 17:07
Surr: Phenol-d6	66.5			20-120	%REC	1	23-Sep-2014 17:07

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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-008

Client Sample ID: ECI-03-091614-W-D  
 Collection Date: 9/16/2014 11:20:00 AM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: 9/19/2014	Analyst: MDM
TPH (DRO)	180	10		mg/L	100	9/28/2014
TPH (ERO)	62	10	*	mg/L	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: PS
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: PS
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

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**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-03-091614-W-D  
 Collection Date: 16-Sep-2014 11:20

**ANALYTICAL REPORT**  
 WorkOrder: HS14090741  
 Lab ID: HS14090741-08  
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>		Method: SW8270		Prep: SW3510 / 22-Sep-2014		Analyst: LG	
Tetraethyl lead	U	U	0.20	0.20	ug/L	1	23-Sep-2014 16:48
Surr: 2,4,6-Tribromophenol	44.3			34-129	%REC	1	23-Sep-2014 16:48
Surr: 2-Fluorobiphenyl	47.1			40-125	%REC	1	23-Sep-2014 16:48
Surr: 2-Fluorophenol	64.8			20-120	%REC	1	23-Sep-2014 16:48
Surr: 4-Terphenyl-d14	83.5			40-135	%REC	1	23-Sep-2014 16:48
Surr: Nitrobenzene-d5	102			41-120	%REC	1	23-Sep-2014 16:48
Surr: Phenol-d6	65.3			20-120	%REC	1	23-Sep-2014 16:48

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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-009

Client Sample ID: ECI-04-091614-S  
 Collection Date: 9/16/2014 12:05:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: 9/23/2014	Analyst: MDM
TPH (DRO)	3800	3700		mg/Kg-dry	100	9/28/2014
TPH (ERO)	1300	190	*	mg/Kg-dry	5	9/30/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: 9/17/2014	Analyst: ART
Benzene	0.015	J- 0.0099		mg/Kg-dry	1	9/23/2014
Ethylbenzene	ND	UJ 0.0099		mg/Kg-dry	1	9/23/2014
Toluene	ND	UJ 0.0099		mg/Kg-dry	1	9/23/2014
Xylenes, Total	ND	UJ 0.030		mg/Kg-dry	1	9/23/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: 9/17/2014	Analyst: ART
Gasoline Range Organics	60	55	*	mg/Kg-dry	50	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: 9/17/2014	Analyst: MD
Percent Moisture	46.2	0.2	*	wt%	1	9/17/2014

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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-04-091614-S  
 Collection Date: 16-Sep-2014 00:05

**ANALYTICAL REPORT**  
 WorkOrder: HS14090741  
 Lab ID: HS14090741-09  
 Matrix: Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method: SW3550		Analyst: KAH			
Percent Moisture	44.7		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method: SW8270		Prep: SW3541 / 22-Sep-2014 Analyst: LG			
Tetraethyl lead	U	W	530	530	ug/Kg-dry	5	23-Sep-2014 19:02
Surr: 2,4,6-Tribromophenol	108			36-126	%REC	5	23-Sep-2014 19:02
Surr: 2-Fluorobiphenyl	97.5			43-125	%REC	5	23-Sep-2014 19:02
Surr: 2-Fluorophenol	93.4			37-125	%REC	5	23-Sep-2014 19:02
Surr: 4-Terphenyl-d14	124			32-125	%REC	5	23-Sep-2014 19:02
Surr: Nitrobenzene-d5	102			37-125	%REC	5	23-Sep-2014 19:02
Surr: Phenol-d6	96.7			40-125	%REC	5	23-Sep-2014 19:02

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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.

Work Order: 14090649 Revision 1

Project: ECI - Indianapolis Blvd

Lab ID: 14090649-010

Client Sample ID: ECI-04-091614-W

Collection Date: 9/16/2014 12:05:00 PM

Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: 9/19/2014	Analyst: MDM
TPH (DRO)	1200 J	100		mg/L	100	9/28/2014
TPH (ERO)	350	10	*	mg/L	10	9/30/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: PS
Benzene	ND Y	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND J	0.0050		mg/L	1	9/21/2014
Toluene	ND J	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND H	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: PS
Gasoline Range Organics	ND UJ	0.50	*	mg/L	1	9/25/2014

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**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-04-091614-W  
 Collection Date: 16-Sep-2014 12:05

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-10  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270		Prep:SW3510 / 22-Sep-2014		Analyst: LG	
Tetraethyl lead	0.60	J-	0.20	0.20	ug/L	1	23-Sep-2014 00:13
Surr: 2,4,6-Tribromophenol	59.2			34-129	%REC	1	23-Sep-2014 00:13
Surr: 2-Fluorobiphenyl	57.2			40-125	%REC	1	23-Sep-2014 00:13
Surr: 2-Fluorophenol	36.2			20-120	%REC	1	23-Sep-2014 00:13
Surr: 4-Terphenyl-d14	79.5			40-135	%REC	1	23-Sep-2014 00:13
Surr: Nitrobenzene-d5	95.8			41-120	%REC	1	23-Sep-2014 00:13
Surr: Phenol-d6	40.9			20-120	%REC	1	23-Sep-2014 00:13

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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-011

Client Sample ID: ECI-05-091614-S  
 Collection Date: 9/16/2014 1:05:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: 9/23/2014	Analyst: MDM
TPH (DRO)	40000	25000		mg/Kg-dry	100	9/28/2014
TPH (ERO)	42000	25000	*	mg/Kg-dry	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: 9/17/2014	Analyst: ART
Benzene	ND <u>U</u>	0.0067		mg/Kg-dry	1	9/23/2014
Ethylbenzene	ND <u>U</u>	0.0067		mg/Kg-dry	1	9/23/2014
Toluene	0.0090	0.0067		mg/Kg-dry	1	9/23/2014
Xylenes, Total	ND <u>U</u>	0.020		mg/Kg-dry	1	9/23/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: 9/17/2014	Analyst: ART
Gasoline Range Organics	17	0.88	*	mg/Kg-dry	1	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: 9/17/2014	Analyst: MD
Percent Moisture	20.8	0.2	*	wt%	1	9/17/2014

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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-05-091614-S  
 Collection Date: 16-Sep-2014 13:05

**ANALYTICAL REPORT**  
 WorkOrder:HS14090741  
 Lab ID:HS14090741-11  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550					Analyst: KAH
Percent Moisture	31.7		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270				Prep:SW3541 / 22-Sep-2014	Analyst: LG
Tetraethyl lead	U	V	4600	4600	ug/Kg-dry	10	23-Sep-2014 19:59
Surr: 2,4,6-Tribromophenol	83.3	J		36-126	%REC	10	23-Sep-2014 19:59
Surr: 2-Fluorobiphenyl	94.7	J		43-125	%REC	10	23-Sep-2014 19:59
Surr: 2-Fluorophenol	99.7	J		37-125	%REC	10	23-Sep-2014 19:59
Surr: 4-Terphenyl-d14	110	J		32-125	%REC	10	23-Sep-2014 19:59
Surr: Nitrobenzene-d5	67.7	J		37-125	%REC	10	23-Sep-2014 19:59
Surr: Phenol-d6	45.5	J		40-125	%REC	10	23-Sep-2014 19:59

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Date Reported: October 22, 2014

Date Printed: October 22, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090649 Revision 1  
 Project: ECI - Indianapolis Blvd  
 Lab ID: 14090649-012

Client Sample ID: ECI-05-091614-W  
 Collection Date: 9/16/2014 1:05:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>					Prep Date: 9/19/2014 Analyst: MDM
TPH (DRO)	5.5	0.50		mg/L	5	9/30/2014
TPH (ERO)	3.4	0.10	*	mg/L	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>					Prep Date: Analyst: PS
Benzene	ND $\downarrow$	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND $\downarrow$	0.0050		mg/L	1	9/21/2014
Toluene	ND $\downarrow$	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND $\downarrow$	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>					Prep Date: Analyst: PS
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Indianapolis Blvd  
 Sample ID: ECI-05-091614-W  
 Collection Date: 16-Sep-2014 13:05

**ANALYTICAL REPORT**  
 WorkOrder: HS14090741  
 Lab ID: HS14090741-12  
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>		Method: SW8270		Prep: SW3510 / 22-Sep-2014		Analyst: LG	
Tetraethyl lead	U	W	0.20	0.20	ug/L	1	23-Sep-2014 15:32
Surr: 2,4,6-Tribromophenol	103			34-129	%REC	1	23-Sep-2014 15:32
Surr: 2-Fluorobiphenyl	70.6			40-125	%REC	1	23-Sep-2014 15:32
Surr: 2-Fluorophenol	71.4			20-120	%REC	1	23-Sep-2014 15:32
Surr: 4-Terphenyl-d14	86.2			40-135	%REC	1	23-Sep-2014 15:32
Surr: Nitrobenzene-d5	72.7			41-120	%REC	1	23-Sep-2014 15:32
Surr: Phenol-d6	73.2			20-120	%REC	1	23-Sep-2014 15:32

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Date Reported: October 15, 2014

**ANALYTICAL RESULTS**

Date Printed: October 15, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 1  
 Project: ECI - Lake George  
 Lab ID: 14090648-001

Client Sample ID: ECI-06-091614-S  
 Collection Date: 9/16/2014 1:40:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	51000	26000		mg/Kg-dry	100	9/28/2014
TPH (ERO)	950	260	*	mg/Kg-dry	1	9/27/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.11	J	mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.11	J	mg/Kg-dry	50	9/20/2014
Toluene	ND	0.11	J	mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.33	J	mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	800	270	*	mg/Kg-dry	500	9/23/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	24.4	0.2	*	wt%	1	9/17/2014

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Qualifiers: ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-06-091614-S  
 Collection Date: 16-Sep-2014 13:40

**ANALYTICAL REPORT**  
 WorkOrder: HS14090749  
 Lab ID: HS14090749-01  
 Matrix: Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method: SW3550		Analyst: KAH			
Percent Moisture	23.6		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method: SW8270		Prep: SW3541 / 22-Sep-2014 Analyst: LG			
Tetraethyl lead	U	U	390	390	ug/Kg-dry	5	23-Sep-2014 20:18
Surr: 2,4,6-Tribromophenol	62.4			36-126	%REC	5	23-Sep-2014 20:18
Surr: 2-Fluorobiphenyl	66.0			43-125	%REC	5	23-Sep-2014 20:18
Surr: 2-Fluorophenol	45.0			37-125	%REC	5	23-Sep-2014 20:18
Surr: 4-Terphenyl-d14	107			32-125	%REC	5	23-Sep-2014 20:18
Surr: Nitrobenzene-d5	111			37-125	%REC	5	23-Sep-2014 20:18
Surr: Phenol-d6	45.3			40-125	%REC	5	23-Sep-2014 20:18

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Note: See Qualifiers Page for a list of qualifiers and their explanation.



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Date Reported: October 15, 2014

**ANALYTICAL RESULTS**

Date Printed: October 15, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 1  
 Project: ECI - Lake George  
 Lab ID: 14090648-002

Client Sample ID: ECI-06-091614-W  
 Collection Date: 9/16/2014 1:40:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: 9/19/2014	Analyst: MDM
TPH (DRO)	170	10		mg/L	100	9/28/2014
TPH (ERO)	2.0	0.10	*	mg/L	1	9/26/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: PS
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: ERP
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/26/2014

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**Qualifiers:**  
 ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter  
 RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-06-091614-W  
 Collection Date: 16-Sep-2014 13:40

**ANALYTICAL REPORT**

WorkOrder: HS14090749  
 Lab ID: HS14090749-02  
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	Method: SW8270				Prep: SW3510 / 22-Sep-2014	Analyst: LG	
Tetraethyl lead	U	U	0.20	0.20	ug/L	1	22-Sep-2014 22:57
Surr: 2,4,6-Tribromophenol	58.1			34-129	%REC	1	22-Sep-2014 22:57
Surr: 2-Fluorobiphenyl	71.2			40-125	%REC	1	22-Sep-2014 22:57
Surr: 2-Fluorophenol	67.9			20-120	%REC	1	22-Sep-2014 22:57
Surr: 4-Terphenyl-d14	85.3			40-135	%REC	1	22-Sep-2014 22:57
Surr: Nitrobenzene-d5	47.3			41-120	%REC	1	22-Sep-2014 22:57
Surr: Phenol-d6	65.8			20-120	%REC	1	22-Sep-2014 22:57

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Date Reported: October 15, 2014

**ANALYTICAL RESULTS**

Date Printed: October 15, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 1  
 Project: ECI - Lake George  
 Lab ID: 14090648-003

Client Sample ID: ECI-07-091614-S  
 Collection Date: 9/16/2014 2:00:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	7700	3100		mg/Kg-dry	100	9/28/2014
TPH (ERO)	3200	3100	*	mg/Kg-dry	100	9/28/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>PS</b>
Benzene	ND	0.16		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.16		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.16		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.47		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	88	39	*	mg/Kg-dry	50	9/23/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	36.8	0.2	*	wt%	1	9/17/2014

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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-07-091614-S  
 Collection Date: 16-Sep-2014 14:00

**ANALYTICAL REPORT**

WorkOrder:HS14090749  
 Lab ID:HS14090749-05  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	25.4		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014 Analyst: LG		
Tetraethyl lead	U	u	390	390	ug/Kg-dry	5	23-Sep-2014 21:34
Surr: 2,4,6-Tribromophenol	94.8			36-126	%REC	5	23-Sep-2014 21:34
Surr: 2-Fluorobiphenyl	77.3			43-125	%REC	5	23-Sep-2014 21:34
Surr: 2-Fluorophenol	69.0			37-125	%REC	5	23-Sep-2014 21:34
Surr: 4-Terphenyl-d14	111			32-125	%REC	5	23-Sep-2014 21:34
Surr: Nitrobenzene-d5	74.7			37-125	%REC	5	23-Sep-2014 21:34
Surr: Phenol-d6	83.6			40-125	%REC	5	23-Sep-2014 21:34

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Date Reported: October 15, 2014

**ANALYTICAL RESULTS**

Date Printed: October 15, 2014

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 1  
 Project: ECI - Lake George  
 Lab ID: 14090648-004

Client Sample ID: ECI-07-091614-S-D  
 Collection Date: 9/16/2014 2:00:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: <b>9/23/2014</b>	Analyst: <b>MDM</b>
TPH (DRO)	15000	2800		mg/Kg-dry	100	9/28/2014
TPH (ERO)	2300	280	*	mg/Kg-dry	10	9/29/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Benzene	ND	0.0077		mg/Kg-dry	1	9/23/2014
Ethylbenzene	ND	0.0077		mg/Kg-dry	1	9/23/2014
Toluene	ND	0.0077		mg/Kg-dry	1	9/23/2014
Xylenes, Total	ND	0.023		mg/Kg-dry	1	9/23/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>ART</b>
Gasoline Range Organics	82	36	*	mg/Kg-dry	50	9/23/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: <b>9/17/2014</b>	Analyst: <b>MD</b>
Percent Moisture	28.9	0.2	*	wt%	1	9/17/2014

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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-07-091614-S-D  
 Collection Date: 16-Sep-2014 14:00

**ANALYTICAL REPORT**  
 WorkOrder:HS14090749  
 Lab ID:HS14090749-06  
 Matrix:Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method:SW3550			Analyst: KAH		
Percent Moisture	27.0		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270			Prep:SW3541 / 22-Sep-2014 Analyst: LG		
Tetraethyl lead	U	u	400	400	ug/Kg-dry	5	23-Sep-2014 21:53
Surr: 2,4,6-Tribromophenol	64.3			36-126	%REC	5	23-Sep-2014 21:53
Surr: 2-Fluorobiphenyl	69.8			43-125	%REC	5	23-Sep-2014 21:53
Surr: 2-Fluorophenol	57.6			37-125	%REC	5	23-Sep-2014 21:53
Surr: 4-Terphenyl-d14	112			32-125	%REC	5	23-Sep-2014 21:53
Surr: Nitrobenzene-d5	65.7			37-125	%REC	5	23-Sep-2014 21:53
Surr: Phenol-d6	82.0			40-125	%REC	5	23-Sep-2014 21:53

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Date Reported: October 15, 2014

Date Printed: October 15, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 1  
 Project: ECI - Lake George  
 Lab ID: 14090648-005

Client Sample ID: ECI-07-091614-W  
 Collection Date: 9/16/2014 2:00:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: 9/19/2014	Analyst: MDM
TPH (DRO)	15	1.0		mg/L	10	9/29/2014
TPH (ERO)	3.7	0.10	*	mg/L	1	9/26/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: PS
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: ERP
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/26/2014

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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-07-091614-W  
 Collection Date: 16-Sep-2014 14:00

**ANALYTICAL REPORT**

WorkOrder:HS14090749  
 Lab ID:HS14090749-07  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>	<b>Method:SW8270</b>				<b>Prep:SW3510 / 22-Sep-2014</b>		<b>Analyst: LG</b>
Tetraethyl lead	U	u	0.20	0.20	ug/L	1	23-Sep-2014 16:10
Surr: 2,4,6-Tribromophenol	97.4			34-129	%REC	1	23-Sep-2014 16:10
Surr: 2-Fluorobiphenyl	67.5			40-125	%REC	1	23-Sep-2014 16:10
Surr: 2-Fluorophenol	64.2			20-120	%REC	1	23-Sep-2014 16:10
Surr: 4-Terphenyl-d14	82.7			40-135	%REC	1	23-Sep-2014 16:10
Surr: Nitrobenzene-d5	67.5			41-120	%REC	1	23-Sep-2014 16:10
Surr: Phenol-d6	64.6			20-120	%REC	1	23-Sep-2014 16:10

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Date Reported: October 15, 2014

Date Printed: October 15, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 1  
 Project: ECI - Lake George  
 Lab ID: 14090648-006

Client Sample ID: ECI-07-091614-W-D  
 Collection Date: 9/16/2014 2:00:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>				Prep Date: 9/19/2014	Analyst: MDM
TPH (DRO)	6.3	0.50		mg/L	5	9/29/2014
TPH (ERO)	2.5	0.10	*	mg/L	1	9/26/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>				Prep Date:	Analyst: PS
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date:	Analyst: PS
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/25/2014

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<b>Qualifiers:</b>	ND - Not Detected at the Reporting Limit	RL - Reporting / Quantitation Limit for the analysis
	J - Analyte detected below quantitation limits	S - Spike Recovery outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	R - RPD outside accepted recovery limits
	HT - Sample received past holding time	E - Value above quantitation range
	* - Non-accredited parameter	H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-07-091614-W-D  
 Collection Date: 16-Sep-2014 14:00

**ANALYTICAL REPORT**  
 WorkOrder:HS14090749  
 Lab ID:HS14090749-08  
 Matrix:Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>		Method:SW8270		Prep:SW3510 / 22-Sep-2014		Analyst: LG	
Tetraethyl lead	U	U	0.20	0.20	ug/L	1	23-Sep-2014 16:29
Surr: 2,4,6-Tribromophenol	89.4			34-129	%REC	1	23-Sep-2014 16:29
Surr: 2-Fluorobiphenyl	62.5			40-125	%REC	1	23-Sep-2014 16:29
Surr: 2-Fluorophenol	64.1			20-120	%REC	1	23-Sep-2014 16:29
Surr: 4-Terphenyl-d14	86.7			40-135	%REC	1	23-Sep-2014 16:29
Surr: Nitrobenzene-d5	69.5			41-120	%REC	1	23-Sep-2014 16:29
Surr: Phenol-d6	64.4			20-120	%REC	1	23-Sep-2014 16:29

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Date Reported: October 15, 2014

Date Printed: October 15, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 1  
 Project: ECI - Lake George  
 Lab ID: 14090648-007

Client Sample ID: ECI-08-091614-S  
 Collection Date: 9/16/2014 2:15:00 PM  
 Matrix: Soil

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons</b>	<b>SW8015M (SW3550B)</b>				Prep Date: 9/23/2014	Analyst: MDM
TPH (DRO)	21000	6400		mg/Kg-dry	20	9/30/2014
TPH (ERO)	9900	1600	*	mg/Kg-dry	5	9/29/2014
<b>BTEX by GC/MS</b>	<b>SW5035/8260B</b>				Prep Date: 9/17/2014	Analyst: PS
Benzene	ND	0.17		mg/Kg-dry	50	9/20/2014
Ethylbenzene	ND	0.17		mg/Kg-dry	50	9/20/2014
Toluene	ND	0.17		mg/Kg-dry	50	9/20/2014
Xylenes, Total	ND	0.50		mg/Kg-dry	50	9/20/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>				Prep Date: 9/17/2014	Analyst: ART
Gasoline Range Organics	540	83	*	mg/Kg-dry	100	9/24/2014
<b>Percent Moisture</b>	<b>D2974</b>				Prep Date: 9/17/2014	Analyst: MD
Percent Moisture	37.6	0.2	*	wt%	1	9/17/2014

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**Qualifiers:** ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter

RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-08-091614-S  
 Collection Date: 16-Sep-2014 14:15

**ANALYTICAL REPORT**  
 WorkOrder: HS14090749  
 Lab ID: HS14090749-03  
 Matrix: Soil

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>MOISTURE</b>		Method: SW3550					Analyst: KAH
Percent Moisture	27.9		0.0100	0.0100	wt%	1	19-Sep-2014 14:35
<b>LOW-LEVEL SEMIVOLATILES</b>		Method: SW8270					Analyst: LG
Tetraethyl lead	U	U	270	270	ug/Kg-dry	5	23-Sep-2014 21:15
Surr: 2,4,6-Tribromophenol	64.8			36-126	%REC	5	23-Sep-2014 21:15
Surr: 2-Fluorobiphenyl	62.9			43-125	%REC	5	23-Sep-2014 21:15
Surr: 2-Fluorophenol	71.1			37-125	%REC	5	23-Sep-2014 21:15
Surr: 4-Terphenyl-d14	101			32-125	%REC	5	23-Sep-2014 21:15
Surr: Nitrobenzene-d5	58.7			37-125	%REC	5	23-Sep-2014 21:15
Surr: Phenol-d6	54.6			40-125	%REC	5	23-Sep-2014 21:15

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Note: See Qualifiers Page for a list of qualifiers and their explanation.

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Date Reported: October 15, 2014

Date Printed: October 15, 2014

**ANALYTICAL RESULTS**

Client: Tetra Tech EM Inc.  
 Work Order: 14090648 Revision 1  
 Project: ECI - Lake George  
 Lab ID: 14090648-008

Client Sample ID: ECI-08-091614-W  
 Collection Date: 9/16/2014 2:15:00 PM  
 Matrix: Water

Analyses	Result	RL	Qualifier	Units	DF	Date Analyzed
<b>Total Petroleum Hydrocarbons in Water</b>	<b>SW8015M (SW3510C)</b>					
TPH (DRO)	1.1	0.10		mg/L	1	9/26/2014
TPH (ERO)	0.83	0.10	*	mg/L	1	9/26/2014
<b>BTEX by GC/MS</b>	<b>SW8260B (SW5030B)</b>					
Benzene	ND	0.0050		mg/L	1	9/21/2014
Ethylbenzene	ND	0.0050		mg/L	1	9/21/2014
Toluene	ND	0.0050		mg/L	1	9/21/2014
Xylenes, Total	ND	0.015		mg/L	1	9/21/2014
<b>Total Petroleum Hydrocarbons (GRO) by GCMS</b>	<b>SW8260B</b>					
Gasoline Range Organics	ND	0.50	*	mg/L	1	9/26/2014

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Qualifiers: ND - Not Detected at the Reporting Limit  
 J - Analyte detected below quantitation limits  
 B - Analyte detected in the associated Method Blank  
 HT - Sample received past holding time  
 \* - Non-accredited parameter  
 RL - Reporting / Quantitation Limit for the analysis  
 S - Spike Recovery outside accepted recovery limits  
 R - RPD outside accepted recovery limits  
 E - Value above quantitation range  
 H - Holding time exceeded

Client: Tetra Tech  
 Project: ECI-Lake George  
 Sample ID: ECI-08-091614-W  
 Collection Date: 16-Sep-2014 14:15

**ANALYTICAL REPORT**  
 WorkOrder: HS14090749  
 Lab ID: HS14090749-04  
 Matrix: Water

ANALYSES	RESULT	QUAL	MDL	REPORT LIMIT	UNITS	DILUTION FACTOR	DATE ANALYZED
<b>LOW-LEVEL SEMIVOLATILES</b>		Method: SW8270		Prep: SW3510 / 22-Sep-2014		Analyst: LG	
Tetraethyl lead	U	K	0.20	0.20	ug/L	1	23-Sep-2014 15:51
Surr: 2,4,6-Tribromophenol	103			34-129	%REC	1	23-Sep-2014 15:51
Surr: 2-Fluorobiphenyl	68.4			40-125	%REC	1	23-Sep-2014 15:51
Surr: 2-Fluorophenol	61.5			20-120	%REC	1	23-Sep-2014 15:51
Surr: 4-Terphenyl-d14	89.5			40-135	%REC	1	23-Sep-2014 15:51
Surr: Nitrobenzene-d5	68.2			41-120	%REC	1	23-Sep-2014 15:51
Surr: Phenol-d6	62.0			20-120	%REC	1	23-Sep-2014 15:51

HUE  
 12 Nov 14

Note: See Qualifiers Page for a list of qualifiers and their explanation.