



February 21, 2017

Mr. Todd Davis
Site Assessment Manager
U.S. Environmental Protection Agency, Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219

Subject: Phase II Targeted Brownfields Assessment
1302 Locust Street, Carter Lake, Pottawattamie County, Iowa
EPA Region 7, START 4, Contract No. EP-S7-13-06,
Task Order No. 0002.019.022
Task Monitor: Todd Davis, Site Assessment Manager

Dear Mr. Davis:

Tetra Tech, Inc. (Tetra Tech) is submitting the enclosed Phase II Targeted Brownfields Assessment (TBA) report regarding the Omaha Tribe property assessment in Carter Lake, Iowa. The TBA includes investigations to confirm or eliminate recognized environmental conditions specified in the Phase I TBA report prepared by Tetra Tech in August 2016.

If you have any questions or comments regarding this submittal, please call the Project Manager at (816) 412-1768.

Sincerely,

A handwritten signature in blue ink, appearing to read 'K. Bahr'.

for Kaitlyn Bahr
START Project Manager

A handwritten signature in blue ink, appearing to read 'T. Faile'.

Ted Faile, PG, CHMM
START Program Manager

Enclosures

cc: Debra Dorsey, START Project Officer (cover letter only)

PHASE II TARGETED BROWNFIELDS ASSESSMENT

**1302 LOCUST STREET
CARTER LAKE, IOWA**

Superfund Technical Assessment and Response Team (START) 4

Contract No. EP-S7-13-06, Task Order No. 0002.019.022

Prepared For:

U.S. Environmental Protection Agency
Region 7
11201 Renner Blvd.
Lenexa, Kansas 66219

February 21, 2017

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EXECUTIVE SUMMARY

The Tetra Tech, Inc. (Tetra Tech) Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division to conduct a Phase II Targeted Brownfield Assessment (TBA) of the 9-acre property at 1302 Locust Street, in the northwest portion of Section 21, Township 75 North, Range 44 West, in Carter Lake, Pottawattamie County, Iowa (subject property). The subject property has historically been used as a gas station, a residential property, and a commercial use that is unknown. The purpose of the Phase II TBA was to confirm or eliminate recognized environmental conditions (REC) identified in an earlier Phase I TBA (Tetra Tech 2016a). START conducted this Phase II TBA in accordance with the *Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process*, ASTM International (ASTM) designation E1903-97-11, and otherwise in compliance with EPA's "All Appropriate Inquiries" Rule (AAI Rule) (40 *Code of Federal Regulations* [CFR] Part 312) (ASTM 2011).

RECs were confirmed by results of sampling during the Phase II TBA. Analyses of samples collected at the subject property revealed the following:

- Concentrations of benzene, ethylbenzene, xylenes, and naphthalene exist in subsurface soils within the area of the former gas station. Xylenes, and naphthalene levels are above EPA Regional Screening Levels (RSL) for residential soils (EPA 2016b). Benzene and ethylbenzene levels are above EPA RSLs for residential and industrial soils. The extent of contamination at the southwest portion of the subject property should be delineated, and remediation of the soil is recommended.
- Benzo(a)pyrene concentration exceeding the EPA RSL for residential soils exists in subsurface soils within the area of the former commercial structure. If future residential land use of the subject property is desired, extent of benzo(a)pyrene contamination should be delineated, and remediation of the soil is recommended.
- Lead concentration above the EPA RSL for residential soil and the Iowa Department of Natural Resources (IDNR) Statewide Standard for Soils (IDNR 2017) exists in surface soils in the northeast portion of the subject property. If future residential land use of the subject property is desired, extent of lead contamination should be delineated, and remediation of the soil is recommended.
- Potentially elevated levels of polycyclic aromatic hydrocarbons (PAH) exist in groundwater in the central portion of the subject property. Concentrations of benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene levels were found above respective EPA Maximum Contaminant Levels (MCL) (EPA 2016b) and IDNR Statewide Standards for Protected Groundwater Source. Notably, EPA MCLs have not been established for benzo(b)fluoranthene or indeno(1,2,3-cd)pyrene in groundwater, so EPA screening levels for tapwater were used for comparison. Concentration of TPH-GRO also was found above the regulated limits of IDNR Statewide Standards for Protected Groundwater Source. These

concentrations could present a potential health risk if the groundwater will be used as a source of drinking water.

- Potentially elevated levels of metals exist in groundwater within the area of the former commercial structure. Arsenic, barium, cadmium, and chromium concentrations were all detected above corresponding EPA MCLs and IDNR Statewide Standards for Protected Groundwater Source. Lead concentration was found above the EPA MCL the IDNR Statewide Standard for Protected Groundwater Source, and the IDNR industrial standard. These concentrations could present a potential health risk if the groundwater will be used as a source of drinking water.

Planned future use of the subject property is not known definitively. Based on detection of petroleum constituents in subsurface soils in the area of the former gas station, further consideration should be given to determining the extent of contamination, remediation of soil, and/or implementation of engineering controls. Based on detection of PAHs in subsurface soils in the central portion of the subject property, and if future land use includes residential use, further consideration should be given to determining the extent of PAH contamination in the soil, remediation of the soil, and/or implementation of engineering controls. The same should be considered, based on potential for future residential land use, regarding elevated levels of lead in surface soil on the northeast portion of the subject property. An Analysis of Brownfields Cleanup Alternatives (ABCA) will be submitted under separate report providing alternatives for remediating the soil.

Based on elevated levels of metals and PAHs found in groundwater on the subject property, limited quantities of groundwater encountered, sampling procedures based on the limited supply of groundwater, and potential bias of results based on these procedures, further consideration should be given to installation of temporary wells or permanent wells, with ample time provided for stabilization of groundwater levels prior to sampling, thus allowing time for soil fines to settle from the water column. If enough groundwater is collected, both total and dissolved levels of constituents should be analytical parameters.

1.0 INTRODUCTION

The Tetra Tech, Inc. (Tetra Tech) Region 7 Superfund Technical Assessment and Response Team (START) was tasked by the U.S. Environmental Protection Agency (EPA) Region 7 Superfund Division to conduct a Phase II Targeted Brownfields Assessment (TBA) of an approximately 9-acre property at 1302 Locust Street in the northwest quarter of Section 21, Township 75 North, Range 44 West, in Carter Lake, Pottawattamie County, Iowa (subject property) (see Appendix A). The subject property is owned by the Omaha Tribe of Nebraska. The subject property has historically been used as a gas station, a residential property, and for unknown commercial use. Although exact dates of historical uses of the subject property are unknown, historical aerial photographs show that the subject property was historically used as a gas station from sometime between 1938 and 1949 until sometime between 2006 and 2007. A residential structure on the west central portion of the subject property and an apparent commercial structure on the south central portion of the subject property were present from some time between 1960 and 1970 until sometime between 1982 and 2005. The property is currently vacant with no structures.

The primary purpose of the investigation was to assess potential impacts on the subject property of hazardous substances that may have been released into soil and groundwater. The scope of this TBA included:

- Sampling subsurface soil to assess possible soil contamination
- Sampling surface soil to assess possible soil contamination
- Sampling groundwater to assess possible contamination

This TBA accorded with industry standard practice for Phase II Environmental Site Assessments (ESA). The following sections address the subject property background and history, describe Phase II TBA activities, present and evaluate analytical results, discuss findings, and offer conclusions.

1.1 PURPOSE

This Phase II TBA was conducted to confirm or eliminate recognized environmental conditions (REC) identified during the Phase I TBA (Tetra Tech 2016a) with intent to acquire information regarding the nature of contamination (if present) that would support informed business decisions about the property, and where applicable, satisfy the innocent purchaser defense under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (ASTM 2011). RECs specified in the Phase I TBA report pertain to current and historical site uses and adjacent property uses. Samples of soil and

groundwater were collected during the Phase II TBA to confirm or eliminate RECs and to identify the nature of contamination (if present) and risks posed by that contamination.

1.2 SPECIAL TERMS AND CONDITIONS

No special terms or conditions were identified during the Phase II TBA.

2.0 BACKGROUND AND SITE HISTORY

This section briefly describes the subject property and physical setting, recounts site history, and discusses land uses at the subject property and adjacent properties.

2.1 SITE DESCRIPTION AND FEATURES

The subject property is an approximately 9-acre vacant lot used for tribal meetings. A pipeline runs through the southwest portion of the subject property. Historically, the subject property was used as a gas station, a residential property, and an unknown commercial use. Although the exact date of original construction of the gas station is unknown, historical aerial photographs indicate that this occurred between 1938 and 1949. The gas station was demolished between 2006 and 2007.

2.2 PHYSICAL SETTING

The subject property is an approximately 9-acre vacant lot. The property is owned by the Omaha Tribe of Nebraska. The subject property is at 1302 Locust Street in Carter Lake, Pottawattamie County, Iowa (see Appendix A, Figure 2).

The subject property is depicted on the U.S. Geological Survey (USGS) 7.5-minute series Omaha North, Nebraska topographic quadrangle map (USGS 1994) in the northwest portion of Section 21, Township 75 North, Range 44 West (see Appendix A, Figure 1). Coordinates at the approximate center of the subject property are 44° 17' 9.70" north latitude and 95° 54' 43.94" west longitude.

The subject property is in a mixed use area in the southeast area of Carter Lake, Iowa. Figure 2 in Appendix A illustrates the subject property location and boundaries. The subject property is an approximately 9-acre vacant lot bounded north by Avenue K, with residential development beyond; east by a Super 8 hotel, a former Dollar auto sales, with a lake beyond; south by a vacant lot, with hotels beyond; and west by a bank and a Dollar General, with a Kwik Shop beyond. Uses of surrounding properties include residential, commercial, and light industrial.

2.2.1 Geologic Setting

Pottawattamie County lies in the western portion of the Central Plains physiographic province. Geologic stratigraphy of the area consists of the Dakota Group, which consists of soft sandstone and shale of Cretaceous age, ranging in thickness from 10 to 100 feet. On the surface, some insignificant remnants of

Tertiary deposits may be present, but these are otherwise covered directly by Quaternary sediments (Udden 1900).

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil survey, soil at the subject property is Sarpy-Urban land complex (1 to 3 percent slopes). Sarpy-Urban land complex is excessively drained with a low available water capacity (USDA 2016).

2.2.2 Hydrogeology

Regionally, the subject property is within the Great Plains aquifer system, which is exposed at the land surface in a band that extends from south-central Kansas to northeastern Nebraska. This aquifer system consists of two sandstone aquifers in Cretaceous rocks, separated by a shale confining unit. Although the Great Plains aquifer system extends in the subsurface throughout Kansas and Nebraska, it contains saline water in many places north and west of the area where it is exposed. A thick confining unit composed of Cretaceous shale, chalk, and limestone formations overlies the Great Plains aquifer system and separates it from the High Plains aquifer in most places (USGS 1997).

A search of the USGS Federal Reporting Data System (FRDS) Public Water Supply (PWS), and state databases identified 26 water wells within a 1-mile radius of the subject property (Environmental Data Resources, Inc. [EDR] 2016). During the site reconnaissance, no wells were identified on the subject property.

2.2.3 Hydrology

The subject property is in the Big Papillion-Mosquito Watershed (EPA 2016a). Water on the subject property likely infiltrates the ground or goes toward storm drains on surrounding streets.

2.3 SITE HISTORY AND LAND USE

The subject property is currently a vacant lot used for tribal meetings. A pipeline runs through the southwest portion of the subject property. Historically, the subject property was used as a gas station, a residential property, and an unknown commercial use. Although the exact date of original construction of the gas station is unknown, historical aerial photographs indicate that this occurred between 1938 and 1949. The gas station was demolished between 2006 and 2007.

No Sanborn Fire Insurance Maps that included the subject property were available. Historical aerial photographs show the subject property as undeveloped land in 1938. The southwest portion of the subject property was used as a gas station from between 1938 and 1949 until sometime between 2006 and 2007. A residential structure on the west central portion of the subject property and what appears to be a commercial structure were present on the south central portion of the subject property from some time between 1960 and 1970 until sometime between 1982 and 2005.

2.4 ADJACENT PROPERTY USE

Areas surrounding the subject property were primarily undeveloped or used for agriculture purposes until sometime between 1960 and 1970, when residential development began to the north and southeast (based on historical aerial photographs). Current uses of the surrounding area are residential, commercial, and light industrial.

2.5 SUMMARY OF PREVIOUS ASSESSMENTS

Tetra Tech START conducted a Phase I TBA of the subject property in August 2016, identifying the following RECs to the subject property (Tetra Tech 2016a):

- The subject property was listed in the Iowa (IA) Leaking Underground Storage Tank (LUST), IA Underground Storage Tank (UST), IA Financial Insurance, IA Recovered Government Archive (RGA) LUST, US Brownfields, Facility Index System/Facility Registry System (FINDS), and Enforcement & Compliance History Information (ECHO) databases. Tetra Tech contacted the Iowa Department of Natural Resources (IDNR) for additional information regarding listings for the subject property. According to Ms. Bonnie Garrison and Mr. Matt Graesch, IDNR Project Managers, the subject property was historically used as a gas station since the 1930s and had one 300-gallon and one 500-gallon gasoline USTs. The two orphaned tanks were found during work at East Locust Street in 2011. The tanks were removed in May 2011. High levels of petroleum contamination were identified in the soil and groundwater during the removal. Groundwater sampling during a Phase II Environmental Site Assessment (ESA) in July 2016 found light non-aqueous phase liquid (LNAPL) in wells. Based on historical use of the subject property and known petroleum contamination, these listings pose a REC and a vapor encroachment condition (VEC) to the subject property.
- The subject property is part of the Omaha Lead National Priorities List (NPL) site. The Omaha Lead site is a former lead smelting site that operated from the early 1870s until 1996. The subject property is within the boundaries of the Omaha Lead Site. Known widespread lead contamination associated with the Omaha Lead site poses a REC to the subject property.
- The 1655 East Locust Street/ Abbott Airport Parking Garage and Car Wash facility was listed in the IA ALLSITES, NE UST, and NE LUST databases. The facility is at 1491-1655 East Locust Street, adjacent to and south of the subject property. Based on information from the IDNR Contaminated Sites Database, the site historically hosted a LUST and landfill. In 1988, it began operations as Abbott Parking, which provided surface parking for travelers using the Omaha

Airport. The site is not currently in use; however, the parking lot is still present. High levels of lead and arsenic were found in the soil on site, and arsenic was detected in groundwater; however, according to IDNR, the site is currently used for an asphalt parking lot that reportedly covers the site. In addition to the soil contamination, one exceedance of the statewide standard for arsenic in groundwater was detected. Because no known receptors are nearby, the arsenic detected in groundwater does not appear to pose a threat to human health at this time. IDNR has not required any additional investigation at this time (IDNR 2016). Based on the known high levels of lead and arsenic at this adjacent site, this listing poses a REC to the subject property.

- The Kwik Shop #520 facility was listed in the IA LUST, IA UST, and IA SPILLS databases. The facility is at 1202 E Locust Street, approximately 255 feet west-southwest of the subject property. This facility has two LUST records. One record has been closed, but the other is still listed as high risk. Based on close proximity to the subject property and known contamination on site, this listing poses a REC and a VEC to the subject property.
- The Former Clapp's Services Station was listed in the IA LUST database. The facility is at 902 East Locust Street, approximately 0.225 mile west of the subject property. One 540-gallon diesel UST was removed on December 14, 1998, and one 560-gallon waste oil UST was removed on December 14, 1998. The facility is listed as a high risk LUST site. Based on distance from the subject property and regulatory status, this listing poses a REC to the subject property.
- The Lakeside Auto Recyclers facility was listed in the IA Brownfields, IA ALLSITES, and US Brownfields databases. The facility is at 2813 North 9th Street, approximately 0.259 mile west-southwest of the subject property. However, according to Google Earth, the eastern boundary of this facility is actually 415 feet west-southwest of the subject property. According to the IDNR Contaminated Sites database, the facility has been used as a salvage yard since the 1960s. Soil and groundwater contamination are present on the property from leaking automobiles, the car crusher, and possibly from aboveground storage tanks (AST) with no secondary containment (IDNR 2016). Based on known contamination at this facility, this listing poses a REC and a VEC to the subject property.
- The Paxton 7 Vierling Steel Company was listed in the IA ALLSITES database. The facility is at 501 Avenue H, approximately 0.490 mile southwest of the subject property. However, according to Google Earth, this facility is actually 0.390 mile southwest of the subject property. According to the IDNR Contaminated Sites database, groundwater contamination present on site is likely from the two neighboring bulk petroleum storage facilities—Magellan Pipeline to the south and Sapp Brothers to the west. Both facilities have significant levels of petroleum contamination on their properties (IDNR 2016). Based on the location upgradient of the subject property and known widespread contamination in the area, this listing poses a REC to the subject property.

3.0 PHASE II TARGETED BROWNFIELDS ASSESSMENT ACTIVITIES

The following subsections describe the scope, field exploration, and methods implemented during the Phase II TBA. START member Megan Sawyer conducted soil and groundwater sampling during December 20 and 21, 2016. Photographs taken to document Phase II TBA field activities are in Appendix B. Phase II TBA activities were recorded in a site logbook, a copy of which is in Appendix C.

3.1 SCOPE OF THE ASSESSMENT

START conducted environmental sampling to determine if soil and groundwater had been contaminated by current or historical activities at the subject property. Sampling accorded with the Quality Assurance Project Plan (QAPP) approved by EPA on October 31, 2016 (Tetra Tech 2016b).

3.1.1 Sampling Plan

The proposed sampling scheme for this project incorporated a combination of biased and judgmental sampling and definitive laboratory analysis, in accordance with procedures included in the *Guidance for Performing Site Inspections under CERCLA*, Office of Solid Waste and Emergency Response (OSWER) Directive #9345.1-05, September 1992. All samples were submitted for analysis to an off-site laboratory subcontracted by START. Objectives of soil and groundwater sampling were to characterize possible releases to the environment. Appendix A, Figure 2 depicts sampling locations at the subject property. Sampling at the subject property was as follows:

- Seven Geoprobe soil borings were advanced to 15 feet below ground surface (bgs) at locations on and near the subject property. One soil sample from a select 2-foot interval from each boring was collected.
- Two surface soil samples were collected within 0-6 inches bgs at locations on the subject property.
- Six groundwater samples were collected. Three of the groundwater samples were collected with three of the soil boring locations. The other three groundwater samples were collected at separate boring locations.

3.1.2 Chemical Testing Plan

Laboratory analyses for chemical parameters were selected based on potential contaminants associated with current and historical uses of the subject property and neighboring properties. Soil and groundwater samples were submitted to ALS Environmental Services, Inc., (ALS) of Holland, Michigan, for analyses for the following parameters: volatile organic compounds (VOC), semivolatile organic compounds

(SVOC), total petroleum hydrocarbons (TPH) – gasoline-range organics (GRO), TPH-diesel-range organics (TPH-DRO), TPH-oil-range organics (TPH-ORO), and Resource Conservation and Recovery Act (RCRA) metals including mercury.

3.1.3 Deviations from the QAPP

The following deviations from the QAPP occurred during Phase II TBA activities:

START was unable to drill at the original proposed boring location SB4 due to refusal at 6 feet bgs. Drilling moved a few feet north to achieve greater depth—from the original location (N 41.28521 W095.91275) to N41.28253 W095.91274, still within the vicinity of the original drilling location (Figure 2, Appendix A).

The QAPP states only one Trip Blank for water to be analyzed for VOC's and TPH-GRO. The lab analyzed two trip blanks one for soil and one for water and both Trip blanks were analyzed for only VOC's.

Originally, eight groundwater samples were to be collected at various locations. But because of insufficient groundwater amounts, Tetra Tech was able to collect only six groundwater samples. Three of these samples were collected at locations specified for both soil sampling and groundwater sampling—SB-5 (GW-5), SB-6 (GW-6), and SB-7 (GW-7). The other three of these samples were collected at locations specified for groundwater sampling only—GW-8, GW-9, and GW-10. Groundwater samples to be collected at the same locations as soil sampling were to be analyzed for VOCs, SVOCs, TPH-GRO, TPH-DRO, TPH-ORO and total and dissolved RCRA metals (including mercury). Groundwater samples to be collected at locations specified for groundwater sampling only were to be analyzed for VOCs, TPH-GRO, TPH-DRO and TPH-ORO.

- Only enough groundwater was obtained for the laboratory to conduct a total metals analysis of the sample from SB-6.
- The sample from GW-10 was not analyzed for TPH-DRO or TPH-ORO.
- No groundwater samples were analyzed for dissolved RCRA metals.

3.2 FIELD EXPLORATION AND METHODS

Field activities at the subject property occurred on December 20 and 21, 2016. Samples were delivered to ALS in Holland, Michigan on December 22, 2016. The sections below summarize soil and groundwater sample collection. Sampling locations are depicted on Figure 2, Appendix A.

3.2.1 Soil Sampling

Seven soil cores were advanced to the groundwater table or 15 feet bgs, whichever was encountered first, (see Appendix A, Figure 2). One soil sample was collected at each of the seven boring locations.

Collection of these soil samples occurred within the 2-foot depth interval inducing the highest photoionization detector (PID) reading or where soil staining appeared. If no staining or readings on the PID were detected, a default sample collection within the 2-foot interval above the water table occurred. Sample collection proceeded by use of a Geoprobe direct-push technology (DPT) rig. Soil cores were collected by use of Geoprobe 4-foot-long, Macro-Core samplers with disposable polyvinyl chloride (PVC) liners. Soil borings at SBs 2, 3, 6, and 7 were sampled 2 feet above the water table. Soil borings at SBs 1, 4, and 5 were sampled where highest PID reading occurred. Logged at each soil boring location were color deviations, odor, depth of sample collection, and approximate depth of the water table.

Soil samples SB-2, SB-3, SB-6, and SB-7 were sampled 2 feet above the water table because no PID readings were observed:

- SB-2 – collected within 6-8 feet bgs, water table at approximately 10 feet
- SB-3 –collected within 8-10 feet bgs, water table at approximately 12 feet
- SB-6 –collected within 8-10 feet bgs, water table at approximately 12 feet
- SB-7 –collected within 10-12 feet bgs, water table at approximately 14 feet.

Collection of each soil sample at SB-1, SB-4, and SB-5 occurred within the interval inducing highest PID reading:

- Collection at SB-1 within 12-14 feet bgs, highest PID reading 88.7 parts per million (ppm) at footage sampled
- Collection at SB-4 within 10-12 feet bgs, highest PID reading 50.2 ppm at footage sampled
- Collection at SB-5 within 10-12 feet bgs, only one PID reading of 0.4 ppm at footage sampled.

At SB-1, SB-4, and SB-5, visual staining was detected, as well as odor, and PID readings above background were induced at some intervals of these soil borings— samples were collected from the intervals inducing highest PID readings. Further detail is in the boring logs. Excess soil was returned to boreholes. Geoprobe samplers and rods were decontaminated after sampling at each location.

Soil samples for analyses for VOCs and TPH-GRO were collected following EPA Method 5035, which involved collecting approximately 5 grams of soil into four 40-milliliter (mL) vials directly from the

undisturbed core by use of a disposable volatile organic analysis (VOA) plunger. One vial was preserved with sodium bisulfide, one vial was preserved with methanol, and two vials were unpreserved. The remaining soil from the 2-foot interval was placed in a tin pan, homogenized, and transferred to 4-ounce and 8-ounce glass jars for all remaining analyses. Sample containers were labeled and placed into iced coolers.

Two soil samples, SS-1 and SS-2 were collected within 0 to 6 inches bgs in the northeast and northwest quadrants of the subject property (see Appendix A, Figure 2). Soil samples for analyses for RCRA metals were placed in a tin pan, homogenized, and transferred to glass jars. Sample containers were labeled and placed into iced coolers.

All soil samples were stored in coolers maintained at or below a temperature of 4 degrees Celsius (°C) until submittal to the subcontracted laboratory.

3.2.2 Groundwater Sampling

Tetra Tech installed temporary monitoring wells at five soil boring locations (SB-1, SB-4, SB-5, SB-6, and SB-7) as well as three other GW only locations. Collection of eight groundwater samples was originally proposed, but only six groundwater samples were collected. Due to insignificant groundwater retrieval because of low recovery rates, the amount of groundwater needed to collect complete sample sets was not available at three specified locations. These temporary monitoring wells were left overnight in an attempt to gain more water and allow for parameter stabilization, but this proved unsuccessful. Therefore, groundwater sampling occurred at three locations collocated with soil sampling (GW-5, GW-6, and GW-7) and at the east, north, and west subject property boundaries (GW-8, GW-9, and GW-10 to determine if groundwater contamination is entering from adjacent properties). Groundwater sampling locations are shown on Figure 2 in Appendix A. All groundwater samples were collected within the 12- to 15-foot bgs interval.

Groundwater samples were collected from the temporary monitoring wells by use of a Screen Point 16 sampling apparatus containing a disposable 4-foot-long PVC screen. At each location, the screen was deployed near the top of the shallow aquifer, and a sample was collected through disposable polyethylene tubing by use of a check valve placed at the bottom of the tubing.

Groundwater samples from the following locations were analyzed for the following parameters:

- GW-5 – VOCs, TPH-DRO, TPH-ORO, and TPH-GRO
- GW-6 – VOCs, SVOC's, TPH-DRO, TPH-ORO, TPH-GRO, and total RCRA metals including mercury
- GW-7 – VOCs, SVOCs, TPH-DRO, TPH-ORO, and TPH-GRO
- GW-8 – VOCs, TPH-DRO, TPH-ORO, and TPH-GRO
- GW-9 – VOCs, TPH-DRO, TPH-ORO, and TPH-GRO
- GW-10 – VOCs, and TPH-GRO.

Groundwater samples 5, 8, 9 and 10 (only TPH-GRO) were analyzed for VOCs (EPA Method 8260) and TPH-DRO, TPH-ORO, and TPH-GRO (EPA Method 8015) were collected into three 40-milliliter (mL) vials preserved with hydrochloric acid. Groundwater samples six and seven were analyzed for VOC's (EPA Method 8260), SVOCs (EPA Method 8270) and TPH-DRO, TPH-ORO, and TPH-GRO (EPA Method 8015) were collected in two unpreserved 1-liter amber glass bottles. Sample GW-6 was also collected for analysis for total RCRA metals (EPA Methods 6020 and 7470 [mercury]) in 500-mL plastic containers pre-preserved with nitric acid. (Due to inadequate amounts of groundwater, no samples were collected for analysis for dissolved RCRA metals). All groundwater samples were stored in coolers maintained at temperature at or below 4 °C until submittal to the subcontracted laboratory.

3.2.3 Quality Control Sampling

Field quality control (QC) sampling for this investigation included one laboratory-supplied aqueous trip blank, one laboratory-supplied soil trip blank, one field blank, and one equipment rinsate blank. The aqueous and soil trip blanks were analyzed by ALS for VOCs. The equipment rinsate blank was analyzed for TPH-GRO, TPH-DRO, TPH-ORO, SVOC, VOC and total RCRA metals including mercury. The field blank was analyzed for VOCs, SVOCs, TPH-GRO, TPH-DRO, and total and dissolved RCRA metals, including mercury. Analytical data from trip blanks were referenced to determine whether contamination had been introduced during transportation of the containers and samples. Analytical data from the field blank were used to evaluate contamination of sampling containers or sample preservatives, and to assess contamination potentially introduced during sampling and laboratory procedures. Analytical data from the equipment rinsate blank were used to verify that equipment had been properly decontaminated after sampling at each location, and that cross-contamination had not occurred.

4.0 PRESENTATION AND EVALUATION OF RESULTS

The following sections present analytical data from soil and groundwater samples collected during the Phase II TBA. Soil sample results from this TBA were compared to EPA Regional Screening Levels, based off of a Target Cancer Risk at 1E-06 and a Target Hazard Quotient (HQ) of 0.1 (EPA 2016b) and to Iowa Department of Natural Resources (IDNR) Statewide Standards for Soil (IDNR 2017) for both residential and industrial soils. Results for total metals in soil were also compared to USGS-reported mean background concentrations in Pottawattamie County, Iowa (USGS 2017). Analytical results from groundwater samples were compared to EPA MCLs (EPA 2016b), EPA screening levels for tap water (if no EPA MCL had been established), and IDNR Statewide Standards for Protected and Non-Protected Groundwater Source (IDNR 2017). Copies of analytical data packages and data validation reports are in Appendix D. Analytical data are compared to screening values in Appendix E, Tables E-1 through E-8.

4.1 SOIL SAMPLES

Nine soil samples (including surface and subsurface soil samples) were collected at select locations to assess impacts on soil from possible releases related to historical uses of the subject property and nearby sites. Soil samples were submitted to ALS for analyses for VOCs, SVOCs, TPH-GRO, TPH-DRO, TPH-ORO, and RCRA metals, including mercury.

Analyses indicated that all samples contained several VOCs. Benzene concentrations in three samples collected at the former service station at SB-1, SB-2, and SB-3, respectively, exceeded the 1.2 milligrams per kilogram (mg/kg) EPA RSL for residential soil and 5.1 mg/kg EPA RSL for industrial soil. Benzene concentrations ranged from 7.5 to 33 mg/kg. Ethylbenzene concentrations (59 and 40 mg/kg) in samples collected at SB-2 and SB-3, respectively, exceeded the 5.8 mg/kg EPA RSL for residential soil and the 25 mg/kg EPA RSL for industrial soil. Analysis indicated a total xylenes concentration of 130 mg/kg in the sample collected at SB-2, exceeding the 58 mg/kg EPA RSL for residential soil; analysis also indicated an m,p-xylene concentration of 120 mg/kg, exceeding the 55.5 mg/kg EPA RSL for residential soil. No other VOCs were detected above screening levels. VOCs data are summarized in Appendix E, Table E-1.

Analyses indicated that all samples except that collected at SB-5 contained SVOCs. Naphthalene concentrations (10 and 5.9 mg/kg) in samples collected at SB-1 and SB-2, respectively, exceeded the 3.8 mg/kg EPA RSL for residential soil. Benzo(a)pyrene was detected at 0.087 mg/kg in the sample from SB-6, exceeding the 0.016 mg/kg EPA RSL for residential soil. No other SVOCs were detected above screening levels. SVOCs data are summarized in Appendix E, Table E-2.

Analyses indicated that all samples contained low levels of TPH-DRO and TPH-ORO, and samples collected at SB-1, SB-2, SB-3, and SB-4 contained levels of TPH-GRO. All TPH concentrations were below their respective soil standards. TPH data are summarized in Appendix E, Table E-3.

Arsenic concentrations in all samples exceeded the 0.68 mg/kg EPA RSL for residential soil and 3.0 mg/kg EPA RSL for industrial soil. Arsenic concentrations ranged from 5 to 13 mg/kg. The USGS-determined average concentration of arsenic in Pottawattamie County is 12.1 mg/kg, with a range of 7.18 to 17.2 mg/kg (USGS 2017). Therefore, all arsenic concentrations detected in soil samples fall within the average range of concentrations for Pottawattamie County. Lead was detected at 430 mg/kg in surface sample SS-2, exceeding the 400 mg/kg EPA RSL for residential soil, IDNR Statewide Standards for Soil at 400 mg/kg and the average lead concentration in Pottawattamie County of 21.8 mg/kg (USGS 2017). No other metals were detected above screening levels. Metals data are summarized in Table E-4 of Appendix E.

4.2 GROUNDWATER SAMPLES

All six groundwater samples collected were analyzed for VOCs, TPH-DRO, TPH-GRO, and TPH-ORO, excluding GW-10 which was analyzed for VOC's and TPH-GRO; only samples collected at GW-6 and GW-7 were analyzed for SVOCs; and only the sample collected at GW-6 was analyzed for total RCRA metals, including mercury.

Analyses indicated that the VOC 2-butanone was detected in samples collected at GW-5, GW-6, and GW-8; and 4-methyl-2-pentanone was detected in samples collected at GW-8 and GW-10. No other VOCs other than laboratory contaminants were reported. All VOC concentrations were well below their respective groundwater standards. VOC data are summarized in Appendix E, Table E-5.

Due to the lack of groundwater availability during the sampling event, only samples from GW-6 and GW-7 were analyzed for SVOCs. Benzo(a)pyrene, benzo(b)fluoranthene, and indeno (1,2,3-cd)pyrene were detected in the sample from GW-7 at levels above respective EPA MCLs (EPA 2016b) and IDNR Statewide Standard for Protected Groundwater Source (IDNR 2017). No other SVOCs were detected above screening levels. SVOCs data are summarized in Appendix E, Table E-6.

Due to the lack of groundwater availability during the sampling event, only one sample (from GW-6) was analyzed for metals. Several metals were detected in sample GW-6 (see Appendix E, Table E-8). A comparison of data to applicable screening values yielded the following results from the sample collected at GW-6:

- TPH-GRO concentration of 900 µg/L was above the IDNR Statewide Standard for Protected Groundwater Source of 730 µg/L (IDNR 2017).
- Arsenic concentration of 130 µg/L was above the EPA MCL (EPA 2016b) and IDNR Statewide Standard for Protected Groundwater Source of 10 µg/L.
- Barium concentration of 9,700 µg/L was above the EPA MCL and IDNR Statewide Standard for Protected Groundwater Source of 2,000 µg/L.
- Cadmium concentration of 9.2 µg/L was above the EPA MCL and IDNR Statewide Standard for Protected Groundwater Source of 5 µg/L.
- Chromium concentration of 170 µg/L was above the EPA MCL and IDNR Statewide Standard for Protected Groundwater Source of 100 µg/L.
- Lead concentration of 520 µg/L was above the EPA MCL and IDNR Statewide Standard for Protected Groundwater Source of 15 µg/L.

Based on the low volume of groundwater available for sample collection, analytical results may not be true representations of groundwater on the subject property. SVOCs, particularly PAHs, and metals are generally insoluble, and results may be elevated due to soil fines in groundwater, rather than contamination in the groundwater itself.

4.3 QUALITY CONTROL SAMPLES

Two trip blanks, one each for soil and water, were included in the Phase II TBA to determine whether contamination had been introduced during transportation of containers and samples. Furthermore, one field blank was collected to evaluate contamination of sampling containers and/or preservatives, and to assess contamination potentially introduced during sampling and laboratory procedures. One equipment rinsate blank was also collected to evaluate effectiveness of decontamination procedures. The trip blanks were analyzed for VOCs, and the field blank and equipment rinsate blank were analyzed for VOCs, SVOCs, TPH-GRO, TPH-DRO, and total RCRA metals, including mercury. The field blank was also analyzed for dissolved RCRA metals.

Two VOCs, acetone and chloroform, were detected in the soil trip blank at 0.0027J and 0.00080J mg/kg, respectively. Chloroform was also detected in the water trip blank at 0.96J µg/L, and acetone was detected in the equipment rinsate blank at 1.9J µg/L. Acetone and chloroform are common laboratory contaminants, and the concentrations were not significant enough to cause data qualification on that basis. No dissolved metals came back above the reporting limit for the water field blank sample.

No additional detections occurred in the QC samples.

5.0 DISCUSSION OF FINDINGS AND CONCLUSIONS

This section summarizes findings and offers conclusions regarding the Phase II TBA field activities. A property profile form for the subject property is in Appendix F.

5.1 RECOGNIZED ENVIRONMENTAL CONDITIONS

RECs were confirmed by results of sampling during the Phase II TBA. Analyses of samples collected from the subject property revealed the following:

- Concentrations of benzene, ethylbenzene, xylenes, and naphthalene exist in subsurface soils within the area of the former gas station. Xylenes, and naphthalene levels are above EPA RSLs for residential soils (EPA 2016b). Benzene and ethylbenzene levels are above EPA RSLs for residential and industrial soils. The extent of contamination at the southwest portion of the subject property should be delineated, and remediation of the soil is recommended.
- Benzo(a)pyrene concentration exceeding the EPA RSL for residential soil exists in subsurface soils within the area of the former commercial structure. If future residential land use of the subject property is desired, extent of benzo(a)pyrene contamination should be delineated, and remediation of the soil is recommended.
- Lead concentration above the EPA RSL for residential soil and the IDNR Statewide Standard for Soil (IDNR 2017) exists in surface soils in the northeast portion of the subject property. If future residential land use of the subject property is desired, extent of lead contamination should be delineated, and remediation of the soil is recommended.
- Potentially elevated levels of polycyclic aromatic hydrocarbons (PAH) exist in groundwater in the central portion of the subject property. Concentrations of benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene levels were found above respective EPA MCLs (EPA 2016b) and IDNR Statewide Standards for Protected Groundwater Source. Notably, EPA MCLs have not been established for benzo(b)fluoranthene or indeno(1,2,3-cd)pyrene in groundwater, so EPA screening levels for tapwater were used for comparison. Concentration of TPH-GRO also was found above the regulated limits of IDNR Statewide Standards for Protected Groundwater Source. These concentrations could present a potential health risk if the groundwater will be used as a source of drinking water.
- Elevated levels of metals exist in groundwater within the area of the former commercial structure. Arsenic, barium, cadmium, and chromium concentrations were all detected above respective EPA MCLs and IDNR Statewide Standards for Protected Groundwater Source. Lead concentration was found above the EPA MCL, the IDNR Statewide Standard for Protected Groundwater Source. These concentrations could present a potential health risk if the groundwater will be used as a source of drinking water.

Planned future use of the subject property is not known definitively. Based on detection of petroleum constituents in subsurface soils in the area of the former gas station, further consideration should be given to determining the extent of contamination, remediation of soil, and/or implementation of engineering

controls. Based on detection of PAHs in subsurface soils in the central portion of the subject property, and if future land use includes residential use, further consideration should be given to determining the extent of PAH contamination in the soil, remediation of the soil, and/or implementation of engineering controls. The same should be considered, based on potential for future residential land use, for elevated levels of lead in surface soil on the northeast portion of the subject property. An Analysis of Brownfields Cleanup Alternatives (ABCA) will be submitted under separate report providing alternatives for remediating the soil.

Based on elevated levels of metals and PAHs found in groundwater on the subject property, limited quantities of groundwater encountered, sampling procedures based on the limited supply of groundwater, and potential bias of results based on these procedures, further consideration should be given to installation of temporary wells or permanent wells, with ample time provided for stabilization of groundwater levels prior to sampling, thus allowing time for soil fines to settle from the water column. If enough groundwater is collected, both total and dissolved levels of constituents should be analytical parameters.

5.2 AFFECTED MEDIA

Based on sampling during the Phase II TBA, soil and possibly groundwater appear to have been affected by historical activities associated with activities on the subject property and/or adjacent to the subject property. Contaminated subsurface soil was identified around the former gas station and former commercial structure. In the area of the former gas station, xylenes, and naphthalene levels are above EPA RSLs (EPA 2016b) for residential soils, and benzene and ethylbenzene levels are above EPA RSLs for residential and industrial soils. In the area of the former commercial structure, benzo(a)pyrene levels in subsurface soils are above EPA RSLs for residential soils. Groundwater in the area of the former commercial structure also contained levels of arsenic, barium, cadmium, chromium, and lead above respective EPA MCLs (EPA 2016b) and IDNR Statewide Standard for Protected Groundwater Source (IDNR 2017). As discussed previously results may not accurately represent the levels in groundwater. In the northeast portion of the subject property, contaminated surface soil was identified with lead levels above the EPA RSL for residential soils and above the IDNR Statewide Standard for Soils. In the central portion of the subject property, potentially contaminated groundwater was identified with the PAHs benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene above respective EPA MCLs and IDNR Statewide Standard for Protected Groundwater Source. Additional soil and groundwater sampling may be required to further delineate horizontal and vertical extents of soil contamination (VOCs and SVOCs) in the area of the former gas station. If future residential land use of the subject property is

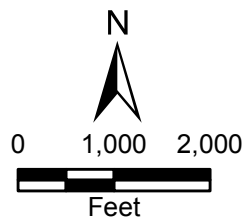
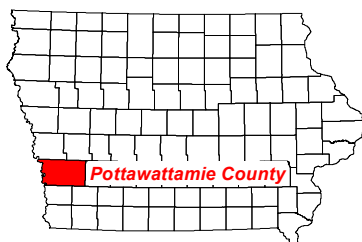
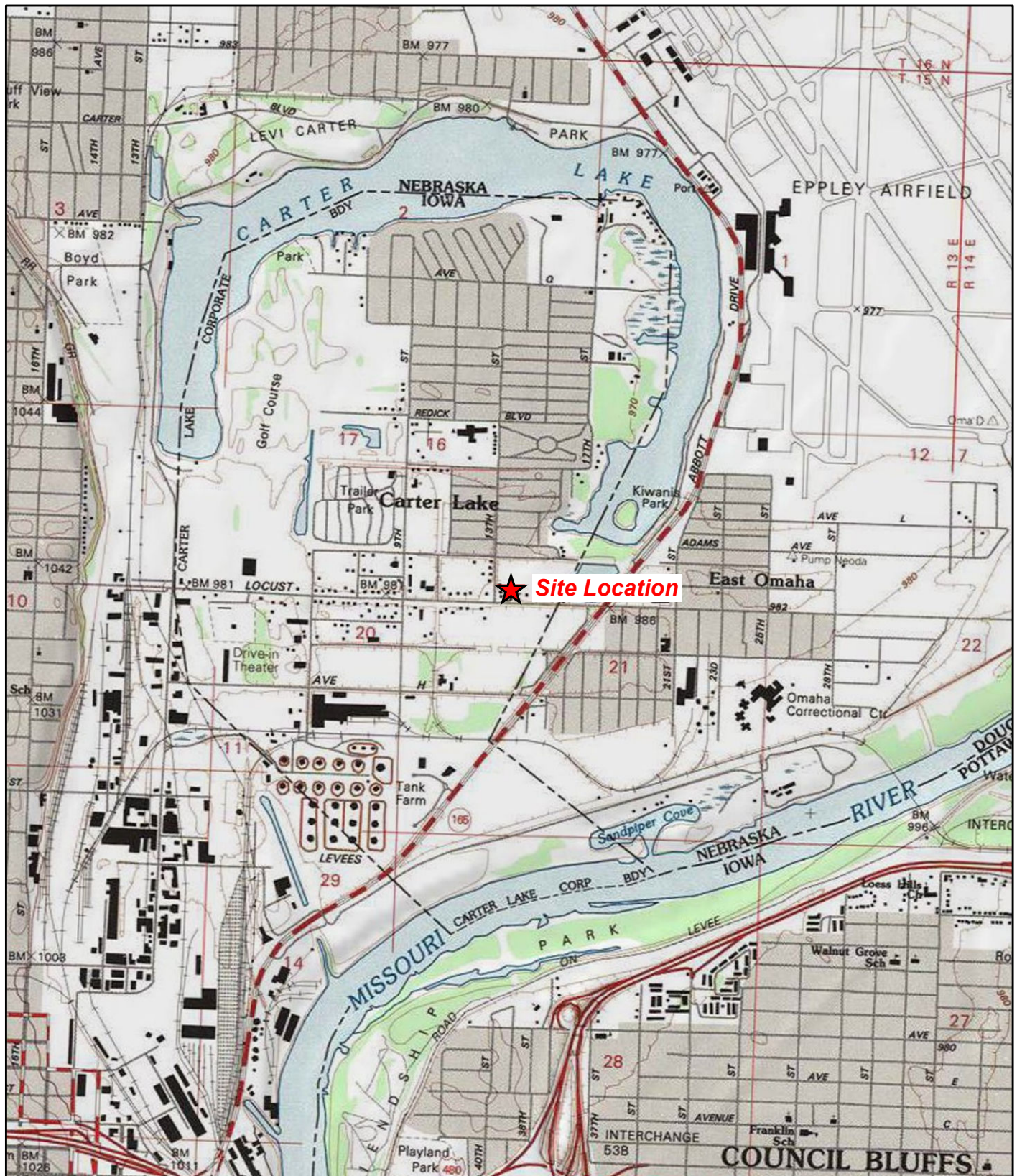
desired, additional soil and groundwater sampling may be required to further delineate horizontal and vertical extents of soil contamination (SVOCs and metals) in the area of the former commercial structure.

6.0 REFERENCES

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APPENDIX A

FIGURES



Omaha Tribe of Iowa
1302 Locust Street
Carter Lake, Iowa

Figure 1
Site Location Map





Legend

Sample locations

- DPT groundwater
- DPT soil
- DPT soil and groundwater
- Surface soil

Approximate parcel boundary

DPT Direct push technology

Omaha Tribe of Iowa
1302 Locust Street
Carter Lake, Iowa

Figure 2
Sample Location Map



Source: ESRI, ArcGIS Online, World Imagery, 2014

Date: 1/27/2017

Drawn By: Nick Wiederholt

Project No: X9025.14.0002.019.022

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APPENDIX B
PHOTOGRAPHIC DOCUMENTATION

Omaha Tribe 1302 Locust Street



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the SB-1 sample location. Facing south towards Locust Street	1
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the SB-2 sample location. Facing south towards Locust Street	2
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	

Omaha Tribe 1302 Locust Street



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the SB-3 sample location. Facing south towards Locust Street	3
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the SB-4 sample location. Facing south towards Locust Street	4
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	

Omaha Tribe 1302 Locust Street



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the location of soil sample SB-5 and groundwater sample GW-5 (see arrow above).	5
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the location of soil sample SB-6 and groundwater sample GW-6 (see arrow above). Facing south towards E Locust Street	6
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	

Omaha Tribe 1302 Locust Street



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the location of soil sample SB-7 and groundwater sample GW-7 (see arrow above).	7
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the location of the groundwater sample GW-8 (see arrow above).	8
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	

Omaha Tribe 1302 Locust Street



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the location of groundwater sample GW- 9 (see arrow above).	9
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows the location of groundwater sample GW-10 (see arrow above).	10
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	

Omaha Tribe 1302 Locust Street



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows a south facing view of the subject property.	11
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows a east facing view of the subject property.	12
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	

Omaha Tribe 1302 Locust Street



TETRA TECH PROJECT NO. X9025.14.0002.019.022 Direction: NA	DESCRIPTION	This photograph shows a north facing view of the subject property.	13
	CLIENT	Environmental Protection Agency – Region 7	DATE 12/21/2016
	PHOTOGRAPHER	Megan Sawyer	

APPENDIX C
SITE LOGBOOK

SS SCHEDULE

ay	Name: Tetra Tech				
ay	Address: 415 Oak Street				
esday	Kansas City MO 916-412-1742				
day	Project: Omaha Tribe of Iowa -				
y	1302 Locust Street, Carter Lake.				
day	I.A. Project #				

WEB REFERENCE X 9025.14.082.19.002

GENERAL REFERENCE & RESEARCH SITES

- al Intelligence Agency: www.cia.gov/cia/publications/factbook
Central Intelligence Agency (CIA) worldwide factbook containing in-depth data for over 200 countries around the globe.
- Student News: www.cnnfyi.com
U.S. and World news multimedia site tailored to the needs of students.
- Conversion Tables: www.convert-me.com
Convert length, area, speed, temperature, etc., into different units and systems.
- Library Research: www.elibrary.com
Search any topic using a database of current newspapers, magazines, books and more.
- Encyclopedia Britannica: www.britannica.com
Online version of one of the world's most trusted sources of information on every topic imaginable.
- Fact Monster: www.factmonster.com
Designed for kids of all ages, this site offers an amazing array of facts and figures in addition to homework help, an almanac, dictionary and much more.
- Gallup Organization: www.gallup.com
Search thousands of poll results, special reports, societal trends and social audits.
- Hoovers Business Research: www.hoovers.com
Comprehensive index of over 45,000 leading U.S. private and public companies.
- Information Please Almanac: www.infoplease.com
Online almanac offering millions of interesting and useful facts on a wide variety of subjects.
- Internet Public Library: www.ipl.org
An exhaustive collection of over 20,000 titles.
- Tools Research: www.itools.com
Collection of online research tools including dictionaries, translations, quotations and more.
- Library of Congress: www.loc.gov
Easy to use reference catalog for accessing the collections of the Library of Congress.
- National Archives: www.archives.gov
National Archives online directory of U.S. Federal records.
- Smithsonian Institution: www.si.edu
User-friendly site from the world's largest museum complex and research organization.
- U.S. Census Bureau: www.census.gov
A wealth of basic information about the U.S., broken down on a national, state and local level.
- U.S. Department of Labor: <http://stats.bls.gov>
Bureau of Labor statistics site containing current labor statistics and links to hundreds of state and Federal agencies.
- U.S. Federal Government: www.fedstats.gov
Statistical information from over 100 federal agencies.

Book 1 of 1
Dates 12/20 & 12/21

Megan Sawyer 12/20/2016
Arrived on Site @ 7:50 am. The weather today cloudy with a high of 40°. It feels like 20 degrees. I dressed for the weather I am wearing a thick coat & a hat. The hotel I'm staying @ is roughly 10 mins away from the site. The drill team I'm meeting with is Plain Enviro Services. They will be doing the drill I will be doing all the sampling. The guy I will be working with is Jason Amerheimer. When I arrived on site I talked to Jason about what was previously on site & we walked around the site to get an idea of where we wanted to drill. There was no level of protection required. Although Jason wore ear plugs when he began to drill. Today's planned activities are drilling 17 soil samples & installing temporary monitoring wells. We started @ SB-1 the coordinates are -N41.28509 W 095.91302. Jason & I made

Megan Sawyer 12/20/2016
Sure we weren't going to hit any
utility lines. Kaitlyn had called
for locates & the lines were
clearly drawn out for us to
know where to drill & not to
drill at. All of the FID readings,
depths & sample locations are
recorded in the boring logs.
At 9:45 we started @ SB2
The quadrant for this location is
N 41.28516 W 095.91299. SB-1
did have odor & discoloration.
The discoloration was greenish
w/gray coloring. And the soil boring
smelled like gasoline. Before we
move to each sample location I
am taking samples. I have also
brought a table w/ me to work on.
Jason is bringing me the borings.
I am the only one sampling
soil or water. Since the borings
are not "that" moist we are
going to let the temp monitoring
wells sit overnight. I sampled

Megan Sawyer 12/20/2014
@ 8:45 am. We are going down to
15 feet for each sample. Jason is
using the standard procedure for
drilling. He is using a geo probe
5400 Direct push technology
w/ a ^{ms} 4 foot long macro-core
sampling w/ PVC liners. At
9:45 we started @ SB2 which is located
@ ~~14~~^{ms} 285. The soil @ SB2 has
the same odor as SB-1 does.
Still smells like gasoline & has
discoloration to it. Again PID
readings, water table & where the
sample is taken is in the boring
logs. I am taking grab samples.
For samples SB1-SB-7 I will
be sampling for VOC's, SVOC's,
TPH-e, TPH-p, & CRA metals (including
mercury). The types of preservatives
in these are Sodium Bisulfate &
Methanol. There is also 8 oz glass
jar that is unpreserved.
I took samples of SB-2 @
10:15. At 10:23 we started @

Megan Sawyer 12/20/2016
SB3 the guardrails for this, are
N41.28527 W095.91305. Again
all the info for ^{MS} ~~MS~~ PTD readings,
Soil description, sample taken are
in the boring log. This ^{MS} ~~sample~~
boring also had some odor to it
& discoloration. Although SB-1 is
still the one w/ the most
^{MS} intrusive odor. Took samples of
SB-3 @ 10:46 am. Again soil description,
PTD readings, sample location, &
water level is all in the boring
logs. At 11:00 we started @ SB-4
location is N41.28921, W095.91275.
The boring was terminated @ 16 ft
we could not go any further.
We moved over a few feet to
N41.28253 W095.91274 @ 12:15.
We were able to get to 15 feet
@ this location. All borings are
going to 15 feet depth. Collected
sample from SB-4 @ 12:40.
We went to lunch after SB3
for ~20 mins came back to the

Megan Sawyer 12/20/2014
Site @ 11:45ish. We did the
rinstate blank after SB-4. The
equipment looked clean. I took
the rinstate sample @ 12:56 pm.
After taking the sample from
SB-4 @ 12:40. We moved to
SB-5 the location is N41.28337
W095.91291 the time is 1:13.
The soil from SB-4 ~~dit~~^{ms} had some
odor to it although not as bad
as where the concrete slab was
from the previous gas station. The
overall site view is a vacant lot
w/ bleachers in the middle. There
are a few trees & residential homes
towards the north of the site.
The ground is primarily frozen due
to the temperatures. There are a
few trees & two concrete slabs
on the site one is located
at SB-1, SB-2 & SB-3 the
other is located @ SB-6. We
moved to SB-6 @ 2:10. I
took samples of SB-5 @ 1:30

Megan Sawyer 12/20/2016
Jason & I took samples SS-1
& SS-2 after SB-5 & before
moving to SB-6 @ 1:53 (SS-1)
& 2:00 (SS-2) the locations for
these two samples are SS-1 \Rightarrow
N 41.28432 W 095.91260, SS-2 \Rightarrow
N 41.28630 W 095.91122. Both
of these samples were not easy
to get because the ground was
so frozen. ~~We took the other~~
grabbing these two samples we
moved onto SB-6 @ 2:10. The
location for SB-6 is N 41.28316
W 095.91170. We sampled SB-6
@ 2:30. Again soil description,
sample taken (depth) is all
provided in the ~~legbook~~ ^{log} boring
log. We moved to SB-7 @
2:47. The location is N 41.28598
W 095.91180. The sample locations
SB-6 & SB-7, SB-5 are pretty
clean looking compared to the
previous samples. I.E. not much
discoloration & no smell. ~~It~~ ^{is}

Megan Sawyer 12/20/2016
I collected ^{sample} SB-7 @ 3:00. After
we finished w/ SB-7. We went to
the rest of the locations GWS^{ms},
GWL^{ms}, GW10 & installed the
temporary monitoring wells. We
checked the water level @ SB-1 &
didn't get much. We are going to
hope we get more water tomorrow
morning. We left the site @ 4:30pm.

Megan Sawyer

Morgan Sawyer 12/21/2016

~~Jason~~^{ms} I arrived on site @
7:45³⁰ms We ~~start~~^{ms} The weather today is
a bit warmer. The high is 45 degrees.
It's partly cloudy. We started @
SB7/GW1 @ 8:00 am. We didn't
get any water, the well is dry.
Next we went to GW4/SB4
this well is also dry. We went
to SB5/GW5, looking this well
had water in it, enough to fill
sample jars to sample for
TCL Volatiles & GRO/DRO(8015).
I sampled GW5 @ 9:25 am.
The coordinates for GW8, GW9,
& GW10 are GW8-N41.28590
W095.91097, GW9-N41.28655
W095.91181, GW10-N41.28601
W095.91301. Yesterday we
drilled locations @ CPW-8-3:20 pm
GW9-3:30 pm GW10-3:50 pm. After
sampling GW5 we moved to
GW6/SB6 - this sample location
had enough water to sample
for TCL Volatiles, TCL SVOCs,

Megan Sawyer 12/21/2016
GRO/DRO 8015, RCRA metals.
I called Kaitlyn @ 9am when
we weren't getting any water &
She said she would get back to
me w/what/how to determine
which GW samples to analyze for.
We moved to GW/SB-7 @ 9:50 &
sampled it @ 10:00am. This one
also had water I did analytical
data for TCL volatiles, TCL SVOCs,
GRO/DRO (8015) for this sample.
So far I am analyzing samples
w/ the amount of water that is
available & Kaitlyn Bahr got
back to me @ roughly 1:30 pm &
told me what to analyze for w/ the
water I have available. By 4
8:45 I sampled GW-8. I
sampled this sample for TCL
Volatiles, & GRO/DRO (8015).
There wasn't much water in
this one. Jason is getting the
water out for me from the
temporary monitoring well he is

Megan Sawyer 12/21/2016

a Check valve to get the water from the wells. At 9:00 am we sampled GW9 I got very little water again from this well I was only able to sample for TCL volatiles, & GRO/DRO(8015) from this well. At 9:30 am I sampled GW10 again very little water was in this well. I sampled for TCL volatiles & GRO/DRO(8015). At 7:30 in the morning I sampled the field blank. Jason arrived shortly after I did @ 7:45 am. After I sampled GW7 I went & got ice in the cooler. Yesterday 12/20/2016 I got ice for the soil samples before I went to the hotel, right after I left the site. After I got ice & put the samples in the cooler w/ the ice I filled out the Chain of custody at a dollar tree near by. Packed

Megan Sawyer 12/21/2014
everything up & taped the
coolers with tape around
them put the COL in the
coolers. I also wrapped the
samples in a black trash bag
& put all the ice into zip lock
bags. I shipped the samples
to ALS lab @ 12:45 on 12/21/2014
I took pictures before I left
the site of the boring holes
after we had removed the PVC
Screens. We removed each screen
after I took each sample. Jason
took the remaining soil &
screens w/ the trash w/ him.
All debris, & soil & trash was
taken off site. ~~§~~

Megan
Sawyer

8:45

Boring Log Form

Site Name: ~~PA 20~~ Carter Lake

Boring Number: SB 1

Date Drilled (Start/Finish): 12/20/2011

Drilling Method: DPT - GeoProbe 5400

Drilling Company: Geo Drill Plains Enviro. Services

Elevation:

Total Depth: 15 ft

Coordinates: N 41.28509, W 95.91302

Depth to Water: 10 ft

Geologist: Megan Sawyer

Project Number: X 9025.002.019.022

Weather: 23, partly sunny

Sample Interval	Interval	Soil Recv.	PID Reading (ppm)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0.0					concrete 2" 3"
			2.8	4			CH	CLAY - silty to sandy clay, light Dark gray
			1.5				CH	CLAY - silty to sand clay, Dark light gray
			2.2	8				
			6.3				CH	CLAY - silty to sand clay
			67.2	12			CH	Moist @ 10 ft.
			88.5				CL	CLAY - Dark tan, dense Clay
			91.7	16				Boring terminated @ 15 ft.
				20				
				24				
				28				
				30				

sampled 12-14

10:15

Boring Log Form

Site Name: Carter Lake, Iowa Boring Number: SB 2
 Date Drilled (Start/Finish): 12/10/2016
 Drilling Method: DPT - GeoProbe 5400
 Drilling Company: Geo Drill - Plains Enviro. Services
 Elevation: _____ Total Depth: 15 ft
 Coordinates: N 41.28516 W 95.91299
 Depth to Water: 10.5 ft Geologist: Megan Sawyer
 Project Number: X9025.002019.022 Weather: 26°, partly cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0.0					Concrete - 0-0.5 concrete
			0.0	4			CL	CLAY, Dark Brown, some Backfill
			0.0				CL	CLAY, Dark Brown, w/ Backfill
			6.0	8				
			X				CL	CLAY, Dark Brown, Backfill, moisture
			0.0	12				
			0.0				CL	CLAY, Dark gray, Backfill
			0.0	16				Boring terminated @ 15 ft
				20				
				24				
				28				
				30				

Sampled 6-8
 No Recovery

10:41p

Boring Log Form

Site Name: Carter Lake Towa Boring Number: SB3
 Date Drilled (Start/Finish): 12/10/2016
 Drilling Method: Direct Push technology / Geoprobe S400
 Drilling Company: Geo Brth Plains Enviro Services
 Elevation: _____ Total Depth: 15
 Coordinates: N 41.28527 W 095.91305
 Depth to Water: 12 ft Geologist: Megan Sawyers
 Project Number: X9025.002.019.022 Weather: 30°, cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
		X	0.0					0-0.5 ft concrete
			0.0	4			CL	CLAY, Brown, Backfill Hard dense clay
		X	0.0				CH	CLAY - silty clay, Brown increasing silt w/depth
			0.0	8				
		X	6.0				CH	CLAY - silty clay, Brown to Dark gray, moisture @ 10 ft
			0.0	12			SL	CLAY silty clay Dark gray, moisture, soft
		X	0.0					terminated boring @ 15 ft
			0.0	16				
				20				
				24				
				28				
				30				

Sampled
8-10

Boring Log Form

Site Name: Carter Lake Boring Number: SB4
 Date Drilled (Start/Finish): 12/10/2016
 Drilling Method: DPT - GeoDrill 5400
 Drilling Company: Geo Drill Plains Enviro. Services
 Elevation: _____ Total Depth: 15 ft
 Coordinates: N41.28253W095.91274
 Depth to Water: 11.5 feet Geologist: Megan Sawyer
 Project Number: X9025.002.019.022 Weather: 30°, cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0.0					0-0.5 Backfill Backfill
			0.0	4			CH	CLAY - Clay silty to sandy med-dark brown
			0.0					
			1.1	8			CH	CLAY - Silty to sandy med-Dark brown, increasing silty
			0.9					
			50.2	12			CH	CLAY - Silty to sandy med-Dark brown Hit moisture @ 11 ft
			8.3					
			12.2	16			CH	CLAY - Silty to sandy @ 13 ft starts becoming plastic clay, dense
								Boring terminated @ 16 feet
				20				
				24				
				28				
				30				

samp'd 10-12 ft

Boring Log Form

Site Name: Carter Lake

Boring Number: SB4

Date Drilled (Start/Finish): 12/10/2016

Drilling Method: DPT - Geoprobe 5400

Drilling Company: GeoDrill Plains Enviro. Services

Elevation: _____

Total Depth: _____

Coordinates: _____

Depth to Water: N41.28521, W095.91275

Geologist: W. Legan Sawyers

Project Number: X9025.002.019.022

Weather: 30°, partly cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
				0				0.0.5 Backfill
				4			CL	Dark PS CLAY - Dark Brown clay.
				8				Refusal @ 4ft Did not sample.
				12				* Moved over a few feet to get depth
				16				* Didn't sample
				20				
				24				
				28				
				30				

1:30

Boring Log Form

Site Name: Carter LakeBoring Number: SB 5Date Drilled (Start/Finish): 12/20/2011Drilling Method: DPT - Geoprobe 5400Drilling Company: Geo Drift Plains Enviro. Services

Elevation: _____

Total Depth: 15.44Coordinates: N41.28537, W095.91291Depth to Water: 11 ftGeologist: Megan SalwayProject Number: X9025.002.019.022Weather: 32° Partly Cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
		X	0.0					0.000 - 1.0 - Backfill
		I	0.0	4			CH	CLAY - silty to sandy Brown, increasing sand
		X	0.0				S	Sandy-silty, all sand Light brown
		I	0.0	8				
		I	0.0				CH	CLAY - silty sandy soil to clay. Brown, moisture @ 11 Feet
		X	0.4	12				
		I	0.0				CH	clay - silty sandy soil to Dark gray clay
		I	0.2	16				
				20				
				24				
				28				
				30				

Sampled
10-12
ft

2:30

Boring Log Form

Site Name: Carter Lake Boring Number: SB16
 Date Drilled (Start/Finish): 12/29/2016
 Drilling Method: DPT-GeoProbe 5400
 Drilling Company: Geo Drill GeoProbe 5400 Plains Enviro. Services
 Elevation: _____ Total Depth: 15 ft
 Coordinates: 1146.28516, N095.91170
 Depth to Water: 12 ft Geologist: Megan Sawyer
 Project Number: X9025.002.019.022 Weather: 35° cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
		X	0.0					0 - 0.5 concrete
			0.0	4			CH	Clay-silty to sandy clay. Backfill throughout (traces) Brick, concrete, Brown so. f
		X	0.0				CH	Clay-silty to sandy clay. Dark Brown, some backfill
		X	0.0	8			CH	Clay-silty to sandy, dark Brown, gets black, moist
		X	0.0	12			CH	@ 12 ft some backfill @ 10 ft increasingly sandy
		X	0.0	16			CH	Clay-silty to sandy, Light brown clay thickens in depth, moist
			0.0					Boring terminated @ 15 ft
			0.0	20				
			0.0	24				
			0.0	28				
			0.0	30				

Sampled
 8-10
 10-12
 12-15

Boring Log Form

Site Name: Carter Lake Boring Number: 537
 Date Drilled (Start/Finish): 12/20/2016
 Drilling Method: DPT - Geoprobe 5400
 Drilling Company: GeoDrill Plains Enviro. Services
 Elevation: _____ Total Depth: 15 ft
 Coordinates: N41.28598, W095.91180
 Depth to Water: 1 ft Geologist: Megan Sawyer
 Project Number: X0925.002.019022 Weather: 40° cloudy

Sample Interval	Interval	Soil Recv.	PID Reading (ppm)	Depth (Feet)	Color (Munsell or Rock)	Lithology	Graphic Log	Description and Remarks
			0.0					see
			0.0	4			CH	Clay-silty to sandy soil, w/some back fill, Brown increasingly sandy
			0.0				CH	Clay-silty to sandy, backfill Brick & concrete, Brown soil, becomes dense @ 7 feet
			0.0	8			CH	Clay-silty to sandy, Brown to dark brown, becomes plastic clay & dark gray @ 10 feet
			0.0	12			CH	Clay-silty to sandy, Dark Brown w/ moisture @ 14 ft
			0.0	16				
			0.0	20				
			0.0	24				
			0.0	28				
			0.0	30				

Sampled 10-12 ft.

X

X

4



Legend

Proposed sample locations

● DPT groundwater

● DPT soil

● DPT soil and groundwater

■ Surface soil



Approximate parcel boundary

DPT Direct push technology

Omaha Tribe of Iowa
1302 Locust Street
Carter Lake, Iowa

Figure 2
Proposed Sample Location Map



TETRA TECH

Source ESRI, ArcGIS Online, World Imagery, 2014

Date: 10/12/2016

Drawn By: Nick Wedemhoff

Project No: X3025 14 0002 018 022

X:\3025\0002\018\022\Proposed Sample Location Map 2_083016.mxd

APPENDIX D

CHAIN-OF-CUSTODY RECORDS, ANALYTICAL DATA PACKAGES, AND DATA VALIDATION REPORTS



03-Jan-2017

Kaityln Bahr
Tetra Tech
415 Oak Street
Kansas City, MO 64106

Re: **1302 Locust Street/Carter Lake X9025.0002.019.022**

Work Order: **16121297**

Dear Kaityln,

ALS Environmental received 19 samples on 22-Dec-2016 10:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

Sample results are compliant with industry accepted practices and Quality Control results achieved laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 118.

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

Sincerely,

A handwritten signature in black ink that reads "Joseph Ribar".

Electronically approved by: Joseph Ribar

Joseph Ribar
Project Manager

Certificate No: IA: 403

Report of Laboratory Analysis

ADDRESS 3352 128th Ave Holland, Michigan 49424 | PHONE (616) 399-6070 | FAX (616) 399-6185

ALS GROUP USA, CORP Part of the ALS Laboratory Group A Campbell Brothers Limited Company

Environmental 

www.alsglobal.com

RIGHT SOLUTIONS RIGHT PARTNER

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Work Order: 16121297

Work Order Sample Summary

<u>Lab Samp ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Tag Number</u>	<u>Collection Date</u>	<u>Date Received</u>	<u>Hold</u>
16121297-01	SB1	Soil		12/20/2016 08:45	12/22/2016 10:30	<input type="checkbox"/>
16121297-02	SB2	Soil		12/20/2016 10:15	12/22/2016 10:30	<input type="checkbox"/>
16121297-03	SB3	Soil		12/20/2016 10:40	12/22/2016 10:30	<input type="checkbox"/>
16121297-04	SB4	Soil		12/20/2016 12:40	12/22/2016 10:30	<input type="checkbox"/>
16121297-05	SB5	Soil		12/20/2016 13:30	12/22/2016 10:30	<input type="checkbox"/>
16121297-06	SB6	Soil		12/20/2016 14:30	12/22/2016 10:30	<input type="checkbox"/>
16121297-07	SB7	Soil		12/20/2016 15:00	12/22/2016 10:30	<input type="checkbox"/>
16121297-08	SS1	Sediment		12/20/2016 13:45	12/22/2016 10:30	<input type="checkbox"/>
16121297-09	SS2	Sediment		12/20/2016 13:50	12/22/2016 10:30	<input type="checkbox"/>
16121297-10	RB1	Water		12/20/2016 12:56	12/22/2016 10:30	<input type="checkbox"/>
16121297-11	GW5	Water		12/21/2016 09:25	12/22/2016 10:30	<input type="checkbox"/>
16121297-12	GW6	Water		12/21/2016 09:45	12/22/2016 10:30	<input type="checkbox"/>
16121297-13	GW7	Water		12/21/2016 10:00	12/22/2016 10:30	<input type="checkbox"/>
16121297-14	GW8	Water		12/21/2016 08:45	12/22/2016 10:30	<input type="checkbox"/>
16121297-15	GW9	Water		12/21/2016 09:00	12/22/2016 10:30	<input type="checkbox"/>
16121297-16	GW10	Water		12/21/2016 09:30	12/22/2016 10:30	<input type="checkbox"/>
16121297-17	FB-1	Water		12/21/2016 07:30	12/22/2016 10:30	<input type="checkbox"/>
16121297-18	Trip Blank - Water	Water		12/21/2016	12/22/2016 10:30	<input type="checkbox"/>
16121297-19	Trip Blank - Soil	Soil		12/21/2016	12/22/2016 10:30	<input type="checkbox"/>

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Work Order: 16121297

Case Narrative

Samples for the above noted Work Order were received on 12/22/2016. The attached "Sample Receipt Checklist" documents the status of custody seals, container integrity, preservation, and temperature compliance.

Samples were analyzed according to the analytical methodology previously transmitted in the "Work Order Acknowledgement". Methodologies are also documented in the "Analytical Result" section for each sample. Quality control results are listed in the "QC Report" section. Sample association for the reported quality control is located at the end of each batch summary. If applicable, results are appropriately qualified in the Analytical Result and QC Report sections. The "Qualifiers" section documents the various qualifiers, units, and acronyms utilized in reporting. A copy of the laboratory's scope of accreditation is available upon request.

With the following exceptions, all sample analyses achieved analytical criteria.

Volatile Organics:

Batch 96221, Method 8260, Sample 16121297-06A MS: The MS recovery was above the upper control limit. The corresponding result in the parent sample was non-detect, therefore no qualification is necessary: See QC Report

Batch 96221, Method 8260, Sample 16121297-06A MSD: The RPD between the MS and MSD was outside the control limit. The corresponding result in the parent sample should be considered estimated for this analyte: Bromomethane

Batch 96221, Method 8260, Sample 16121297-06A MSD: The MSD recovery was below the lower control limit. The corresponding result in the parent sample may be biased low for this analyte: trans-1,4-Dichloro-2-butene, Bromomethane

No other deviations or anomalies were noted.

Extractable Organics:

Batch 96203, Method 8270, Sample 16121297-17B DUP: The RPD between the sample and its duplicate was out of control. The corresponding sample result should be considered estimated for this analyte: Benzaldehyde

No other deviations or anomalies were noted.

Metals:

No other deviations or anomalies were noted.

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Work Order: 16121297

Case Narrative

Wet Chemistry:

Batch R203189, Moisture, Sample 16121297-03C DUP: RPD is outside of test defined limits.
Results should be considered estimated.

No other deviations or anomalies were noted.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB1
Collection Date: 12/20/2016 08:45 AM

Work Order: 16121297
Lab ID: 16121297-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2		Prep: SW3546 / 12/28/16		Analyst: IT
DRO (C10-C20)	1,400		1.1	6.8	mg/Kg-dry	1	12/29/2016 08:01
ORO (C20-C34)	41		2.2	6.8	mg/Kg-dry	1	12/29/2016 08:01
Surr: 4-Terphenyl-d14	57.2			39-133	%REC	1	12/29/2016 08:01
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: OA-1		Prep: SW5035 / 12/27/16		Analyst: IT
GRO (C6-C10)	1,900,000		1,200	4,600	µg/Kg	1	12/28/2016 11:41
Surr: a,a,a-Trifluorotoluene	102			80-120	%REC	1	12/28/2016 11:41
MERCURY BY CVAA							
			Method: SW7471B		Prep: SW7471 / 12/28/16		Analyst: LR
Mercury	0.054		0.0032	0.020	mg/Kg-dry	1	12/28/2016 20:24
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 12/27/16		Analyst: RH
Arsenic	13		0.15	0.56	mg/Kg-dry	1	12/28/2016 12:50
Barium	220		0.22	0.56	mg/Kg-dry	1	12/28/2016 12:50
Cadmium	0.18	J	0.054	1.1	mg/Kg-dry	1	12/28/2016 12:50
Chromium	18		0.031	0.56	mg/Kg-dry	1	12/28/2016 12:50
Lead	21		0.12	0.56	mg/Kg-dry	1	12/28/2016 12:50
Selenium	U		0.31	1.1	mg/Kg-dry	1	12/28/2016 12:50
Silver	U		0.069	0.56	mg/Kg-dry	1	12/28/2016 12:50
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3546 / 12/28/16		Analyst: JF
1,1'-Biphenyl	U		7.4	45	µg/Kg-dry	1	12/29/2016 03:46
2,4,5-Trichlorophenol	U		12	45	µg/Kg-dry	1	12/29/2016 03:46
2,4,6-Trichlorophenol	U		12	45	µg/Kg-dry	1	12/29/2016 03:46
2,4-Dichlorophenol	U		9.6	45	µg/Kg-dry	1	12/29/2016 03:46
2,4-Dimethylphenol	U		9.3	45	µg/Kg-dry	1	12/29/2016 03:46
2,4-Dinitrophenol	U		25	45	µg/Kg-dry	1	12/29/2016 03:46
2,4-Dinitrotoluene	U		12	45	µg/Kg-dry	1	12/29/2016 03:46
2,6-Dinitrotoluene	U		7.5	45	µg/Kg-dry	1	12/29/2016 03:46
2-Chloronaphthalene	U		6.4	9.1	µg/Kg-dry	1	12/29/2016 03:46
2-Chlorophenol	U		14	45	µg/Kg-dry	1	12/29/2016 03:46
2-Methylnaphthalene	13,000		23	46	µg/Kg-dry	5	12/30/2016 05:06
2-Methylphenol	U		12	45	µg/Kg-dry	1	12/29/2016 03:46
2-Nitroaniline	U		10	45	µg/Kg-dry	1	12/29/2016 03:46
2-Nitrophenol	U		13	45	µg/Kg-dry	1	12/29/2016 03:46
3&4-Methylphenol	U		9.2	45	µg/Kg-dry	1	12/29/2016 03:46
3,3'-Dichlorobenzidine	U		6.8	230	µg/Kg-dry	1	12/29/2016 03:46
3-Nitroaniline	U		10	45	µg/Kg-dry	1	12/29/2016 03:46
4,6-Dinitro-2-methylphenol	U		11	45	µg/Kg-dry	1	12/29/2016 03:46
4-Bromophenyl phenyl ether	U		12	45	µg/Kg-dry	1	12/29/2016 03:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB1
Collection Date: 12/20/2016 08:45 AM

Work Order: 16121297
Lab ID: 16121297-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloro-3-methylphenol	U		13	45	µg/Kg-dry	1	12/29/2016 03:46
4-Chloroaniline	U		7.2	92	µg/Kg-dry	1	12/29/2016 03:46
4-Chlorophenyl phenyl ether	U		13	45	µg/Kg-dry	1	12/29/2016 03:46
4-Nitroaniline	U		71	230	µg/Kg-dry	1	12/29/2016 03:46
4-Nitrophenol	U		41	45	µg/Kg-dry	1	12/29/2016 03:46
Acenaphthene	U		6.6	9.1	µg/Kg-dry	1	12/29/2016 03:46
Acenaphthylene	U		7.9	9.1	µg/Kg-dry	1	12/29/2016 03:46
Acetophenone	U		7.1	45	µg/Kg-dry	1	12/29/2016 03:46
Anthracene	U		6.4	9.1	µg/Kg-dry	1	12/29/2016 03:46
Atrazine	U		7.2	45	µg/Kg-dry	1	12/29/2016 03:46
Benzaldehyde	U		70	92	µg/Kg-dry	1	12/29/2016 03:46
Benzo(a)anthracene	U		7.9	9.1	µg/Kg-dry	1	12/29/2016 03:46
Benzo(a)pyrene	U		5.6	9.1	µg/Kg-dry	1	12/29/2016 03:46
Benzo(b)fluoranthene	U		6.8	9.1	µg/Kg-dry	1	12/29/2016 03:46
Benzo(g,h,i)perylene	U		7.0	9.1	µg/Kg-dry	1	12/29/2016 03:46
Benzo(k)fluoranthene	U		6.9	9.1	µg/Kg-dry	1	12/29/2016 03:46
Bis(2-chloroethoxy)methane	U		4.4	45	µg/Kg-dry	1	12/29/2016 03:46
Bis(2-chloroethyl)ether	U		13	45	µg/Kg-dry	1	12/29/2016 03:46
Bis(2-chloroisopropyl)ether	U		11	45	µg/Kg-dry	1	12/29/2016 03:46
Bis(2-ethylhexyl)phthalate	U		7.9	45	µg/Kg-dry	1	12/29/2016 03:46
Butyl benzyl phthalate	U		7.7	45	µg/Kg-dry	1	12/29/2016 03:46
Caprolactam	U		16	45	µg/Kg-dry	1	12/29/2016 03:46
Carbazole	U		4.9	45	µg/Kg-dry	1	12/29/2016 03:46
Chrysene	U		7.4	9.1	µg/Kg-dry	1	12/29/2016 03:46
Dibenzo(a,h)anthracene	U		4.9	9.1	µg/Kg-dry	1	12/29/2016 03:46
Dibenzofuran	U		6.7	45	µg/Kg-dry	1	12/29/2016 03:46
Diethyl phthalate	U		7.0	45	µg/Kg-dry	1	12/29/2016 03:46
Dimethyl phthalate	U		8.9	45	µg/Kg-dry	1	12/29/2016 03:46
Di-n-butyl phthalate	U		8.3	45	µg/Kg-dry	1	12/29/2016 03:46
Di-n-octyl phthalate	U		8.7	45	µg/Kg-dry	1	12/29/2016 03:46
Fluoranthene	U		4.4	9.1	µg/Kg-dry	1	12/29/2016 03:46
Fluorene	200		6.6	9.1	µg/Kg-dry	1	12/29/2016 03:46
Hexachlorobenzene	U		13	45	µg/Kg-dry	1	12/29/2016 03:46
Hexachlorobutadiene	U		25	45	µg/Kg-dry	1	12/29/2016 03:46
Hexachlorocyclopentadiene	U		16	45	µg/Kg-dry	1	12/29/2016 03:46
Hexachloroethane	U		19	45	µg/Kg-dry	1	12/29/2016 03:46
Indeno(1,2,3-cd)pyrene	U		6.3	9.1	µg/Kg-dry	1	12/29/2016 03:46
Isophorone	U		8.9	230	µg/Kg-dry	1	12/29/2016 03:46
Naphthalene	10,000		29	46	µg/Kg-dry	5	12/30/2016 05:06
Nitrobenzene	U		15	230	µg/Kg-dry	1	12/29/2016 03:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB1
Collection Date: 12/20/2016 08:45 AM

Work Order: 16121297
Lab ID: 16121297-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		7.5	45	µg/Kg-dry	1	12/29/2016 03:46
N-Nitrosodiphenylamine	U		4.4	45	µg/Kg-dry	1	12/29/2016 03:46
Pentachlorophenol	U		17	45	µg/Kg-dry	1	12/29/2016 03:46
Phenanthrene	U		4.2	9.1	µg/Kg-dry	1	12/29/2016 03:46
Phenol	U		11	45	µg/Kg-dry	1	12/29/2016 03:46
Pyrene	8.2	J	1.7	9.1	µg/Kg-dry	1	12/29/2016 03:46
Surr: 2,4,6-Tribromophenol	59.9			34-140	%REC	1	12/29/2016 03:46
Surr: 2-Fluorobiphenyl	62.3			12-100	%REC	1	12/29/2016 03:46
Surr: 2-Fluorophenol	51.6			33-117	%REC	1	12/29/2016 03:46
Surr: 4-Terphenyl-d14	68.2			25-137	%REC	1	12/29/2016 03:46
Surr: Nitrobenzene-d5	50.2			37-107	%REC	1	12/29/2016 03:46
Surr: Phenol-d6	49.4			40-106	%REC	1	12/29/2016 03:46
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B		Prep: SW5035 / 12/27/16		Analyst: AK
1,1,1-Trichloroethane	U		16	56	µg/Kg	1	12/27/2016 13:06
1,1,2,2-Tetrachloroethane	U		14	56	µg/Kg	1	12/27/2016 13:06
1,1,2-Trichloroethane	U		17	56	µg/Kg	1	12/27/2016 13:06
1,1,2-Trichlorotrifluoroethane	U		13	56	µg/Kg	1	12/27/2016 13:06
1,1-Dichloroethane	U		14	56	µg/Kg	1	12/27/2016 13:06
1,1-Dichloroethene	U		15	56	µg/Kg	1	12/27/2016 13:06
1,2,4-Trichlorobenzene	U		42	56	µg/Kg	1	12/27/2016 13:06
1,2-Dibromo-3-chloropropane	U		23	56	µg/Kg	1	12/27/2016 13:06
1,2-Dibromoethane	U		19	56	µg/Kg	1	12/27/2016 13:06
1,2-Dichlorobenzene	U		17	56	µg/Kg	1	12/27/2016 13:06
1,2-Dichloroethane	U		15	56	µg/Kg	1	12/27/2016 13:06
1,2-Dichloropropane	U		16	56	µg/Kg	1	12/27/2016 13:06
1,3-Dichlorobenzene	U		18	56	µg/Kg	1	12/27/2016 13:06
1,4-Dichlorobenzene	U		15	56	µg/Kg	1	12/27/2016 13:06
2-Butanone	U		76	380	µg/Kg	1	12/27/2016 13:06
2-Hexanone	U		37	56	µg/Kg	1	12/27/2016 13:06
4-Methyl-2-pentanone	U		41	56	µg/Kg	1	12/27/2016 13:06
Acetone	U		100	190	µg/Kg	1	12/27/2016 13:06
Benzene	7,500		13	56	µg/Kg	1	12/27/2016 13:06
Bromodichloromethane	U		15	56	µg/Kg	1	12/27/2016 13:06
Bromoform	U		20	56	µg/Kg	1	12/27/2016 13:06
Bromomethane	U		24	140	µg/Kg	1	12/27/2016 13:06
Carbon disulfide	U		19	56	µg/Kg	1	12/27/2016 13:06
Carbon tetrachloride	U		10	56	µg/Kg	1	12/27/2016 13:06
Chlorobenzene	U		17	56	µg/Kg	1	12/27/2016 13:06
Chloroethane	U		36	190	µg/Kg	1	12/27/2016 13:06

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB1
Collection Date: 12/20/2016 08:45 AM

Work Order: 16121297
Lab ID: 16121297-01
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroform	U		19	56	µg/Kg	1	12/27/2016 13:06
Chloromethane	U		23	190	µg/Kg	1	12/27/2016 13:06
cis-1,2-Dichloroethene	U		16	56	µg/Kg	1	12/27/2016 13:06
cis-1,3-Dichloropropene	U		22	56	µg/Kg	1	12/27/2016 13:06
Cyclohexane	13,000		560	1,100	µg/Kg	20	12/28/2016 21:01
Dibromochloromethane	U		13	56	µg/Kg	1	12/27/2016 13:06
Dichlorodifluoromethane	U		25	56	µg/Kg	1	12/27/2016 13:06
Ethylbenzene	3,700		13	56	µg/Kg	1	12/27/2016 13:06
Isopropylbenzene	2,000		22	56	µg/Kg	1	12/27/2016 13:06
m,p-Xylene	2,000		25	110	µg/Kg	1	12/27/2016 13:06
Methyl acetate	U		120	380	µg/Kg	1	12/27/2016 13:06
Methyl tert-butyl ether	U		18	56	µg/Kg	1	12/27/2016 13:06
Methylcyclohexane	27,000		490	1,100	µg/Kg	20	12/28/2016 21:01
Methylene chloride	U		26	56	µg/Kg	1	12/27/2016 13:06
o-Xylene	150		18	56	µg/Kg	1	12/27/2016 13:06
Styrene	U		40	56	µg/Kg	1	12/27/2016 13:06
Tetrachloroethene	U		28	56	µg/Kg	1	12/27/2016 13:06
Toluene	420		19	56	µg/Kg	1	12/27/2016 13:06
trans-1,2-Dichloroethene	U		16	56	µg/Kg	1	12/27/2016 13:06
trans-1,3-Dichloropropene	U		10	56	µg/Kg	1	12/27/2016 13:06
Trichloroethene	U		15	56	µg/Kg	1	12/27/2016 13:06
Trichlorofluoromethane	U		11	56	µg/Kg	1	12/27/2016 13:06
Vinyl chloride	U		18	56	µg/Kg	1	12/27/2016 13:06
Xylenes, Total	2,100		44	170	µg/Kg	1	12/27/2016 13:06
Surr: 1,2-Dichloroethane-d4	91.0			70-130	%REC	1	12/27/2016 13:06
Surr: 1,2-Dichloroethane-d4	94.0			70-130	%REC	20	12/28/2016 21:01
Surr: 4-Bromofluorobenzene	119			70-130	%REC	1	12/27/2016 13:06
Surr: 4-Bromofluorobenzene	96.8			70-130	%REC	20	12/28/2016 21:01
Surr: Dibromofluoromethane	90.8			70-130	%REC	1	12/27/2016 13:06
Surr: Dibromofluoromethane	86.2			70-130	%REC	20	12/28/2016 21:01
Surr: Toluene-d8	127			70-130	%REC	1	12/27/2016 13:06
Surr: Toluene-d8	97.9			70-130	%REC	20	12/28/2016 21:01
MOISTURE			Method: SW3550C				Analyst: EDL
Moisture	30		0.025	0.050	% of sample	1	12/27/2016 12:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB2
Collection Date: 12/20/2016 10:15 AM

Work Order: 16121297
Lab ID: 16121297-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2		Prep: SW3546 / 12/28/16		Analyst: IT
DRO (C10-C20)	470		5.5	35	mg/Kg-dry	5	12/29/2016 08:31
ORO (C20-C34)	420		11	35	mg/Kg-dry	5	12/29/2016 08:31
Surr: 4-Terphenyl-d14	61.1			39-133	%REC	5	12/29/2016 08:31
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: OA-1		Prep: SW5035 / 12/27/16		Analyst: IT
GRO (C6-C10)	6,100,000		12,000	45,000	µg/Kg	10	12/28/2016 13:52
Surr: a,a,a-Trifluorotoluene	106			80-120	%REC	10	12/28/2016 13:52
MERCURY BY CVAA							
			Method: SW7471B		Prep: SW7471 / 12/28/16		Analyst: LR
Mercury	0.038		0.0032	0.019	mg/Kg-dry	1	12/28/2016 20:34
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 12/27/16		Analyst: RH
Arsenic	5.0		0.13	0.49	mg/Kg-dry	1	12/28/2016 12:56
Barium	170		0.20	0.49	mg/Kg-dry	1	12/28/2016 12:56
Cadmium	0.40	J	0.047	0.98	mg/Kg-dry	1	12/28/2016 12:56
Chromium	13		0.028	0.49	mg/Kg-dry	1	12/28/2016 12:56
Lead	140		0.10	0.49	mg/Kg-dry	1	12/28/2016 12:56
Selenium	U		0.28	0.98	mg/Kg-dry	1	12/28/2016 12:56
Silver	U		0.061	0.49	mg/Kg-dry	1	12/28/2016 12:56
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3546 / 12/28/16		Analyst: RS
1,1'-Biphenyl	U		37	230	µg/Kg-dry	5	12/30/2016 13:28
2,4,5-Trichlorophenol	U		63	230	µg/Kg-dry	5	12/30/2016 13:28
2,4,6-Trichlorophenol	U		61	230	µg/Kg-dry	5	12/30/2016 13:28
2,4-Dichlorophenol	U		49	230	µg/Kg-dry	5	12/30/2016 13:28
2,4-Dimethylphenol	U		47	230	µg/Kg-dry	5	12/30/2016 13:28
2,4-Dinitrophenol	U		120	230	µg/Kg-dry	5	12/30/2016 13:28
2,4-Dinitrotoluene	U		60	230	µg/Kg-dry	5	12/30/2016 13:28
2,6-Dinitrotoluene	U		38	230	µg/Kg-dry	5	12/30/2016 13:28
2-Chloronaphthalene	U		32	46	µg/Kg-dry	5	12/30/2016 13:28
2-Chlorophenol	U		73	230	µg/Kg-dry	5	12/30/2016 13:28
2-Methylnaphthalene	5,500		23	46	µg/Kg-dry	5	12/30/2016 13:28
2-Methylphenol	U		62	230	µg/Kg-dry	5	12/30/2016 13:28
2-Nitroaniline	U		53	230	µg/Kg-dry	5	12/30/2016 13:28
2-Nitrophenol	U		66	230	µg/Kg-dry	5	12/30/2016 13:28
3&4-Methylphenol	U		46	230	µg/Kg-dry	5	12/30/2016 13:28
3,3'-Dichlorobenzidine	U		34	1,200	µg/Kg-dry	5	12/30/2016 13:28
3-Nitroaniline	U		53	230	µg/Kg-dry	5	12/30/2016 13:28
4,6-Dinitro-2-methylphenol	U		58	230	µg/Kg-dry	5	12/30/2016 13:28
4-Bromophenyl phenyl ether	U		62	230	µg/Kg-dry	5	12/30/2016 13:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB2
Collection Date: 12/20/2016 10:15 AM

Work Order: 16121297
Lab ID: 16121297-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloro-3-methylphenol	U		66	230	µg/Kg-dry	5	12/30/2016 13:28
4-Chloroaniline	U		37	460	µg/Kg-dry	5	12/30/2016 13:28
4-Chlorophenyl phenyl ether	U		64	230	µg/Kg-dry	5	12/30/2016 13:28
4-Nitroaniline	U		360	1,200	µg/Kg-dry	5	12/30/2016 13:28
4-Nitrophenol	U		210	230	µg/Kg-dry	5	12/30/2016 13:28
Acenaphthene	U		33	46	µg/Kg-dry	5	12/30/2016 13:28
Acenaphthylene	U		40	46	µg/Kg-dry	5	12/30/2016 13:28
Acetophenone	U		36	230	µg/Kg-dry	5	12/30/2016 13:28
Anthracene	U		33	46	µg/Kg-dry	5	12/30/2016 13:28
Atrazine	U		36	230	µg/Kg-dry	5	12/30/2016 13:28
Benzaldehyde	U		350	460	µg/Kg-dry	5	12/30/2016 13:28
Benzo(a)anthracene	U		40	46	µg/Kg-dry	5	12/30/2016 13:28
Benzo(a)pyrene	U		28	46	µg/Kg-dry	5	12/30/2016 13:28
Benzo(b)fluoranthene	U		34	46	µg/Kg-dry	5	12/30/2016 13:28
Benzo(g,h,i)perylene	U		35	46	µg/Kg-dry	5	12/30/2016 13:28
Benzo(k)fluoranthene	U		35	46	µg/Kg-dry	5	12/30/2016 13:28
Bis(2-chloroethoxy)methane	U		22	230	µg/Kg-dry	5	12/30/2016 13:28
Bis(2-chloroethyl)ether	U		65	230	µg/Kg-dry	5	12/30/2016 13:28
Bis(2-chloroisopropyl)ether	U		54	230	µg/Kg-dry	5	12/30/2016 13:28
Bis(2-ethylhexyl)phthalate	U		40	230	µg/Kg-dry	5	12/30/2016 13:28
Butyl benzyl phthalate	U		39	230	µg/Kg-dry	5	12/30/2016 13:28
Caprolactam	U		79	230	µg/Kg-dry	5	12/30/2016 13:28
Carbazole	U		25	230	µg/Kg-dry	5	12/30/2016 13:28
Chrysene	U		37	46	µg/Kg-dry	5	12/30/2016 13:28
Dibenzo(a,h)anthracene	U		25	46	µg/Kg-dry	5	12/30/2016 13:28
Dibenzofuran	U		34	230	µg/Kg-dry	5	12/30/2016 13:28
Diethyl phthalate	U		35	230	µg/Kg-dry	5	12/30/2016 13:28
Dimethyl phthalate	U		45	230	µg/Kg-dry	5	12/30/2016 13:28
Di-n-butyl phthalate	U		42	230	µg/Kg-dry	5	12/30/2016 13:28
Di-n-octyl phthalate	U		44	230	µg/Kg-dry	5	12/30/2016 13:28
Fluoranthene	U		22	46	µg/Kg-dry	5	12/30/2016 13:28
Fluorene	U		34	46	µg/Kg-dry	5	12/30/2016 13:28
Hexachlorobenzene	U		67	230	µg/Kg-dry	5	12/30/2016 13:28
Hexachlorobutadiene	U		130	230	µg/Kg-dry	5	12/30/2016 13:28
Hexachlorocyclopentadiene	U		79	230	µg/Kg-dry	5	12/30/2016 13:28
Hexachloroethane	U		96	230	µg/Kg-dry	5	12/30/2016 13:28
Indeno(1,2,3-cd)pyrene	U		32	46	µg/Kg-dry	5	12/30/2016 13:28
Isophorone	U		45	1,200	µg/Kg-dry	5	12/30/2016 13:28
Naphthalene	5,900		30	46	µg/Kg-dry	5	12/30/2016 13:28
Nitrobenzene	U		78	1,200	µg/Kg-dry	5	12/30/2016 13:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB2
Collection Date: 12/20/2016 10:15 AM

Work Order: 16121297
Lab ID: 16121297-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		38	230	µg/Kg-dry	5	12/30/2016 13:28
N-Nitrosodiphenylamine	U		22	230	µg/Kg-dry	5	12/30/2016 13:28
Pentachlorophenol	U		85	230	µg/Kg-dry	5	12/30/2016 13:28
Phenanthrene	88		21	46	µg/Kg-dry	5	12/30/2016 13:28
Phenol	U		57	230	µg/Kg-dry	5	12/30/2016 13:28
Pyrene	51		8.4	46	µg/Kg-dry	5	12/30/2016 13:28
Surr: 2,4,6-Tribromophenol	33.1	S		34-140	%REC	5	12/30/2016 13:28
Surr: 2-Fluorobiphenyl	78.3			12-100	%REC	5	12/30/2016 13:28
Surr: 2-Fluorophenol	47.0			33-117	%REC	5	12/30/2016 13:28
Surr: 4-Terphenyl-d14	99.0			25-137	%REC	5	12/30/2016 13:28
Surr: Nitrobenzene-d5	76.3			37-107	%REC	5	12/30/2016 13:28
Surr: Phenol-d6	54.5			40-106	%REC	5	12/30/2016 13:28

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Prep: SW5035 / 12/27/16

Analyst: AK

1,1,1-Trichloroethane	U		16	55	µg/Kg	1	12/27/2016 13:31
1,1,2,2-Tetrachloroethane	U		13	55	µg/Kg	1	12/27/2016 13:31
1,1,2-Trichloroethane	U		16	55	µg/Kg	1	12/27/2016 13:31
1,1,2-Trichlorotrifluoroethane	U		12	55	µg/Kg	1	12/27/2016 13:31
1,1-Dichloroethane	U		14	55	µg/Kg	1	12/27/2016 13:31
1,1-Dichloroethene	U		15	55	µg/Kg	1	12/27/2016 13:31
1,2,4-Trichlorobenzene	U		40	55	µg/Kg	1	12/27/2016 13:31
1,2-Dibromo-3-chloropropane	U		22	55	µg/Kg	1	12/27/2016 13:31
1,2-Dibromoethane	U		18	55	µg/Kg	1	12/27/2016 13:31
1,2-Dichlorobenzene	U		16	55	µg/Kg	1	12/27/2016 13:31
1,2-Dichloroethane	U		15	55	µg/Kg	1	12/27/2016 13:31
1,2-Dichloropropane	U		15	55	µg/Kg	1	12/27/2016 13:31
1,3-Dichlorobenzene	U		18	55	µg/Kg	1	12/27/2016 13:31
1,4-Dichlorobenzene	U		14	55	µg/Kg	1	12/27/2016 13:31
2-Butanone	U		73	360	µg/Kg	1	12/27/2016 13:31
2-Hexanone	U		36	55	µg/Kg	1	12/27/2016 13:31
4-Methyl-2-pentanone	U		40	55	µg/Kg	1	12/27/2016 13:31
Acetone	U		99	180	µg/Kg	1	12/27/2016 13:31
Benzene	33,000		1,200	5,500	µg/Kg	100	12/28/2016 21:26
Bromodichloromethane	U		15	55	µg/Kg	1	12/27/2016 13:31
Bromoform	U		19	55	µg/Kg	1	12/27/2016 13:31
Bromomethane	U		24	140	µg/Kg	1	12/27/2016 13:31
Carbon disulfide	U		18	55	µg/Kg	1	12/27/2016 13:31
Carbon tetrachloride	U		9.7	55	µg/Kg	1	12/27/2016 13:31
Chlorobenzene	U		16	55	µg/Kg	1	12/27/2016 13:31
Chloroethane	U		35	180	µg/Kg	1	12/27/2016 13:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB2
Collection Date: 12/20/2016 10:15 AM

Work Order: 16121297
Lab ID: 16121297-02
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroform	U		18	55	µg/Kg	1	12/27/2016 13:31
Chloromethane	U		22	180	µg/Kg	1	12/27/2016 13:31
cis-1,2-Dichloroethene	U		15	55	µg/Kg	1	12/27/2016 13:31
cis-1,3-Dichloropropene	U		21	55	µg/Kg	1	12/27/2016 13:31
Cyclohexane	55,000		2,700	5,500	µg/Kg	100	12/28/2016 21:26
Dibromochloromethane	U		12	55	µg/Kg	1	12/27/2016 13:31
Dichlorodifluoromethane	U		24	55	µg/Kg	1	12/27/2016 13:31
Ethylbenzene	69,000		1,300	5,500	µg/Kg	100	12/28/2016 21:26
Isopropylbenzene	7,800		21	55	µg/Kg	1	12/27/2016 13:31
m,p-Xylene	120,000		2,400	11,000	µg/Kg	100	12/28/2016 21:26
Methyl acetate	U		110	360	µg/Kg	1	12/27/2016 13:31
Methyl tert-butyl ether	U		18	55	µg/Kg	1	12/27/2016 13:31
Methylcyclohexane	78,000		2,400	5,500	µg/Kg	100	12/28/2016 21:26
Methylene chloride	U		25	55	µg/Kg	1	12/27/2016 13:31
o-Xylene	6,600		18	55	µg/Kg	1	12/27/2016 13:31
Styrene	100		38	55	µg/Kg	1	12/27/2016 13:31
Tetrachloroethene	U		27	55	µg/Kg	1	12/27/2016 13:31
Toluene	5,300		18	55	µg/Kg	1	12/27/2016 13:31
trans-1,2-Dichloroethene	U		15	55	µg/Kg	1	12/27/2016 13:31
trans-1,3-Dichloropropene	U		9.7	55	µg/Kg	1	12/27/2016 13:31
Trichloroethene	U		15	55	µg/Kg	1	12/27/2016 13:31
Trichlorofluoromethane	U		10	55	µg/Kg	1	12/27/2016 13:31
Vinyl chloride	U		17	55	µg/Kg	1	12/27/2016 13:31
Xylenes, Total	130,000		4,200	16,000	µg/Kg	100	12/28/2016 21:26
Surr: 1,2-Dichloroethane-d4	92.6			70-130	%REC	1	12/27/2016 13:31
Surr: 1,2-Dichloroethane-d4	93.8			70-130	%REC	100	12/28/2016 21:26
Surr: 4-Bromofluorobenzene	151	S		70-130	%REC	1	12/27/2016 13:31
Surr: 4-Bromofluorobenzene	97.4			70-130	%REC	100	12/28/2016 21:26
Surr: Dibromofluoromethane	93.2			70-130	%REC	1	12/27/2016 13:31
Surr: Dibromofluoromethane	87.8			70-130	%REC	100	12/28/2016 21:26
Surr: Toluene-d8	151	S		70-130	%REC	1	12/27/2016 13:31
Surr: Toluene-d8	97.4			70-130	%REC	100	12/28/2016 21:26
MOISTURE			Method: SW3550C				Analyst: EDL
Moisture	29		0.025	0.050	% of sample	1	12/27/2016 12:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB3
Collection Date: 12/20/2016 10:40 AM

Work Order: 16121297
Lab ID: 16121297-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2		Prep: SW3546 / 12/28/16		Analyst: IT
DRO (C10-C20)	42		4.9	31	mg/Kg-dry	5	12/29/2016 09:01
ORO (C20-C34)	270		10	31	mg/Kg-dry	5	12/29/2016 09:01
Surr: 4-Terphenyl-d14	59.1			39-133	%REC	5	12/29/2016 09:01
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: OA-1		Prep: SW5035 / 12/27/16		Analyst: IT
GRO (C6-C10)	6,300,000		5,100	20,000	µg/Kg	5	12/28/2016 12:34
Surr: a,a,a-Trifluorotoluene	111			80-120	%REC	5	12/28/2016 12:34
MERCURY BY CVAA							
			Method: SW7471B		Prep: SW7471 / 12/28/16		Analyst: LR
Mercury	0.038		0.0028	0.017	mg/Kg-dry	1	12/28/2016 20:37
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 12/27/16		Analyst: RH
Arsenic	7.4		0.12	0.45	mg/Kg-dry	1	12/28/2016 13:02
Barium	170		0.18	0.45	mg/Kg-dry	1	12/28/2016 13:02
Cadmium	0.39	J	0.043	0.89	mg/Kg-dry	1	12/28/2016 13:02
Chromium	12		0.025	0.45	mg/Kg-dry	1	12/28/2016 13:02
Lead	28		0.095	0.45	mg/Kg-dry	1	12/28/2016 13:02
Selenium	U		0.25	0.89	mg/Kg-dry	1	12/28/2016 13:02
Silver	U		0.055	0.45	mg/Kg-dry	1	12/28/2016 13:02
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3546 / 12/28/16		Analyst: RS
1,1'-Biphenyl	U		33	200	µg/Kg-dry	5	12/30/2016 13:47
2,4,5-Trichlorophenol	U		56	200	µg/Kg-dry	5	12/30/2016 13:47
2,4,6-Trichlorophenol	U		55	200	µg/Kg-dry	5	12/30/2016 13:47
2,4-Dichlorophenol	U		43	200	µg/Kg-dry	5	12/30/2016 13:47
2,4-Dimethylphenol	U		42	200	µg/Kg-dry	5	12/30/2016 13:47
2,4-Dinitrophenol	U		110	200	µg/Kg-dry	5	12/30/2016 13:47
2,4-Dinitrotoluene	U		54	200	µg/Kg-dry	5	12/30/2016 13:47
2,6-Dinitrotoluene	U		34	200	µg/Kg-dry	5	12/30/2016 13:47
2-Chloronaphthalene	U		29	41	µg/Kg-dry	5	12/30/2016 13:47
2-Chlorophenol	U		65	200	µg/Kg-dry	5	12/30/2016 13:47
2-Methylnaphthalene	310		21	41	µg/Kg-dry	5	12/30/2016 13:47
2-Methylphenol	U		56	200	µg/Kg-dry	5	12/30/2016 13:47
2-Nitroaniline	U		47	200	µg/Kg-dry	5	12/30/2016 13:47
2-Nitrophenol	U		59	200	µg/Kg-dry	5	12/30/2016 13:47
3&4-Methylphenol	U		41	200	µg/Kg-dry	5	12/30/2016 13:47
3,3'-Dichlorobenzidine	U		31	1,000	µg/Kg-dry	5	12/30/2016 13:47
3-Nitroaniline	U		47	200	µg/Kg-dry	5	12/30/2016 13:47
4,6-Dinitro-2-methylphenol	U		52	200	µg/Kg-dry	5	12/30/2016 13:47
4-Bromophenyl phenyl ether	U		55	200	µg/Kg-dry	5	12/30/2016 13:47

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB3
Collection Date: 12/20/2016 10:40 AM

Work Order: 16121297
Lab ID: 16121297-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloro-3-methylphenol	U		59	200	µg/Kg-dry	5	12/30/2016 13:47
4-Chloroaniline	U		33	410	µg/Kg-dry	5	12/30/2016 13:47
4-Chlorophenyl phenyl ether	U		57	200	µg/Kg-dry	5	12/30/2016 13:47
4-Nitroaniline	U		320	1,000	µg/Kg-dry	5	12/30/2016 13:47
4-Nitrophenol	U		180	200	µg/Kg-dry	5	12/30/2016 13:47
Acenaphthene	U		30	41	µg/Kg-dry	5	12/30/2016 13:47
Acenaphthylene	U		36	41	µg/Kg-dry	5	12/30/2016 13:47
Acetophenone	U		32	200	µg/Kg-dry	5	12/30/2016 13:47
Anthracene	U		29	41	µg/Kg-dry	5	12/30/2016 13:47
Atrazine	U		32	200	µg/Kg-dry	5	12/30/2016 13:47
Benzaldehyde	U		320	410	µg/Kg-dry	5	12/30/2016 13:47
Benzo(a)anthracene	U		36	41	µg/Kg-dry	5	12/30/2016 13:47
Benzo(a)pyrene	U		25	41	µg/Kg-dry	5	12/30/2016 13:47
Benzo(b)fluoranthene	U		31	41	µg/Kg-dry	5	12/30/2016 13:47
Benzo(g,h,i)perylene	U		32	41	µg/Kg-dry	5	12/30/2016 13:47
Benzo(k)fluoranthene	U		31	41	µg/Kg-dry	5	12/30/2016 13:47
Bis(2-chloroethoxy)methane	U		20	200	µg/Kg-dry	5	12/30/2016 13:47
Bis(2-chloroethyl)ether	U		58	200	µg/Kg-dry	5	12/30/2016 13:47
Bis(2-chloroisopropyl)ether	U		48	200	µg/Kg-dry	5	12/30/2016 13:47
Bis(2-ethylhexyl)phthalate	U		36	200	µg/Kg-dry	5	12/30/2016 13:47
Butyl benzyl phthalate	U		35	200	µg/Kg-dry	5	12/30/2016 13:47
Caprolactam	U		71	200	µg/Kg-dry	5	12/30/2016 13:47
Carbazole	U		22	200	µg/Kg-dry	5	12/30/2016 13:47
Chrysene	U		33	41	µg/Kg-dry	5	12/30/2016 13:47
Dibenzo(a,h)anthracene	U		22	41	µg/Kg-dry	5	12/30/2016 13:47
Dibenzofuran	U		30	200	µg/Kg-dry	5	12/30/2016 13:47
Diethyl phthalate	U		32	200	µg/Kg-dry	5	12/30/2016 13:47
Dimethyl phthalate	U		40	200	µg/Kg-dry	5	12/30/2016 13:47
Di-n-butyl phthalate	U		38	200	µg/Kg-dry	5	12/30/2016 13:47
Di-n-octyl phthalate	U		40	200	µg/Kg-dry	5	12/30/2016 13:47
Fluoranthene	87		20	41	µg/Kg-dry	5	12/30/2016 13:47
Fluorene	U		30	41	µg/Kg-dry	5	12/30/2016 13:47
Hexachlorobenzene	U		60	200	µg/Kg-dry	5	12/30/2016 13:47
Hexachlorobutadiene	U		110	200	µg/Kg-dry	5	12/30/2016 13:47
Hexachlorocyclopentadiene	U		71	200	µg/Kg-dry	5	12/30/2016 13:47
Hexachloroethane	U		85	200	µg/Kg-dry	5	12/30/2016 13:47
Indeno(1,2,3-cd)pyrene	U		29	41	µg/Kg-dry	5	12/30/2016 13:47
Isophorone	U		40	1,000	µg/Kg-dry	5	12/30/2016 13:47
Naphthalene	540		26	41	µg/Kg-dry	5	12/30/2016 13:47
Nitrobenzene	U		69	1,000	µg/Kg-dry	5	12/30/2016 13:47

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB3
Collection Date: 12/20/2016 10:40 AM

Work Order: 16121297
Lab ID: 16121297-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		34	200	µg/Kg-dry	5	12/30/2016 13:47
N-Nitrosodiphenylamine	U		20	200	µg/Kg-dry	5	12/30/2016 13:47
Pentachlorophenol	U		76	200	µg/Kg-dry	5	12/30/2016 13:47
Phenanthrene	74		19	41	µg/Kg-dry	5	12/30/2016 13:47
Phenol	U		51	200	µg/Kg-dry	5	12/30/2016 13:47
Pyrene	100		7.5	41	µg/Kg-dry	5	12/30/2016 13:47
Surr: 2,4,6-Tribromophenol	64.1			34-140	%REC	5	12/30/2016 13:47
Surr: 2-Fluorobiphenyl	66.2			12-100	%REC	5	12/30/2016 13:47
Surr: 2-Fluorophenol	60.6			33-117	%REC	5	12/30/2016 13:47
Surr: 4-Terphenyl-d14	93.0			25-137	%REC	5	12/30/2016 13:47
Surr: Nitrobenzene-d5	64.7			37-107	%REC	5	12/30/2016 13:47
Surr: Phenol-d6	49.1			40-106	%REC	5	12/30/2016 13:47

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Prep: SW5035 / 12/27/16

Analyst: AK

1,1,1-Trichloroethane	U		16	55	µg/Kg	1	12/27/2016 13:55
1,1,2,2-Tetrachloroethane	U		13	55	µg/Kg	1	12/27/2016 13:55
1,1,2-Trichloroethane	U		16	55	µg/Kg	1	12/27/2016 13:55
1,1,2-Trichlorotrifluoroethane	U		12	55	µg/Kg	1	12/27/2016 13:55
1,1-Dichloroethane	U		14	55	µg/Kg	1	12/27/2016 13:55
1,1-Dichloroethene	U		15	55	µg/Kg	1	12/27/2016 13:55
1,2,4-Trichlorobenzene	U		41	55	µg/Kg	1	12/27/2016 13:55
1,2-Dibromo-3-chloropropane	U		22	55	µg/Kg	1	12/27/2016 13:55
1,2-Dibromoethane	U		18	55	µg/Kg	1	12/27/2016 13:55
1,2-Dichlorobenzene	U		16	55	µg/Kg	1	12/27/2016 13:55
1,2-Dichloroethane	U		15	55	µg/Kg	1	12/27/2016 13:55
1,2-Dichloropropane	U		15	55	µg/Kg	1	12/27/2016 13:55
1,3-Dichlorobenzene	U		18	55	µg/Kg	1	12/27/2016 13:55
1,4-Dichlorobenzene	U		14	55	µg/Kg	1	12/27/2016 13:55
2-Butanone	U		74	370	µg/Kg	1	12/27/2016 13:55
2-Hexanone	U		37	55	µg/Kg	1	12/27/2016 13:55
4-Methyl-2-pentanone	U		40	55	µg/Kg	1	12/27/2016 13:55
Acetone	U		100	180	µg/Kg	1	12/27/2016 13:55
Benzene	9,100		620	2,800	µg/Kg	50	12/28/2016 21:50
Bromodichloromethane	U		15	55	µg/Kg	1	12/27/2016 13:55
Bromoform	U		19	55	µg/Kg	1	12/27/2016 13:55
Bromomethane	U		24	140	µg/Kg	1	12/27/2016 13:55
Carbon disulfide	U		19	55	µg/Kg	1	12/27/2016 13:55
Carbon tetrachloride	U		9.8	55	µg/Kg	1	12/27/2016 13:55
Chlorobenzene	U		17	55	µg/Kg	1	12/27/2016 13:55
Chloroethane	U		35	180	µg/Kg	1	12/27/2016 13:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB3
Collection Date: 12/20/2016 10:40 AM

Work Order: 16121297
Lab ID: 16121297-03
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroform	U		19	55	µg/Kg	1	12/27/2016 13:55
Chloromethane	U		22	180	µg/Kg	1	12/27/2016 13:55
cis-1,2-Dichloroethene	U		16	55	µg/Kg	1	12/27/2016 13:55
cis-1,3-Dichloropropene	U		21	55	µg/Kg	1	12/27/2016 13:55
Cyclohexane	44,000		1,400	2,800	µg/Kg	50	12/28/2016 21:50
Dibromochloromethane	U		13	55	µg/Kg	1	12/27/2016 13:55
Dichlorodifluoromethane	U		24	55	µg/Kg	1	12/27/2016 13:55
Ethylbenzene	40,000		640	2,800	µg/Kg	50	12/28/2016 21:50
Isopropylbenzene	6,700		22	55	µg/Kg	1	12/27/2016 13:55
m,p-Xylene	13,000		25	110	µg/Kg	1	12/27/2016 13:55
Methyl acetate	U		110	370	µg/Kg	1	12/27/2016 13:55
Methyl tert-butyl ether	U		18	55	µg/Kg	1	12/27/2016 13:55
Methylcyclohexane	92,000		1,200	2,800	µg/Kg	50	12/28/2016 21:50
Methylene chloride	U		25	55	µg/Kg	1	12/27/2016 13:55
o-Xylene	280		18	55	µg/Kg	1	12/27/2016 13:55
Styrene	U		39	55	µg/Kg	1	12/27/2016 13:55
Tetrachloroethene	U		27	55	µg/Kg	1	12/27/2016 13:55
Toluene	1,400		18	55	µg/Kg	1	12/27/2016 13:55
trans-1,2-Dichloroethene	U		16	55	µg/Kg	1	12/27/2016 13:55
trans-1,3-Dichloropropene	U		9.8	55	µg/Kg	1	12/27/2016 13:55
Trichloroethene	U		15	55	µg/Kg	1	12/27/2016 13:55
Trichlorofluoromethane	U		11	55	µg/Kg	1	12/27/2016 13:55
Vinyl chloride	U		17	55	µg/Kg	1	12/27/2016 13:55
Xylenes, Total	13,000		43	170	µg/Kg	1	12/27/2016 13:55
Surr: 1,2-Dichloroethane-d4	93.8			70-130	%REC	1	12/27/2016 13:55
Surr: 1,2-Dichloroethane-d4	94.8			70-130	%REC	50	12/28/2016 21:50
Surr: 4-Bromofluorobenzene	174	S		70-130	%REC	1	12/27/2016 13:55
Surr: 4-Bromofluorobenzene	98.0			70-130	%REC	50	12/28/2016 21:50
Surr: Dibromofluoromethane	92.1			70-130	%REC	1	12/27/2016 13:55
Surr: Dibromofluoromethane	86.7			70-130	%REC	50	12/28/2016 21:50
Surr: Toluene-d8	186	S		70-130	%REC	1	12/27/2016 13:55
Surr: Toluene-d8	98.5			70-130	%REC	50	12/28/2016 21:50
MOISTURE			Method: SW3550C				Analyst: EDL
Moisture	22		0.025	0.050	% of sample	1	12/27/2016 12:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB4
Collection Date: 12/20/2016 12:40 PM

Work Order: 16121297
Lab ID: 16121297-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2		Prep: SW3546 / 12/28/16		Analyst: IT
DRO (C10-C20)	480		1.0	6.6	mg/Kg-dry	1	12/29/2016 09:30
ORO (C20-C34)	55		2.2	6.6	mg/Kg-dry	1	12/29/2016 09:30
Surr: 4-Terphenyl-d14	54.2			39-133	%REC	1	12/29/2016 09:30
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: OA-1		Prep: SW5035 / 12/27/16		Analyst: IT
GRO (C6-C10)	880,000		1,100	4,300	µg/Kg	1	12/28/2016 12:59
Surr: a,a,a-Trifluorotoluene	102			80-120	%REC	1	12/28/2016 12:59
MERCURY BY CVAA							
			Method: SW7471B		Prep: SW7471 / 12/28/16		Analyst: LR
Mercury	0.038		0.0029	0.017	mg/Kg-dry	1	12/28/2016 20:39
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 12/27/16		Analyst: RH
Arsenic	10		0.12	0.46	mg/Kg-dry	1	12/28/2016 13:07
Barium	240		0.19	0.46	mg/Kg-dry	1	12/28/2016 13:07
Cadmium	0.16	J	0.044	0.93	mg/Kg-dry	1	12/28/2016 13:07
Chromium	13		0.026	0.46	mg/Kg-dry	1	12/28/2016 13:07
Lead	36		0.098	0.46	mg/Kg-dry	1	12/28/2016 13:07
Selenium	0.33	J	0.26	0.93	mg/Kg-dry	1	12/28/2016 13:07
Silver	U		0.057	0.46	mg/Kg-dry	1	12/28/2016 13:07
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3546 / 12/28/16		Analyst: JF
1,1'-Biphenyl	U		7.2	44	µg/Kg-dry	1	12/29/2016 04:09
2,4,5-Trichlorophenol	U		12	44	µg/Kg-dry	1	12/29/2016 04:09
2,4,6-Trichlorophenol	U		12	44	µg/Kg-dry	1	12/29/2016 04:09
2,4-Dichlorophenol	U		9.3	44	µg/Kg-dry	1	12/29/2016 04:09
2,4-Dimethylphenol	U		9.0	44	µg/Kg-dry	1	12/29/2016 04:09
2,4-Dinitrophenol	U		24	44	µg/Kg-dry	1	12/29/2016 04:09
2,4-Dinitrotoluene	U		11	44	µg/Kg-dry	1	12/29/2016 04:09
2,6-Dinitrotoluene	U		7.3	44	µg/Kg-dry	1	12/29/2016 04:09
2-Chloronaphthalene	U		6.2	8.8	µg/Kg-dry	1	12/29/2016 04:09
2-Chlorophenol	U		14	44	µg/Kg-dry	1	12/29/2016 04:09
2-Methylnaphthalene	2,800		4.5	8.8	µg/Kg-dry	1	12/29/2016 04:09
2-Methylphenol	U		12	44	µg/Kg-dry	1	12/29/2016 04:09
2-Nitroaniline	U		10	44	µg/Kg-dry	1	12/29/2016 04:09
2-Nitrophenol	U		13	44	µg/Kg-dry	1	12/29/2016 04:09
3&4-Methylphenol	U		8.9	44	µg/Kg-dry	1	12/29/2016 04:09
3,3'-Dichlorobenzidine	U		6.6	220	µg/Kg-dry	1	12/29/2016 04:09
3-Nitroaniline	U		10	44	µg/Kg-dry	1	12/29/2016 04:09
4,6-Dinitro-2-methylphenol	U		11	44	µg/Kg-dry	1	12/29/2016 04:09
4-Bromophenyl phenyl ether	U		12	44	µg/Kg-dry	1	12/29/2016 04:09

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB4
Collection Date: 12/20/2016 12:40 PM

Work Order: 16121297
Lab ID: 16121297-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloro-3-methylphenol	U		13	44	µg/Kg-dry	1	12/29/2016 04:09
4-Chloroaniline	U		7.0	89	µg/Kg-dry	1	12/29/2016 04:09
4-Chlorophenyl phenyl ether	U		12	44	µg/Kg-dry	1	12/29/2016 04:09
4-Nitroaniline	U		68	220	µg/Kg-dry	1	12/29/2016 04:09
4-Nitrophenol	U		39	44	µg/Kg-dry	1	12/29/2016 04:09
Acenaphthene	U		6.4	8.8	µg/Kg-dry	1	12/29/2016 04:09
Acenaphthylene	U		7.7	8.8	µg/Kg-dry	1	12/29/2016 04:09
Acetophenone	U		6.9	44	µg/Kg-dry	1	12/29/2016 04:09
Anthracene	U		6.2	8.8	µg/Kg-dry	1	12/29/2016 04:09
Atrazine	U		7.0	44	µg/Kg-dry	1	12/29/2016 04:09
Benzaldehyde	U		68	89	µg/Kg-dry	1	12/29/2016 04:09
Benzo(a)anthracene	U		7.6	8.8	µg/Kg-dry	1	12/29/2016 04:09
Benzo(a)pyrene	U		5.4	8.8	µg/Kg-dry	1	12/29/2016 04:09
Benzo(b)fluoranthene	U		6.6	8.8	µg/Kg-dry	1	12/29/2016 04:09
Benzo(g,h,i)perylene	U		6.8	8.8	µg/Kg-dry	1	12/29/2016 04:09
Benzo(k)fluoranthene	U		6.7	8.8	µg/Kg-dry	1	12/29/2016 04:09
Bis(2-chloroethoxy)methane	U		4.2	44	µg/Kg-dry	1	12/29/2016 04:09
Bis(2-chloroethyl)ether	U		13	44	µg/Kg-dry	1	12/29/2016 04:09
Bis(2-chloroisopropyl)ether	U		10	44	µg/Kg-dry	1	12/29/2016 04:09
Bis(2-ethylhexyl)phthalate	U		7.7	44	µg/Kg-dry	1	12/29/2016 04:09
Butyl benzyl phthalate	U		7.5	44	µg/Kg-dry	1	12/29/2016 04:09
Caprolactam	U		15	44	µg/Kg-dry	1	12/29/2016 04:09
Carbazole	U		4.8	44	µg/Kg-dry	1	12/29/2016 04:09
Chrysene	U		7.1	8.8	µg/Kg-dry	1	12/29/2016 04:09
Dibenzo(a,h)anthracene	U		4.8	8.8	µg/Kg-dry	1	12/29/2016 04:09
Dibenzofuran	U		6.5	44	µg/Kg-dry	1	12/29/2016 04:09
Diethyl phthalate	U		6.8	44	µg/Kg-dry	1	12/29/2016 04:09
Dimethyl phthalate	U		8.6	44	µg/Kg-dry	1	12/29/2016 04:09
Di-n-butyl phthalate	U		8.1	44	µg/Kg-dry	1	12/29/2016 04:09
Di-n-octyl phthalate	U		8.5	44	µg/Kg-dry	1	12/29/2016 04:09
Fluoranthene	U		4.2	8.8	µg/Kg-dry	1	12/29/2016 04:09
Fluorene	U		6.4	8.8	µg/Kg-dry	1	12/29/2016 04:09
Hexachlorobenzene	U		13	44	µg/Kg-dry	1	12/29/2016 04:09
Hexachlorobutadiene	U		24	44	µg/Kg-dry	1	12/29/2016 04:09
Hexachlorocyclopentadiene	U		15	44	µg/Kg-dry	1	12/29/2016 04:09
Hexachloroethane	U		18	44	µg/Kg-dry	1	12/29/2016 04:09
Indeno(1,2,3-cd)pyrene	U		6.1	8.8	µg/Kg-dry	1	12/29/2016 04:09
Isophorone	U		8.6	220	µg/Kg-dry	1	12/29/2016 04:09
Naphthalene	2,200		5.6	8.8	µg/Kg-dry	1	12/29/2016 04:09
Nitrobenzene	U		15	220	µg/Kg-dry	1	12/29/2016 04:09

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB4
Collection Date: 12/20/2016 12:40 PM

Work Order: 16121297
Lab ID: 16121297-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		7.3	44	µg/Kg-dry	1	12/29/2016 04:09
N-Nitrosodiphenylamine	U		4.2	44	µg/Kg-dry	1	12/29/2016 04:09
Pentachlorophenol	U		16	44	µg/Kg-dry	1	12/29/2016 04:09
Phenanthrene	U		4.1	8.8	µg/Kg-dry	1	12/29/2016 04:09
Phenol	U		11	44	µg/Kg-dry	1	12/29/2016 04:09
Pyrene	8.8	J	1.6	8.8	µg/Kg-dry	1	12/29/2016 04:09
Surr: 2,4,6-Tribromophenol	65.6			34-140	%REC	1	12/29/2016 04:09
Surr: 2-Fluorobiphenyl	53.7			12-100	%REC	1	12/29/2016 04:09
Surr: 2-Fluorophenol	50.6			33-117	%REC	1	12/29/2016 04:09
Surr: 4-Terphenyl-d14	67.0			25-137	%REC	1	12/29/2016 04:09
Surr: Nitrobenzene-d5	55.5			37-107	%REC	1	12/29/2016 04:09
Surr: Phenol-d6	47.2			40-106	%REC	1	12/29/2016 04:09

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Prep: SW5035 / 12/27/16

Analyst: BG

1,1,1-Trichloroethane	U		15	52	µg/Kg	1	12/27/2016 20:39
1,1,2,2-Tetrachloroethane	U		13	52	µg/Kg	1	12/27/2016 20:39
1,1,2-Trichloroethane	U		16	52	µg/Kg	1	12/27/2016 20:39
1,1,2-Trichlorotrifluoroethane	U		12	52	µg/Kg	1	12/27/2016 20:39
1,1-Dichloroethane	U		13	52	µg/Kg	1	12/27/2016 20:39
1,1-Dichloroethene	U		14	52	µg/Kg	1	12/27/2016 20:39
1,2,4-Trichlorobenzene	U		38	52	µg/Kg	1	12/27/2016 20:39
1,2-Dibromo-3-chloropropane	U		21	52	µg/Kg	1	12/27/2016 20:39
1,2-Dibromoethane	U		17	52	µg/Kg	1	12/27/2016 20:39
1,2-Dichlorobenzene	U		16	52	µg/Kg	1	12/27/2016 20:39
1,2-Dichloroethane	U		14	52	µg/Kg	1	12/27/2016 20:39
1,2-Dichloropropane	U		14	52	µg/Kg	1	12/27/2016 20:39
1,3-Dichlorobenzene	U		17	52	µg/Kg	1	12/27/2016 20:39
1,4-Dichlorobenzene	U		14	52	µg/Kg	1	12/27/2016 20:39
2-Butanone	U		70	350	µg/Kg	1	12/27/2016 20:39
2-Hexanone	U		35	52	µg/Kg	1	12/27/2016 20:39
2-Nitropropane	U		1.0	17	µg/Kg	1	12/27/2016 20:39
4-Methyl-2-pentanone	U		38	52	µg/Kg	1	12/27/2016 20:39
Acetone	U		95	170	µg/Kg	1	12/27/2016 20:39
Benzene	320		12	52	µg/Kg	1	12/27/2016 20:39
Bromodichloromethane	U		14	52	µg/Kg	1	12/27/2016 20:39
Bromoform	U		18	52	µg/Kg	1	12/27/2016 20:39
Bromomethane	U		23	130	µg/Kg	1	12/27/2016 20:39
Carbon disulfide	U		18	52	µg/Kg	1	12/27/2016 20:39
Carbon tetrachloride	U		9.3	52	µg/Kg	1	12/27/2016 20:39
Chlorobenzene	U		16	52	µg/Kg	1	12/27/2016 20:39

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB4
Collection Date: 12/20/2016 12:40 PM

Work Order: 16121297
Lab ID: 16121297-04
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroethane	U		33	170	µg/Kg	1	12/27/2016 20:39
Chloroform	U		18	52	µg/Kg	1	12/27/2016 20:39
Chloromethane	U		21	170	µg/Kg	1	12/27/2016 20:39
cis-1,2-Dichloroethene	U		15	52	µg/Kg	1	12/27/2016 20:39
cis-1,3-Dichloropropene	U		20	52	µg/Kg	1	12/27/2016 20:39
Cyclohexane	7,700		26	52	µg/Kg	1	12/27/2016 20:39
Dibromochloromethane	U		12	52	µg/Kg	1	12/27/2016 20:39
Dichlorodifluoromethane	U		23	52	µg/Kg	1	12/27/2016 20:39
Ethylbenzene	600		12	52	µg/Kg	1	12/27/2016 20:39
Isopropylbenzene	760		20	52	µg/Kg	1	12/27/2016 20:39
m,p-Xylene	670		23	100	µg/Kg	1	12/27/2016 20:39
Methyl acetate	U		110	350	µg/Kg	1	12/27/2016 20:39
Methyl tert-butyl ether	U		17	52	µg/Kg	1	12/27/2016 20:39
Methylcyclohexane	12,000		110	260	µg/Kg	5	12/28/2016 22:15
Methylene chloride	U		24	52	µg/Kg	1	12/27/2016 20:39
o-Xylene	47	J	17	52	µg/Kg	1	12/27/2016 20:39
Styrene	U		37	52	µg/Kg	1	12/27/2016 20:39
Tetrachloroethene	U		26	52	µg/Kg	1	12/27/2016 20:39
Toluene	91		17	52	µg/Kg	1	12/27/2016 20:39
trans-1,2-Dichloroethene	U		15	52	µg/Kg	1	12/27/2016 20:39
trans-1,3-Dichloropropene	U		9.3	52	µg/Kg	1	12/27/2016 20:39
Trichloroethene	U		14	52	µg/Kg	1	12/27/2016 20:39
Trichlorofluoromethane	U		10	52	µg/Kg	1	12/27/2016 20:39
Vinyl chloride	U		17	52	µg/Kg	1	12/27/2016 20:39
Xylenes, Total	720		40	160	µg/Kg	1	12/27/2016 20:39
Surr: 1,2-Dichloroethane-d4	93.7			70-130	%REC	1	12/27/2016 20:39
Surr: 1,2-Dichloroethane-d4	94.2			70-130	%REC	5	12/28/2016 22:15
Surr: 4-Bromofluorobenzene	118			70-130	%REC	1	12/27/2016 20:39
Surr: 4-Bromofluorobenzene	101			70-130	%REC	5	12/28/2016 22:15
Surr: Dibromofluoromethane	94.6			70-130	%REC	1	12/27/2016 20:39
Surr: Dibromofluoromethane	87.5			70-130	%REC	5	12/28/2016 22:15
Surr: Toluene-d8	117			70-130	%REC	1	12/27/2016 20:39
Surr: Toluene-d8	99.0			70-130	%REC	5	12/28/2016 22:15
MOISTURE			Method: SW3550C				Analyst: EDL
Moisture	27		0.025	0.050	% of sample	1	12/27/2016 12:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB5
Collection Date: 12/20/2016 01:30 PM

Work Order: 16121297
Lab ID: 16121297-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2		Prep: SW3546 / 12/28/16		Analyst: IT
DRO (C10-C20)	2.7	J	1.0	6.4	mg/Kg-dry	1	12/29/2016 10:17
ORO (C20-C34)	23		2.1	6.4	mg/Kg-dry	1	12/29/2016 10:17
Surr: 4-Terphenyl-d14	49.8			39-133	%REC	1	12/29/2016 10:17
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: OA-1		Prep: SW5035 / 12/27/16		Analyst: IT
GRO (C6-C10)	U		1,000	4,000	µg/Kg	1	12/28/2016 15:31
Surr: a,a,a-Trifluorotoluene	112			80-120	%REC	1	12/28/2016 15:31
MERCURY BY CVAA							
			Method: SW7471B		Prep: SW7471 / 12/28/16		Analyst: LR
Mercury	0.036		0.0029	0.018	mg/Kg-dry	1	12/28/2016 20:47
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 12/27/16		Analyst: RH
Arsenic	7.0		0.12	0.45	mg/Kg-dry	1	12/28/2016 13:12
Barium	270		0.18	0.45	mg/Kg-dry	1	12/28/2016 13:12
Cadmium	0.12	J	0.044	0.91	mg/Kg-dry	1	12/28/2016 13:12
Chromium	14		0.025	0.45	mg/Kg-dry	1	12/28/2016 13:12
Lead	14		0.096	0.45	mg/Kg-dry	1	12/28/2016 13:12
Selenium	U		0.25	0.91	mg/Kg-dry	1	12/28/2016 13:12
Silver	U		0.056	0.45	mg/Kg-dry	1	12/28/2016 13:12
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3546 / 12/28/16		Analyst: JF
1,1'-Biphenyl	U		6.9	42	µg/Kg-dry	1	12/29/2016 04:32
2,4,5-Trichlorophenol	U		12	42	µg/Kg-dry	1	12/29/2016 04:32
2,4,6-Trichlorophenol	U		11	42	µg/Kg-dry	1	12/29/2016 04:32
2,4-Dichlorophenol	U		8.9	42	µg/Kg-dry	1	12/29/2016 04:32
2,4-Dimethylphenol	U		8.7	42	µg/Kg-dry	1	12/29/2016 04:32
2,4-Dinitrophenol	U		23	42	µg/Kg-dry	1	12/29/2016 04:32
2,4-Dinitrotoluene	U		11	42	µg/Kg-dry	1	12/29/2016 04:32
2,6-Dinitrotoluene	U		7.0	42	µg/Kg-dry	1	12/29/2016 04:32
2-Chloronaphthalene	U		5.9	8.5	µg/Kg-dry	1	12/29/2016 04:32
2-Chlorophenol	U		13	42	µg/Kg-dry	1	12/29/2016 04:32
2-Methylnaphthalene	U		4.3	8.5	µg/Kg-dry	1	12/29/2016 04:32
2-Methylphenol	U		11	42	µg/Kg-dry	1	12/29/2016 04:32
2-Nitroaniline	U		9.7	42	µg/Kg-dry	1	12/29/2016 04:32
2-Nitrophenol	U		12	42	µg/Kg-dry	1	12/29/2016 04:32
3&4-Methylphenol	U		8.5	42	µg/Kg-dry	1	12/29/2016 04:32
3,3'-Dichlorobenzidine	U		6.3	210	µg/Kg-dry	1	12/29/2016 04:32
3-Nitroaniline	U		9.7	42	µg/Kg-dry	1	12/29/2016 04:32
4,6-Dinitro-2-methylphenol	U		11	42	µg/Kg-dry	1	12/29/2016 04:32
4-Bromophenyl phenyl ether	U		11	42	µg/Kg-dry	1	12/29/2016 04:32

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB5
Collection Date: 12/20/2016 01:30 PM

Work Order: 16121297
Lab ID: 16121297-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloro-3-methylphenol	U		12	42	µg/Kg-dry	1	12/29/2016 04:32
4-Chloroaniline	U		6.7	85	µg/Kg-dry	1	12/29/2016 04:32
4-Chlorophenyl phenyl ether	U		12	42	µg/Kg-dry	1	12/29/2016 04:32
4-Nitroaniline	U		66	210	µg/Kg-dry	1	12/29/2016 04:32
4-Nitrophenol	U		38	42	µg/Kg-dry	1	12/29/2016 04:32
Acenaphthene	U		6.1	8.5	µg/Kg-dry	1	12/29/2016 04:32
Acenaphthylene	U		7.4	8.5	µg/Kg-dry	1	12/29/2016 04:32
Acetophenone	U		6.7	42	µg/Kg-dry	1	12/29/2016 04:32
Anthracene	U		6.0	8.5	µg/Kg-dry	1	12/29/2016 04:32
Atrazine	U		6.7	42	µg/Kg-dry	1	12/29/2016 04:32
Benzaldehyde	U		65	85	µg/Kg-dry	1	12/29/2016 04:32
Benzo(a)anthracene	U		7.3	8.5	µg/Kg-dry	1	12/29/2016 04:32
Benzo(a)pyrene	U		5.2	8.5	µg/Kg-dry	1	12/29/2016 04:32
Benzo(b)fluoranthene	U		6.3	8.5	µg/Kg-dry	1	12/29/2016 04:32
Benzo(g,h,i)perylene	U		6.5	8.5	µg/Kg-dry	1	12/29/2016 04:32
Benzo(k)fluoranthene	U		6.4	8.5	µg/Kg-dry	1	12/29/2016 04:32
Bis(2-chloroethoxy)methane	U		4.1	42	µg/Kg-dry	1	12/29/2016 04:32
Bis(2-chloroethyl)ether	U		12	42	µg/Kg-dry	1	12/29/2016 04:32
Bis(2-chloroisopropyl)ether	U		10	42	µg/Kg-dry	1	12/29/2016 04:32
Bis(2-ethylhexyl)phthalate	U		7.4	42	µg/Kg-dry	1	12/29/2016 04:32
Butyl benzyl phthalate	U		7.2	42	µg/Kg-dry	1	12/29/2016 04:32
Caprolactam	U		15	42	µg/Kg-dry	1	12/29/2016 04:32
Carbazole	U		4.6	42	µg/Kg-dry	1	12/29/2016 04:32
Chrysene	U		6.9	8.5	µg/Kg-dry	1	12/29/2016 04:32
Dibenzo(a,h)anthracene	U		4.6	8.5	µg/Kg-dry	1	12/29/2016 04:32
Dibenzofuran	U		6.2	42	µg/Kg-dry	1	12/29/2016 04:32
Diethyl phthalate	U		6.5	42	µg/Kg-dry	1	12/29/2016 04:32
Dimethyl phthalate	U		8.3	42	µg/Kg-dry	1	12/29/2016 04:32
Di-n-butyl phthalate	U		7.8	42	µg/Kg-dry	1	12/29/2016 04:32
Di-n-octyl phthalate	U		8.2	42	µg/Kg-dry	1	12/29/2016 04:32
Fluoranthene	U		4.1	8.5	µg/Kg-dry	1	12/29/2016 04:32
Fluorene	U		6.2	8.5	µg/Kg-dry	1	12/29/2016 04:32
Hexachlorobenzene	U		12	42	µg/Kg-dry	1	12/29/2016 04:32
Hexachlorobutadiene	U		23	42	µg/Kg-dry	1	12/29/2016 04:32
Hexachlorocyclopentadiene	U		15	42	µg/Kg-dry	1	12/29/2016 04:32
Hexachloroethane	U		18	42	µg/Kg-dry	1	12/29/2016 04:32
Indeno(1,2,3-cd)pyrene	U		5.9	8.5	µg/Kg-dry	1	12/29/2016 04:32
Isophorone	U		8.3	210	µg/Kg-dry	1	12/29/2016 04:32
Naphthalene	U		5.4	8.5	µg/Kg-dry	1	12/29/2016 04:32
Nitrobenzene	U		14	210	µg/Kg-dry	1	12/29/2016 04:32

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB5
Collection Date: 12/20/2016 01:30 PM

Work Order: 16121297
Lab ID: 16121297-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		7.0	42	µg/Kg-dry	1	12/29/2016 04:32
N-Nitrosodiphenylamine	U		4.1	42	µg/Kg-dry	1	12/29/2016 04:32
Pentachlorophenol	U		16	42	µg/Kg-dry	1	12/29/2016 04:32
Phenanthrene	U		4.0	8.5	µg/Kg-dry	1	12/29/2016 04:32
Phenol	U		11	42	µg/Kg-dry	1	12/29/2016 04:32
Pyrene	U		1.5	8.5	µg/Kg-dry	1	12/29/2016 04:32
Surr: 2,4,6-Tribromophenol	55.9			34-140	%REC	1	12/29/2016 04:32
Surr: 2-Fluorobiphenyl	53.0			12-100	%REC	1	12/29/2016 04:32
Surr: 2-Fluorophenol	56.1			33-117	%REC	1	12/29/2016 04:32
Surr: 4-Terphenyl-d14	61.7			25-137	%REC	1	12/29/2016 04:32
Surr: Nitrobenzene-d5	51.9			37-107	%REC	1	12/29/2016 04:32
Surr: Phenol-d6	49.6			40-106	%REC	1	12/29/2016 04:32

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Analyst: BG

1,1,1-Trichloroethane	U		0.19	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,1,2,2-Tetrachloroethane	U		0.14	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,1,2-Trichloroethane	U		0.75	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,1,2-Trichlorotrifluoroethane	U		0.22	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,1-Dichloroethane	U		0.16	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,1-Dichloroethene	U		0.21	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,2,4-Trichlorobenzene	U		0.17	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,2-Dibromo-3-chloropropane	U		0.63	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,2-Dibromoethane	U		0.19	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,2-Dichlorobenzene	U		0.11	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,2-Dichloroethane	U		0.19	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,2-Dichloropropane	U		0.43	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,3-Dichlorobenzene	U		0.10	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
1,4-Dichlorobenzene	U		0.21	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
2-Butanone	U		1.0	12	µg/Kg-dry	0.94	12/28/2016 15:42
2-Hexanone	U		0.81	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
4-Methyl-2-pentanone	U		0.23	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Acetone	51		1.8	12	µg/Kg-dry	0.94	12/28/2016 15:42
Benzene	1.9	J	0.12	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Bromodichloromethane	U		0.13	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Bromoform	U		0.18	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Bromomethane	U		0.37	12	µg/Kg-dry	0.94	12/28/2016 15:42
Carbon disulfide	2.1	J	0.23	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Carbon tetrachloride	U		0.29	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Chlorobenzene	U		0.19	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Chloroethane	U		0.64	6.1	µg/Kg-dry	0.94	12/28/2016 15:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB5
Collection Date: 12/20/2016 01:30 PM

Work Order: 16121297
Lab ID: 16121297-05
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroform	1.4	J	0.24	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Chloromethane	U		0.32	12	µg/Kg-dry	0.94	12/28/2016 15:42
cis-1,2-Dichloroethene	U		0.15	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
cis-1,3-Dichloropropene	U		0.14	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Cyclohexane	2.1	J	0.21	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Dibromochloromethane	U		0.18	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Dichlorodifluoromethane	U		0.31	12	µg/Kg-dry	0.94	12/28/2016 15:42
Ethylbenzene	U		0.14	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Isopropylbenzene	U		0.18	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
m,p-Xylene	U		0.45	3.0	µg/Kg-dry	0.94	12/28/2016 15:42
Methyl acetate	U		0.55	12	µg/Kg-dry	0.94	12/28/2016 15:42
Methyl tert-butyl ether	U		0.23	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Methylcyclohexane	3.3	J	0.26	12	µg/Kg-dry	0.94	12/28/2016 15:42
Methylene chloride	U		0.17	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
o-Xylene	U		0.22	3.0	µg/Kg-dry	0.94	12/28/2016 15:42
Styrene	U		0.36	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Tetrachloroethene	U		0.27	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Toluene	1.2	J	0.15	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
trans-1,2-Dichloroethene	U		0.28	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
trans-1,3-Dichloropropene	U		0.20	12	µg/Kg-dry	0.94	12/28/2016 15:42
Trichloroethene	U		0.23	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Trichlorofluoromethane	U		0.33	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Vinyl chloride	U		0.20	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Xylenes, Total	U		0.66	6.1	µg/Kg-dry	0.94	12/28/2016 15:42
Surr: 1,2-Dichloroethane-d4	105			70-120	%REC	0.94	12/28/2016 15:42
Surr: 4-Bromofluorobenzene	95.2			75-120	%REC	0.94	12/28/2016 15:42
Surr: Dibromofluoromethane	90.8			85-115	%REC	0.94	12/28/2016 15:42
Surr: Toluene-d8	97.6			85-120	%REC	0.94	12/28/2016 15:42
MOISTURE			Method: SW3550C				Analyst: EDL
Moisture	23		0.025	0.050	% of sample	1	12/27/2016 12:42

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB6
Collection Date: 12/20/2016 02:30 PM

Work Order: 16121297
Lab ID: 16121297-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2		Prep: SW3546 / 12/28/16		Analyst: IT
DRO (C10-C20)	9.4		1.0	6.6	mg/Kg-dry	1	12/29/2016 11:17
ORO (C20-C34)	100		2.1	6.6	mg/Kg-dry	1	12/29/2016 11:17
Surr: 4-Terphenyl-d14	54.3			39-133	%REC	1	12/29/2016 11:17
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: OA-1		Prep: SW5035 / 12/27/16		Analyst: IT
GRO (C6-C10)	U		1,100	4,300	µg/Kg	1	12/28/2016 13:24
Surr: a,a,a-Trifluorotoluene	110			80-120	%REC	1	12/28/2016 13:24
MERCURY BY CVAA							
			Method: SW7471B		Prep: SW7471 / 12/28/16		Analyst: LR
Mercury	0.13		0.0031	0.019	mg/Kg-dry	1	12/28/2016 20:49
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 12/27/16		Analyst: RH
Arsenic	9.2		0.12	0.47	mg/Kg-dry	1	12/28/2016 13:18
Barium	270		0.19	0.47	mg/Kg-dry	1	12/28/2016 13:18
Cadmium	0.96		0.045	0.94	mg/Kg-dry	1	12/28/2016 13:18
Chromium	13		0.026	0.47	mg/Kg-dry	1	12/28/2016 13:18
Lead	120		0.099	0.47	mg/Kg-dry	1	12/28/2016 13:18
Selenium	U		0.26	0.94	mg/Kg-dry	1	12/28/2016 13:18
Silver	U		0.058	0.47	mg/Kg-dry	1	12/28/2016 13:18
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3546 / 12/28/16		Analyst: JF
1,1'-Biphenyl	U		7.1	43	µg/Kg-dry	1	12/29/2016 04:55
2,4,5-Trichlorophenol	U		12	43	µg/Kg-dry	1	12/29/2016 04:55
2,4,6-Trichlorophenol	U		12	43	µg/Kg-dry	1	12/29/2016 04:55
2,4-Dichlorophenol	U		9.2	43	µg/Kg-dry	1	12/29/2016 04:55
2,4-Dimethylphenol	U		8.9	43	µg/Kg-dry	1	12/29/2016 04:55
2,4-Dinitrophenol	U		24	43	µg/Kg-dry	1	12/29/2016 04:55
2,4-Dinitrotoluene	U		11	43	µg/Kg-dry	1	12/29/2016 04:55
2,6-Dinitrotoluene	U		7.2	43	µg/Kg-dry	1	12/29/2016 04:55
2-Chloronaphthalene	U		6.1	8.8	µg/Kg-dry	1	12/29/2016 04:55
2-Chlorophenol	U		14	43	µg/Kg-dry	1	12/29/2016 04:55
2-Methylnaphthalene	11		4.5	8.8	µg/Kg-dry	1	12/29/2016 04:55
2-Methylphenol	U		12	43	µg/Kg-dry	1	12/29/2016 04:55
2-Nitroaniline	U		10	43	µg/Kg-dry	1	12/29/2016 04:55
2-Nitrophenol	U		12	43	µg/Kg-dry	1	12/29/2016 04:55
3&4-Methylphenol	U		8.8	43	µg/Kg-dry	1	12/29/2016 04:55
3,3'-Dichlorobenzidine	U		6.5	220	µg/Kg-dry	1	12/29/2016 04:55
3-Nitroaniline	U		10	43	µg/Kg-dry	1	12/29/2016 04:55
4,6-Dinitro-2-methylphenol	U		11	43	µg/Kg-dry	1	12/29/2016 04:55
4-Bromophenyl phenyl ether	U		12	43	µg/Kg-dry	1	12/29/2016 04:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB6
Collection Date: 12/20/2016 02:30 PM

Work Order: 16121297
Lab ID: 16121297-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloro-3-methylphenol	U		12	43	µg/Kg-dry	1	12/29/2016 04:55
4-Chloroaniline	U		6.9	88	µg/Kg-dry	1	12/29/2016 04:55
4-Chlorophenyl phenyl ether	U		12	43	µg/Kg-dry	1	12/29/2016 04:55
4-Nitroaniline	U		68	220	µg/Kg-dry	1	12/29/2016 04:55
4-Nitrophenol	U		39	43	µg/Kg-dry	1	12/29/2016 04:55
Acenaphthene	U		6.3	8.8	µg/Kg-dry	1	12/29/2016 04:55
Acenaphthylene	21		7.6	8.8	µg/Kg-dry	1	12/29/2016 04:55
Acetophenone	U		6.9	43	µg/Kg-dry	1	12/29/2016 04:55
Anthracene	27		6.2	8.8	µg/Kg-dry	1	12/29/2016 04:55
Atrazine	U		6.9	43	µg/Kg-dry	1	12/29/2016 04:55
Benzaldehyde	U		67	88	µg/Kg-dry	1	12/29/2016 04:55
Benzo(a)anthracene	74		7.6	8.8	µg/Kg-dry	1	12/29/2016 04:55
Benzo(a)pyrene	87		5.4	8.8	µg/Kg-dry	1	12/29/2016 04:55
Benzo(b)fluoranthene	96		6.5	8.8	µg/Kg-dry	1	12/29/2016 04:55
Benzo(g,h,i)perylene	59		6.7	8.8	µg/Kg-dry	1	12/29/2016 04:55
Benzo(k)fluoranthene	52		6.6	8.8	µg/Kg-dry	1	12/29/2016 04:55
Bis(2-chloroethoxy)methane	U		4.2	43	µg/Kg-dry	1	12/29/2016 04:55
Bis(2-chloroethyl)ether	U		12	43	µg/Kg-dry	1	12/29/2016 04:55
Bis(2-chloroisopropyl)ether	U		10	43	µg/Kg-dry	1	12/29/2016 04:55
Bis(2-ethylhexyl)phthalate	U		7.6	43	µg/Kg-dry	1	12/29/2016 04:55
Butyl benzyl phthalate	U		7.4	43	µg/Kg-dry	1	12/29/2016 04:55
Caprolactam	U		15	43	µg/Kg-dry	1	12/29/2016 04:55
Carbazole	U		4.7	43	µg/Kg-dry	1	12/29/2016 04:55
Chrysene	91		7.1	8.8	µg/Kg-dry	1	12/29/2016 04:55
Dibenzo(a,h)anthracene	13		4.7	8.8	µg/Kg-dry	1	12/29/2016 04:55
Dibenzofuran	U		6.4	43	µg/Kg-dry	1	12/29/2016 04:55
Diethyl phthalate	18	J	6.7	43	µg/Kg-dry	1	12/29/2016 04:55
Dimethyl phthalate	U		8.5	43	µg/Kg-dry	1	12/29/2016 04:55
Di-n-butyl phthalate	U		8.0	43	µg/Kg-dry	1	12/29/2016 04:55
Di-n-octyl phthalate	U		8.4	43	µg/Kg-dry	1	12/29/2016 04:55
Fluoranthene	130		4.2	8.8	µg/Kg-dry	1	12/29/2016 04:55
Fluorene	U		6.4	8.8	µg/Kg-dry	1	12/29/2016 04:55
Hexachlorobenzene	U		13	43	µg/Kg-dry	1	12/29/2016 04:55
Hexachlorobutadiene	U		24	43	µg/Kg-dry	1	12/29/2016 04:55
Hexachlorocyclopentadiene	U		15	43	µg/Kg-dry	1	12/29/2016 04:55
Hexachloroethane	U		18	43	µg/Kg-dry	1	12/29/2016 04:55
Indeno(1,2,3-cd)pyrene	63		6.1	8.8	µg/Kg-dry	1	12/29/2016 04:55
Isophorone	U		8.6	220	µg/Kg-dry	1	12/29/2016 04:55
Naphthalene	U		5.6	8.8	µg/Kg-dry	1	12/29/2016 04:55
Nitrobenzene	U		15	220	µg/Kg-dry	1	12/29/2016 04:55

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB6
Collection Date: 12/20/2016 02:30 PM

Work Order: 16121297
Lab ID: 16121297-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		7.2	43	µg/Kg-dry	1	12/29/2016 04:55
N-Nitrosodiphenylamine	U		4.2	43	µg/Kg-dry	1	12/29/2016 04:55
Pentachlorophenol	U		16	43	µg/Kg-dry	1	12/29/2016 04:55
Phenanthrene	58		4.1	8.8	µg/Kg-dry	1	12/29/2016 04:55
Phenol	U		11	43	µg/Kg-dry	1	12/29/2016 04:55
Pyrene	130		1.6	8.8	µg/Kg-dry	1	12/29/2016 04:55
Surr: 2,4,6-Tribromophenol	68.5			34-140	%REC	1	12/29/2016 04:55
Surr: 2-Fluorobiphenyl	53.0			12-100	%REC	1	12/29/2016 04:55
Surr: 2-Fluorophenol	53.4			33-117	%REC	1	12/29/2016 04:55
Surr: 4-Terphenyl-d14	71.5			25-137	%REC	1	12/29/2016 04:55
Surr: Nitrobenzene-d5	46.2			37-107	%REC	1	12/29/2016 04:55
Surr: Phenol-d6	44.9			40-106	%REC	1	12/29/2016 04:55

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Prep: SW5035 / 12/27/16

Analyst: BG

Acetone	140	J	93	170	µg/Kg	1	12/27/2016 16:45
Surr: 1,2-Dichloroethane-d4	104			70-130	%REC	1	12/27/2016 16:45
Surr: 4-Bromofluorobenzene	96.6			70-130	%REC	1	12/27/2016 16:45
Surr: Dibromofluoromethane	104			70-130	%REC	1	12/27/2016 16:45
Surr: Toluene-d8	98.5			70-130	%REC	1	12/27/2016 16:45

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Analyst: BG

1,1,1-Trichloroethane	U		0.21	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,1,2,2-Tetrachloroethane	U		0.16	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,1,2-Trichloroethane	U		0.85	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,1,2-Trichlorotrifluoroethane	U		0.25	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,1-Dichloroethane	U		0.18	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,1-Dichloroethene	U		0.24	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,2,4-Trichlorobenzene	U		0.19	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,2-Dibromo-3-chloropropane	U		0.72	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,2-Dibromoethane	U		0.21	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,2-Dichlorobenzene	U		0.12	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,2-Dichloroethane	U		0.21	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,2-Dichloropropane	U		0.49	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,3-Dichlorobenzene	U		0.11	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
1,4-Dichlorobenzene	U		0.24	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
2-Butanone	75		1.2	14	µg/Kg-dry	1.01	12/28/2016 13:44
2-Hexanone	U		0.92	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
4-Methyl-2-pentanone	U		0.25	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Benzene	1.3	J	0.13	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Bromodichloromethane	U		0.15	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Bromoform	U		0.20	6.9	µg/Kg-dry	1.01	12/28/2016 13:44

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB6
Collection Date: 12/20/2016 02:30 PM

Work Order: 16121297
Lab ID: 16121297-06
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Bromomethane	U		0.42	14	µg/Kg-dry	1.01	12/28/2016 13:44
Carbon disulfide	65		0.26	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Carbon tetrachloride	U		0.33	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Chlorobenzene	U		0.22	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Chloroethane	U		0.72	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Chloroform	1.4	J	0.28	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Chloromethane	U		0.36	14	µg/Kg-dry	1.01	12/28/2016 13:44
cis-1,2-Dichloroethene	U		0.16	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
cis-1,3-Dichloropropene	U		0.16	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Cyclohexane	3.6	J	0.23	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Dibromochloromethane	U		0.20	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Dichlorodifluoromethane	U		0.35	14	µg/Kg-dry	1.01	12/28/2016 13:44
Ethylbenzene	U		0.16	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Isopropylbenzene	U		0.20	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
m,p-Xylene	0.89	J	0.50	3.4	µg/Kg-dry	1.01	12/28/2016 13:44
Methyl acetate	4.1	J	0.62	14	µg/Kg-dry	1.01	12/28/2016 13:44
Methyl tert-butyl ether	U		0.25	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Methylcyclohexane	5.7	J	0.30	14	µg/Kg-dry	1.01	12/28/2016 13:44
Methylene chloride	U		0.19	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
o-Xylene	U		0.25	3.4	µg/Kg-dry	1.01	12/28/2016 13:44
Styrene	U		0.41	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Tetrachloroethene	U		0.30	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Toluene	2.8	J	0.17	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
trans-1,2-Dichloroethene	U		0.32	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
trans-1,3-Dichloropropene	U		0.22	14	µg/Kg-dry	1.01	12/28/2016 13:44
Trichloroethene	U		0.26	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Trichlorofluoromethane	U		0.37	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Vinyl chloride	U		0.23	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Xylenes, Total	0.89	J	0.74	6.9	µg/Kg-dry	1.01	12/28/2016 13:44
Surr: 1,2-Dichloroethane-d4	102			70-120	%REC	1.01	12/28/2016 13:44
Surr: 4-Bromofluorobenzene	93.8			75-120	%REC	1.01	12/28/2016 13:44
Surr: Dibromofluoromethane	91.8			85-115	%REC	1.01	12/28/2016 13:44
Surr: Toluene-d8	105			85-120	%REC	1.01	12/28/2016 13:44
MOISTURE			Method: SW3550C				Analyst: EDL
Moisture	26		0.025	0.050	% of sample	1	12/27/2016 13:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB7
Collection Date: 12/20/2016 03:00 PM

Work Order: 16121297
Lab ID: 16121297-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2		Prep: SW3546 / 12/28/16		Analyst: IT
DRO (C10-C20)	5.3	J	1.1	7.0	mg/Kg-dry	1	12/29/2016 11:46
ORO (C20-C34)	27		2.3	7.0	mg/Kg-dry	1	12/29/2016 11:46
Surr: 4-Terphenyl-d14	49.3			39-133	%REC	1	12/29/2016 11:46
GASOLINE RANGE ORGANICS BY GC-FID							
			Method: OA-1		Prep: SW5035 / 12/27/16		Analyst: IT
GRO (C6-C10)	U		1,200	4,700	µg/Kg	1	12/28/2016 15:57
Surr: a,a,a-Trifluorotoluene	114			80-120	%REC	1	12/28/2016 15:57
MERCURY BY CVAA							
			Method: SW7471B		Prep: SW7471 / 12/28/16		Analyst: LR
Mercury	0.044		0.0030	0.018	mg/Kg-dry	1	12/28/2016 20:52
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 12/27/16		Analyst: RH
Arsenic	12		0.12	0.48	mg/Kg-dry	1	12/28/2016 13:23
Barium	280		0.19	0.48	mg/Kg-dry	1	12/28/2016 13:23
Cadmium	0.41	J	0.046	0.95	mg/Kg-dry	1	12/28/2016 13:23
Chromium	15		0.027	0.48	mg/Kg-dry	1	12/28/2016 13:23
Lead	18		0.10	0.48	mg/Kg-dry	1	12/28/2016 13:23
Selenium	U		0.27	0.95	mg/Kg-dry	1	12/28/2016 13:23
Silver	U		0.059	0.48	mg/Kg-dry	1	12/28/2016 13:23
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3546 / 12/28/16		Analyst: JF
1,1'-Biphenyl	U		7.5	46	µg/Kg-dry	1	12/29/2016 05:18
2,4,5-Trichlorophenol	U		13	46	µg/Kg-dry	1	12/29/2016 05:18
2,4,6-Trichlorophenol	U		12	46	µg/Kg-dry	1	12/29/2016 05:18
2,4-Dichlorophenol	U		9.8	46	µg/Kg-dry	1	12/29/2016 05:18
2,4-Dimethylphenol	U		9.5	46	µg/Kg-dry	1	12/29/2016 05:18
2,4-Dinitrophenol	U		25	46	µg/Kg-dry	1	12/29/2016 05:18
2,4-Dinitrotoluene	U		12	46	µg/Kg-dry	1	12/29/2016 05:18
2,6-Dinitrotoluene	U		7.6	46	µg/Kg-dry	1	12/29/2016 05:18
2-Chloronaphthalene	U		6.5	9.3	µg/Kg-dry	1	12/29/2016 05:18
2-Chlorophenol	U		15	46	µg/Kg-dry	1	12/29/2016 05:18
2-Methylnaphthalene	U		4.7	9.3	µg/Kg-dry	1	12/29/2016 05:18
2-Methylphenol	U		13	46	µg/Kg-dry	1	12/29/2016 05:18
2-Nitroaniline	U		11	46	µg/Kg-dry	1	12/29/2016 05:18
2-Nitrophenol	U		13	46	µg/Kg-dry	1	12/29/2016 05:18
3&4-Methylphenol	U		9.3	46	µg/Kg-dry	1	12/29/2016 05:18
3,3'-Dichlorobenzidine	U		6.9	230	µg/Kg-dry	1	12/29/2016 05:18
3-Nitroaniline	U		11	46	µg/Kg-dry	1	12/29/2016 05:18
4,6-Dinitro-2-methylphenol	U		12	46	µg/Kg-dry	1	12/29/2016 05:18
4-Bromophenyl phenyl ether	U		12	46	µg/Kg-dry	1	12/29/2016 05:18

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB7
Collection Date: 12/20/2016 03:00 PM

Work Order: 16121297
Lab ID: 16121297-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloro-3-methylphenol	U		13	46	µg/Kg-dry	1	12/29/2016 05:18
4-Chloroaniline	U		7.3	93	µg/Kg-dry	1	12/29/2016 05:18
4-Chlorophenyl phenyl ether	U		13	46	µg/Kg-dry	1	12/29/2016 05:18
4-Nitroaniline	U		72	230	µg/Kg-dry	1	12/29/2016 05:18
4-Nitrophenol	U		41	46	µg/Kg-dry	1	12/29/2016 05:18
Acenaphthene	U		6.7	9.3	µg/Kg-dry	1	12/29/2016 05:18
Acenaphthylene	U		8.0	9.3	µg/Kg-dry	1	12/29/2016 05:18
Acetophenone	U		7.3	46	µg/Kg-dry	1	12/29/2016 05:18
Anthracene	U		6.5	9.3	µg/Kg-dry	1	12/29/2016 05:18
Atrazine	U		7.3	46	µg/Kg-dry	1	12/29/2016 05:18
Benzaldehyde	U		71	93	µg/Kg-dry	1	12/29/2016 05:18
Benzo(a)anthracene	U		8.0	9.3	µg/Kg-dry	1	12/29/2016 05:18
Benzo(a)pyrene	U		5.7	9.3	µg/Kg-dry	1	12/29/2016 05:18
Benzo(b)fluoranthene	9.3		6.9	9.3	µg/Kg-dry	1	12/29/2016 05:18
Benzo(g,h,i)perylene	U		7.1	9.3	µg/Kg-dry	1	12/29/2016 05:18
Benzo(k)fluoranthene	U		7.0	9.3	µg/Kg-dry	1	12/29/2016 05:18
Bis(2-chloroethoxy)methane	U		4.4	46	µg/Kg-dry	1	12/29/2016 05:18
Bis(2-chloroethyl)ether	U		13	46	µg/Kg-dry	1	12/29/2016 05:18
Bis(2-chloroisopropyl)ether	U		11	46	µg/Kg-dry	1	12/29/2016 05:18
Bis(2-ethylhexyl)phthalate	U		8.0	46	µg/Kg-dry	1	12/29/2016 05:18
Butyl benzyl phthalate	U		7.8	46	µg/Kg-dry	1	12/29/2016 05:18
Caprolactam	U		16	46	µg/Kg-dry	1	12/29/2016 05:18
Carbazole	U		5.0	46	µg/Kg-dry	1	12/29/2016 05:18
Chrysene	U		7.5	9.3	µg/Kg-dry	1	12/29/2016 05:18
Dibenzo(a,h)anthracene	U		5.0	9.3	µg/Kg-dry	1	12/29/2016 05:18
Dibenzofuran	U		6.8	46	µg/Kg-dry	1	12/29/2016 05:18
Diethyl phthalate	U		7.1	46	µg/Kg-dry	1	12/29/2016 05:18
Dimethyl phthalate	U		9.0	46	µg/Kg-dry	1	12/29/2016 05:18
Di-n-butyl phthalate	U		8.5	46	µg/Kg-dry	1	12/29/2016 05:18
Di-n-octyl phthalate	U		8.9	46	µg/Kg-dry	1	12/29/2016 05:18
Fluoranthene	9.3		4.4	9.3	µg/Kg-dry	1	12/29/2016 05:18
Fluorene	U		6.7	9.3	µg/Kg-dry	1	12/29/2016 05:18
Hexachlorobenzene	U		13	46	µg/Kg-dry	1	12/29/2016 05:18
Hexachlorobutadiene	U		25	46	µg/Kg-dry	1	12/29/2016 05:18
Hexachlorocyclopentadiene	U		16	46	µg/Kg-dry	1	12/29/2016 05:18
Hexachloroethane	U		19	46	µg/Kg-dry	1	12/29/2016 05:18
Indeno(1,2,3-cd)pyrene	U		6.5	9.3	µg/Kg-dry	1	12/29/2016 05:18
Isophorone	U		9.1	230	µg/Kg-dry	1	12/29/2016 05:18
Naphthalene	U		5.9	9.3	µg/Kg-dry	1	12/29/2016 05:18
Nitrobenzene	U		16	230	µg/Kg-dry	1	12/29/2016 05:18

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB7
Collection Date: 12/20/2016 03:00 PM

Work Order: 16121297
Lab ID: 16121297-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		7.6	46	µg/Kg-dry	1	12/29/2016 05:18
N-Nitrosodiphenylamine	U		4.4	46	µg/Kg-dry	1	12/29/2016 05:18
Pentachlorophenol	U		17	46	µg/Kg-dry	1	12/29/2016 05:18
Phenanthrene	U		4.3	9.3	µg/Kg-dry	1	12/29/2016 05:18
Phenol	U		12	46	µg/Kg-dry	1	12/29/2016 05:18
Pyrene	8.3	J	1.7	9.3	µg/Kg-dry	1	12/29/2016 05:18
Surr: 2,4,6-Tribromophenol	67.3			34-140	%REC	1	12/29/2016 05:18
Surr: 2-Fluorobiphenyl	59.3			12-100	%REC	1	12/29/2016 05:18
Surr: 2-Fluorophenol	68.1			33-117	%REC	1	12/29/2016 05:18
Surr: 4-Terphenyl-d14	64.0			25-137	%REC	1	12/29/2016 05:18
Surr: Nitrobenzene-d5	48.5			37-107	%REC	1	12/29/2016 05:18
Surr: Phenol-d6	60.9			40-106	%REC	1	12/29/2016 05:18

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Analyst: BG

1,1,1-Trichloroethane	U		0.19	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,1,2,2-Tetrachloroethane	U		0.14	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,1,2-Trichloroethane	U		0.77	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,1,2-Trichlorotrifluoroethane	U		0.23	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,1-Dichloroethane	U		0.17	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,1-Dichloroethene	U		0.22	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,2,4-Trichlorobenzene	U		0.17	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,2-Dibromo-3-chloropropane	U		0.65	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,2-Dibromoethane	U		0.19	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,2-Dichlorobenzene	U		0.11	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,2-Dichloroethane	U		0.19	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,2-Dichloropropane	U		0.45	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,3-Dichlorobenzene	U		0.10	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
1,4-Dichlorobenzene	U		0.22	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
2-Butanone	U		1.1	13	µg/Kg-dry	0.87	12/28/2016 14:08
2-Hexanone	U		0.84	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
4-Methyl-2-pentanone	U		0.23	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Acetone	17		1.9	13	µg/Kg-dry	0.87	12/28/2016 14:08
Benzene	1.1	J	0.12	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Bromodichloromethane	U		0.14	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Bromoform	U		0.18	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Bromomethane	U		0.38	13	µg/Kg-dry	0.87	12/28/2016 14:08
Carbon disulfide	U		0.24	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Carbon tetrachloride	U		0.30	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Chlorobenzene	U		0.20	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Chloroethane	U		0.66	6.3	µg/Kg-dry	0.87	12/28/2016 14:08

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SB7
Collection Date: 12/20/2016 03:00 PM

Work Order: 16121297
Lab ID: 16121297-07
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroform	1.3	J	0.25	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Chloromethane	U		0.33	13	µg/Kg-dry	0.87	12/28/2016 14:08
cis-1,2-Dichloroethene	U		0.15	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
cis-1,3-Dichloropropene	U		0.14	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Cyclohexane	U		0.21	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Dibromochloromethane	U		0.18	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Dichlorodifluoromethane	U		0.32	13	µg/Kg-dry	0.87	12/28/2016 14:08
Ethylbenzene	U		0.15	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Isopropylbenzene	U		0.18	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
m,p-Xylene	U		0.46	3.1	µg/Kg-dry	0.87	12/28/2016 14:08
Methyl acetate	U		0.57	13	µg/Kg-dry	0.87	12/28/2016 14:08
Methyl tert-butyl ether	U		0.23	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Methylcyclohexane	2.7	J	0.27	13	µg/Kg-dry	0.87	12/28/2016 14:08
Methylene chloride	U		0.17	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
o-Xylene	U		0.23	3.1	µg/Kg-dry	0.87	12/28/2016 14:08
Styrene	U		0.37	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Tetrachloroethene	U		0.28	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Toluene	0.73	J	0.16	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
trans-1,2-Dichloroethene	U		0.29	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
trans-1,3-Dichloropropene	U		0.20	13	µg/Kg-dry	0.87	12/28/2016 14:08
Trichloroethene	U		0.24	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Trichlorofluoromethane	U		0.34	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Vinyl chloride	U		0.21	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Xylenes, Total	U		0.68	6.3	µg/Kg-dry	0.87	12/28/2016 14:08
Surr: 1,2-Dichloroethane-d4	109			70-120	%REC	0.87	12/28/2016 14:08
Surr: 4-Bromofluorobenzene	98.7			75-120	%REC	0.87	12/28/2016 14:08
Surr: Dibromofluoromethane	91.2			85-115	%REC	0.87	12/28/2016 14:08
Surr: Toluene-d8	99.7			85-120	%REC	0.87	12/28/2016 14:08
MOISTURE			Method: SW3550C				Analyst: EDL
Moisture	31		0.025	0.050	% of sample	1	12/27/2016 13:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SS1
Collection Date: 12/20/2016 01:45 PM

Work Order: 16121297
Lab ID: 16121297-08
Matrix: SEDIMENT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
MERCURY BY CVAA							
			Method: SW7471B		Prep: SW7471 / 12/28/16		Analyst: LR
Mercury	0.051		0.0029	0.018	mg/Kg-dry	1	12/28/2016 20:55
METALS ANALYSIS BY ICP							
			Method: SW846 6010C		Prep: SW3050B / 12/27/16		Analyst: RH
Arsenic	10		0.14	0.53	mg/Kg-dry	1	12/28/2016 13:29
Barium	200		0.21	0.53	mg/Kg-dry	1	12/28/2016 13:29
Cadmium	0.38	J	0.051	1.1	mg/Kg-dry	1	12/28/2016 13:29
Chromium	14		0.030	0.53	mg/Kg-dry	1	12/28/2016 13:29
Lead	48		0.11	0.53	mg/Kg-dry	1	12/28/2016 13:29
Selenium	U		0.30	1.1	mg/Kg-dry	1	12/28/2016 13:29
Silver	U		0.066	0.53	mg/Kg-dry	1	12/28/2016 13:29
MOISTURE							
			Method: SW3550C				Analyst: EDL
Moisture	24		0.025	0.050	% of sample	1	12/27/2016 13:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: SS2
Collection Date: 12/20/2016 01:50 PM

Work Order: 16121297
Lab ID: 16121297-09
Matrix: SEDIMENT

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
<hr/>							
MERCURY BY CVAA			Method: SW7471B		Prep: SW7471 / 12/28/16		Analyst: LR
Mercury	0.13		0.0030	0.018	mg/Kg-dry	1	12/28/2016 20:57
<hr/>							
METALS ANALYSIS BY ICP			Method: SW846 6010C		Prep: SW3050B / 12/27/16		Analyst: RH
Arsenic	12		0.11	0.44	mg/Kg-dry	1	12/28/2016 13:34
Barium	300		0.18	0.44	mg/Kg-dry	1	12/28/2016 13:34
Cadmium	0.78	J	0.042	0.88	mg/Kg-dry	1	12/28/2016 13:34
Chromium	18		0.025	0.44	mg/Kg-dry	1	12/28/2016 13:34
Lead	430		0.094	0.44	mg/Kg-dry	1	12/28/2016 13:34
Selenium	U		0.25	0.88	mg/Kg-dry	1	12/28/2016 13:34
Silver	U		0.055	0.44	mg/Kg-dry	1	12/28/2016 13:34
<hr/>							
MOISTURE			Method: SW3550C				Analyst: EDL
Moisture	26		0.025	0.050	% of sample	1	12/27/2016 13:53

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: RB1
Collection Date: 12/20/2016 12:56 PM

Work Order: 16121297
Lab ID: 16121297-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2				Analyst: IT
DRO (C10-C20)	0.16		0.023	0.10	mg/L	1	12/27/2016 22:00
ORO (C20-C34)	0.25		0.026	0.10	mg/L	1	12/27/2016 22:00
Surr: 4-Terphenyl-d14	106			50-150	%REC	1	12/27/2016 22:00
GASOLINE RANGE ORGANICS BY GC-FID/PID							
			Method: OA-1				Analyst: IT
GRO (C6-C10)	U		17	100	µg/L	1	12/27/2016 23:11
Surr: a,a,a-Trifluorotoluene	111			80-120	%REC	1	12/27/2016 23:11
MERCURY BY CVAA							
			Method: SW7470A		Prep: SW7470 / 12/28/16		Analyst: LR
Mercury	U		0.000019	0.00020	mg/L	1	12/28/2016 16:30
METALS BY ICP-MS							
			Method: SW6020A		Prep: SW3005A / 12/28/16		Analyst: ML
Arsenic	U		0.00087	0.0050	mg/L	1	12/29/2016 05:04
Barium	U		0.0022	0.0050	mg/L	1	12/29/2016 05:04
Cadmium	U		0.000050	0.0020	mg/L	1	12/29/2016 05:04
Chromium	U		0.00065	0.0050	mg/L	1	12/29/2016 05:04
Lead	U		0.00033	0.0050	mg/L	1	12/29/2016 05:04
Selenium	U		0.00090	0.0050	mg/L	1	12/29/2016 05:04
Silver	U		0.000050	0.0050	mg/L	1	12/29/2016 05:04
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3510 / 12/27/16		Analyst: JF
1,1'-Biphenyl	U		0.44	5.3	µg/L	1	12/27/2016 17:09
2,4,5-Trichlorophenol	U		0.18	5.3	µg/L	1	12/27/2016 17:09
2,4,6-Trichlorophenol	U		0.26	5.3	µg/L	1	12/27/2016 17:09
2,4-Dichlorophenol	U		0.37	5.3	µg/L	1	12/27/2016 17:09
2,4-Dimethylphenol	U		0.38	5.3	µg/L	1	12/27/2016 17:09
2,4-Dinitrophenol	U		0.42	5.3	µg/L	1	12/27/2016 17:09
2,4-Dinitrotoluene	U		0.44	5.3	µg/L	1	12/27/2016 17:09
2,6-Dinitrotoluene	U		0.12	5.3	µg/L	1	12/27/2016 17:09
2-Chloronaphthalene	U		0.079	5.3	µg/L	1	12/27/2016 17:09
2-Chlorophenol	U		0.24	5.3	µg/L	1	12/27/2016 17:09
2-Methylnaphthalene	U		0.068	5.3	µg/L	1	12/27/2016 17:09
2-Methylphenol	U		0.26	5.3	µg/L	1	12/27/2016 17:09
2-Nitroaniline	U		0.22	5.3	µg/L	1	12/27/2016 17:09
2-Nitrophenol	U		0.36	5.3	µg/L	1	12/27/2016 17:09
3&4-Methylphenol	U		0.22	5.3	µg/L	1	12/27/2016 17:09
3,3'-Dichlorobenzidine	U		1.7	5.3	µg/L	1	12/27/2016 17:09
3-Nitroaniline	U		0.67	5.3	µg/L	1	12/27/2016 17:09
4,6-Dinitro-2-methylphenol	U		0.28	5.3	µg/L	1	12/27/2016 17:09
4-Bromophenyl phenyl ether	U		0.35	5.3	µg/L	1	12/27/2016 17:09

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: RB1
Collection Date: 12/20/2016 12:56 PM

Work Order: 16121297
Lab ID: 16121297-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloro-3-methylphenol	U		0.27	5.3	µg/L	1	12/27/2016 17:09
4-Chloroaniline	U		0.36	5.3	µg/L	1	12/27/2016 17:09
4-Chlorophenyl phenyl ether	U		0.33	5.3	µg/L	1	12/27/2016 17:09
4-Nitroaniline	U		0.60	5.3	µg/L	1	12/27/2016 17:09
4-Nitrophenol	U		0.25	5.3	µg/L	1	12/27/2016 17:09
Acenaphthene	U		0.085	5.3	µg/L	1	12/27/2016 17:09
Acenaphthylene	U		0.079	5.3	µg/L	1	12/27/2016 17:09
Acetophenone	U		0.39	1.1	µg/L	1	12/27/2016 17:09
Anthracene	U		0.029	5.3	µg/L	1	12/27/2016 17:09
Atrazine	U		0.37	1.1	µg/L	1	12/27/2016 17:09
Benzaldehyde	U		0.55	1.1	µg/L	1	12/27/2016 17:09
Benzo(a)anthracene	U		0.023	5.3	µg/L	1	12/27/2016 17:09
Benzo(a)pyrene	U		0.046	5.3	µg/L	1	12/27/2016 17:09
Benzo(b)fluoranthene	U		0.054	5.3	µg/L	1	12/27/2016 17:09
Benzo(g,h,i)perylene	U		0.032	5.3	µg/L	1	12/27/2016 17:09
Benzo(k)fluoranthene	U		0.050	5.3	µg/L	1	12/27/2016 17:09
Bis(2-chloroethoxy)methane	U		0.30	5.3	µg/L	1	12/27/2016 17:09
Bis(2-chloroethyl)ether	U		0.39	5.3	µg/L	1	12/27/2016 17:09
Bis(2-chloroisopropyl)ether	U		0.24	5.3	µg/L	1	12/27/2016 17:09
Bis(2-ethylhexyl)phthalate	U		0.42	5.3	µg/L	1	12/27/2016 17:09
Butyl benzyl phthalate	U		0.32	5.3	µg/L	1	12/27/2016 17:09
Caprolactam	U		1.0	11	µg/L	1	12/27/2016 17:09
Carbazole	U		0.11	5.3	µg/L	1	12/27/2016 17:09
Chrysene	U		0.050	5.3	µg/L	1	12/27/2016 17:09
Dibenzo(a,h)anthracene	U		0.032	5.3	µg/L	1	12/27/2016 17:09
Dibenzofuran	U		0.24	5.3	µg/L	1	12/27/2016 17:09
Diethyl phthalate	U		0.18	5.3	µg/L	1	12/27/2016 17:09
Dimethyl phthalate	U		0.19	5.3	µg/L	1	12/27/2016 17:09
Di-n-butyl phthalate	U		0.22	5.3	µg/L	1	12/27/2016 17:09
Di-n-octyl phthalate	U		0.16	5.3	µg/L	1	12/27/2016 17:09
Fluoranthene	U		0.040	5.3	µg/L	1	12/27/2016 17:09
Fluorene	U		0.054	5.3	µg/L	1	12/27/2016 17:09
Hexachlorobenzene	U		0.46	5.3	µg/L	1	12/27/2016 17:09
Hexachlorobutadiene	U		0.29	5.3	µg/L	1	12/27/2016 17:09
Hexachlorocyclopentadiene	U		1.1	5.3	µg/L	1	12/27/2016 17:09
Hexachloroethane	U		0.22	5.3	µg/L	1	12/27/2016 17:09
Indeno(1,2,3-cd)pyrene	U		0.070	5.3	µg/L	1	12/27/2016 17:09
Isophorone	U		0.36	5.3	µg/L	1	12/27/2016 17:09
Naphthalene	U		0.070	5.3	µg/L	1	12/27/2016 17:09
Nitrobenzene	U		0.27	5.3	µg/L	1	12/27/2016 17:09

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: RB1
Collection Date: 12/20/2016 12:56 PM

Work Order: 16121297
Lab ID: 16121297-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		0.37	5.3	µg/L	1	12/27/2016 17:09
N-Nitrosodiphenylamine	U		0.24	5.3	µg/L	1	12/27/2016 17:09
Pentachlorophenol	U		1.0	5.3	µg/L	1	12/27/2016 17:09
Phenanthrene	U		0.032	5.3	µg/L	1	12/27/2016 17:09
Phenol	U		0.22	5.3	µg/L	1	12/27/2016 17:09
Pyrene	U		0.038	5.3	µg/L	1	12/27/2016 17:09
Surr: 2,4,6-Tribromophenol	52.7			38-115	%REC	1	12/27/2016 17:09
Surr: 2-Fluorobiphenyl	51.0			32-100	%REC	1	12/27/2016 17:09
Surr: 2-Fluorophenol	28.1			22-59	%REC	1	12/27/2016 17:09
Surr: 4-Terphenyl-d14	65.7			23-112	%REC	1	12/27/2016 17:09
Surr: Nitrobenzene-d5	46.1			31-93	%REC	1	12/27/2016 17:09
Surr: Phenol-d6	13.3			13-36	%REC	1	12/27/2016 17:09

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Analyst: BG

1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	12/23/2016 05:28
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	12/23/2016 05:28
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	12/23/2016 05:28
1,1,2-Trichlorotrifluoroethane	U		0.42	1.0	µg/L	1	12/23/2016 05:28
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	12/23/2016 05:28
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 05:28
1,2,4-Trichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 05:28
1,2-Dibromo-3-chloropropane	U		0.97	1.0	µg/L	1	12/23/2016 05:28
1,2-Dibromoethane	U		0.98	1.0	µg/L	1	12/23/2016 05:28
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	12/23/2016 05:28
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	12/23/2016 05:28
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	12/23/2016 05:28
1,3-Dichlorobenzene	U		0.29	1.0	µg/L	1	12/23/2016 05:28
1,4-Dichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 05:28
2-Butanone	U		0.58	5.0	µg/L	1	12/23/2016 05:28
2-Hexanone	U		0.13	5.0	µg/L	1	12/23/2016 05:28
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	12/23/2016 05:28
Acetone	1.9	J	0.92	10	µg/L	1	12/23/2016 05:28
Benzene	U		0.30	1.0	µg/L	1	12/23/2016 05:28
Bromodichloromethane	U		0.23	1.0	µg/L	1	12/23/2016 05:28
Bromoform	U		0.77	1.0	µg/L	1	12/23/2016 05:28
Bromomethane	U		0.38	1.0	µg/L	1	12/23/2016 05:28
Carbon disulfide	U		0.23	1.0	µg/L	1	12/23/2016 05:28
Carbon tetrachloride	U		0.31	1.0	µg/L	1	12/23/2016 05:28
Chlorobenzene	U		0.27	1.0	µg/L	1	12/23/2016 05:28
Chloroethane	U		0.29	1.0	µg/L	1	12/23/2016 05:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: RB1
Collection Date: 12/20/2016 12:56 PM

Work Order: 16121297
Lab ID: 16121297-10
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroform	U		0.26	1.0	µg/L	1	12/23/2016 05:28
Chloromethane	U		0.17	1.0	µg/L	1	12/23/2016 05:28
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	12/23/2016 05:28
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	12/23/2016 05:28
Cyclohexane	U		0.22	1.0	µg/L	1	12/23/2016 05:28
Dibromochloromethane	U		0.38	1.0	µg/L	1	12/23/2016 05:28
Dichlorodifluoromethane	U		0.13	1.0	µg/L	1	12/23/2016 05:28
Ethylbenzene	U		0.40	1.0	µg/L	1	12/23/2016 05:28
Isopropylbenzene	U		0.31	1.0	µg/L	1	12/23/2016 05:28
m,p-Xylene	U		0.98	2.0	µg/L	1	12/23/2016 05:28
Methyl acetate	U		0.23	2.0	µg/L	1	12/23/2016 05:28
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	12/23/2016 05:28
Methylcyclohexane	U		0.27	1.0	µg/L	1	12/23/2016 05:28
Methylene chloride	U		0.56	5.0	µg/L	1	12/23/2016 05:28
o-Xylene	U		0.35	1.0	µg/L	1	12/23/2016 05:28
Styrene	U		0.24	1.0	µg/L	1	12/23/2016 05:28
Tetrachloroethene	U		0.27	1.0	µg/L	1	12/23/2016 05:28
Toluene	U		0.37	1.0	µg/L	1	12/23/2016 05:28
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 05:28
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	12/23/2016 05:28
Trichloroethene	U		0.30	1.0	µg/L	1	12/23/2016 05:28
Trichlorofluoromethane	U		0.20	1.0	µg/L	1	12/23/2016 05:28
Vinyl chloride	U		0.20	1.0	µg/L	1	12/23/2016 05:28
Xylenes, Total	U		1.3	3.0	µg/L	1	12/23/2016 05:28
Surr: 1,2-Dichloroethane-d4	105			75-120	%REC	1	12/23/2016 05:28
Surr: 4-Bromofluorobenzene	95.8			80-110	%REC	1	12/23/2016 05:28
Surr: Dibromofluoromethane	105			85-115	%REC	1	12/23/2016 05:28
Surr: Toluene-d8	97.9			85-110	%REC	1	12/23/2016 05:28

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW5
Collection Date: 12/21/2016 09:25 AM

Work Order: 16121297
Lab ID: 16121297-11
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			Method: OA-2			Analyst: IT	
DRO (C10-C20)	0.39		0.023	0.10	mg/L	1	12/27/2016 22:30
ORO (C20-C34)	0.47		0.026	0.10	mg/L	1	12/27/2016 22:30
Surr: 4-Terphenyl-d14	117			50-150	%REC	1	12/27/2016 22:30
GASOLINE RANGE ORGANICS BY GC-FID/PID			Method: OA-1			Analyst: IT	
GRO (C6-C10)	U		17	100	µg/L	1	12/28/2016 12:51
Surr: a,a,a-Trifluorotoluene	111			80-120	%REC	1	12/28/2016 12:51
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B			Analyst: BG	
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	12/23/2016 05:54
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	12/23/2016 05:54
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	12/23/2016 05:54
1,1,2-Trichlorotrifluoroethane	U		0.42	1.0	µg/L	1	12/23/2016 05:54
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	12/23/2016 05:54
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 05:54
1,2,4-Trichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 05:54
1,2-Dibromo-3-chloropropane	U		0.97	1.0	µg/L	1	12/23/2016 05:54
1,2-Dibromoethane	U		0.98	1.0	µg/L	1	12/23/2016 05:54
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	12/23/2016 05:54
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	12/23/2016 05:54
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	12/23/2016 05:54
1,3-Dichlorobenzene	U		0.29	1.0	µg/L	1	12/23/2016 05:54
1,4-Dichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 05:54
2-Butanone	1.3	J	0.58	5.0	µg/L	1	12/23/2016 05:54
2-Hexanone	U		0.13	5.0	µg/L	1	12/23/2016 05:54
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	12/23/2016 05:54
Acetone	7.4	J	0.92	10	µg/L	1	12/23/2016 05:54
Benzene	U		0.30	1.0	µg/L	1	12/23/2016 05:54
Bromodichloromethane	U		0.23	1.0	µg/L	1	12/23/2016 05:54
Bromoform	U		0.77	1.0	µg/L	1	12/23/2016 05:54
Bromomethane	U		0.38	1.0	µg/L	1	12/23/2016 05:54
Carbon disulfide	U		0.23	1.0	µg/L	1	12/23/2016 05:54
Carbon tetrachloride	U		0.31	1.0	µg/L	1	12/23/2016 05:54
Chlorobenzene	U		0.27	1.0	µg/L	1	12/23/2016 05:54
Chloroethane	U		0.29	1.0	µg/L	1	12/23/2016 05:54
Chloroform	U		0.26	1.0	µg/L	1	12/23/2016 05:54
Chloromethane	U		0.17	1.0	µg/L	1	12/23/2016 05:54
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	12/23/2016 05:54
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	12/23/2016 05:54

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW5
Collection Date: 12/21/2016 09:25 AM

Work Order: 16121297
Lab ID: 16121297-11
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Cyclohexane	U		0.22	1.0	µg/L	1	12/23/2016 05:54
Dibromochloromethane	U		0.38	1.0	µg/L	1	12/23/2016 05:54
Dichlorodifluoromethane	U		0.13	1.0	µg/L	1	12/23/2016 05:54
Ethylbenzene	U		0.40	1.0	µg/L	1	12/23/2016 05:54
Isopropylbenzene	U		0.31	1.0	µg/L	1	12/23/2016 05:54
m,p-Xylene	U		0.98	2.0	µg/L	1	12/23/2016 05:54
Methyl acetate	U		0.23	2.0	µg/L	1	12/23/2016 05:54
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	12/23/2016 05:54
Methylcyclohexane	U		0.27	1.0	µg/L	1	12/23/2016 05:54
Methylene chloride	U		0.56	5.0	µg/L	1	12/23/2016 05:54
o-Xylene	U		0.35	1.0	µg/L	1	12/23/2016 05:54
Styrene	U		0.24	1.0	µg/L	1	12/23/2016 05:54
Tetrachloroethene	U		0.27	1.0	µg/L	1	12/23/2016 05:54
Toluene	U		0.37	1.0	µg/L	1	12/23/2016 05:54
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 05:54
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	12/23/2016 05:54
Trichloroethene	U		0.30	1.0	µg/L	1	12/23/2016 05:54
Trichlorofluoromethane	U		0.20	1.0	µg/L	1	12/23/2016 05:54
Vinyl chloride	U		0.20	1.0	µg/L	1	12/23/2016 05:54
Xylenes, Total	U		1.3	3.0	µg/L	1	12/23/2016 05:54
Surr: 1,2-Dichloroethane-d4	104			75-120	%REC	1	12/23/2016 05:54
Surr: 4-Bromofluorobenzene	97.2			80-110	%REC	1	12/23/2016 05:54
Surr: Dibromofluoromethane	103			85-115	%REC	1	12/23/2016 05:54
Surr: Toluene-d8	99.4			85-110	%REC	1	12/23/2016 05:54

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW6
Collection Date: 12/21/2016 09:45 AM

Work Order: 16121297
Lab ID: 16121297-12
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2				Analyst: IT
DRO (C10-C20)	0.29		0.023	0.10	mg/L	1	12/27/2016 23:59
ORO (C20-C34)	0.45		0.026	0.10	mg/L	1	12/27/2016 23:59
Surr: 4-Terphenyl-d14	50.3			50-150	%REC	1	12/27/2016 23:59
GASOLINE RANGE ORGANICS BY GC-FID/PID							
			Method: OA-1				Analyst: IT
GRO (C6-C10)	U		17	100	µg/L	1	12/28/2016 01:16
Surr: a,a,a-Trifluorotoluene	114			80-120	%REC	1	12/28/2016 01:16
MERCURY BY CVAA							
			Method: SW7470A		Prep: SW7470 / 12/28/16		Analyst: LR
Mercury	0.0015		0.000048	0.00050	mg/L	1	12/28/2016 16:33
METALS BY ICP-MS							
			Method: SW6020A		Prep: SW3005A / 12/28/16		Analyst: ML
Arsenic	0.13		0.00087	0.0050	mg/L	1	12/29/2016 05:10
Barium	9.7		0.22	0.50	mg/L	100	12/29/2016 15:41
Cadmium	0.0092		0.000050	0.0020	mg/L	1	12/29/2016 05:10
Chromium	0.17		0.00065	0.0050	mg/L	1	12/29/2016 05:10
Lead	0.52		0.00033	0.0050	mg/L	1	12/29/2016 05:10
Selenium	0.023		0.00090	0.0050	mg/L	1	12/29/2016 05:10
Silver	0.0014	J	0.000050	0.0050	mg/L	1	12/29/2016 05:10
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D		Prep: SW3510 / 12/27/16		Analyst: JF
1,1'-Biphenyl	U		0.42	5.0	µg/L	1	12/27/2016 18:19
2,4,5-Trichlorophenol	U		0.17	5.0	µg/L	1	12/27/2016 18:19
2,4,6-Trichlorophenol	U		0.25	5.0	µg/L	1	12/27/2016 18:19
2,4-Dichlorophenol	U		0.35	5.0	µg/L	1	12/27/2016 18:19
2,4-Dimethylphenol	U		0.36	5.0	µg/L	1	12/27/2016 18:19
2,4-Dinitrophenol	U		0.40	5.0	µg/L	1	12/27/2016 18:19
2,4-Dinitrotoluene	U		0.42	5.0	µg/L	1	12/27/2016 18:19
2,6-Dinitrotoluene	U		0.11	5.0	µg/L	1	12/27/2016 18:19
2-Chloronaphthalene	U		0.075	5.0	µg/L	1	12/27/2016 18:19
2-Chlorophenol	U		0.23	5.0	µg/L	1	12/27/2016 18:19
2-Methylnaphthalene	U		0.065	5.0	µg/L	1	12/27/2016 18:19
2-Methylphenol	U		0.25	5.0	µg/L	1	12/27/2016 18:19
2-Nitroaniline	U		0.21	5.0	µg/L	1	12/27/2016 18:19
2-Nitrophenol	U		0.34	5.0	µg/L	1	12/27/2016 18:19
3&4-Methylphenol	U		0.21	5.0	µg/L	1	12/27/2016 18:19
3,3'-Dichlorobenzidine	U		1.6	5.0	µg/L	1	12/27/2016 18:19
3-Nitroaniline	U		0.64	5.0	µg/L	1	12/27/2016 18:19
4,6-Dinitro-2-methylphenol	U		0.27	5.0	µg/L	1	12/27/2016 18:19
4-Bromophenyl phenyl ether	U		0.33	5.0	µg/L	1	12/27/2016 18:19

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW6
Collection Date: 12/21/2016 09:45 AM

Work Order: 16121297
Lab ID: 16121297-12
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
4-Chloro-3-methylphenol	U		0.26	5.0	µg/L	1	12/27/2016 18:19
4-Chloroaniline	U		0.34	5.0	µg/L	1	12/27/2016 18:19
4-Chlorophenyl phenyl ether	U		0.31	5.0	µg/L	1	12/27/2016 18:19
4-Nitroaniline	U		0.57	5.0	µg/L	1	12/27/2016 18:19
4-Nitrophenol	U		0.24	5.0	µg/L	1	12/27/2016 18:19
Acenaphthene	U		0.081	5.0	µg/L	1	12/27/2016 18:19
Acenaphthylene	U		0.075	5.0	µg/L	1	12/27/2016 18:19
Acetophenone	U		0.37	1.0	µg/L	1	12/27/2016 18:19
Anthracene	U		0.028	5.0	µg/L	1	12/27/2016 18:19
Atrazine	U		0.35	1.0	µg/L	1	12/27/2016 18:19
Benzaldehyde	U		0.52	1.0	µg/L	1	12/27/2016 18:19
Benzo(a)anthracene	U		0.022	5.0	µg/L	1	12/27/2016 18:19
Benzo(a)pyrene	U		0.044	5.0	µg/L	1	12/27/2016 18:19
Benzo(b)fluoranthene	U		0.051	5.0	µg/L	1	12/27/2016 18:19
Benzo(g,h,i)perylene	U		0.030	5.0	µg/L	1	12/27/2016 18:19
Benzo(k)fluoranthene	U		0.048	5.0	µg/L	1	12/27/2016 18:19
Bis(2-chloroethoxy)methane	U		0.29	5.0	µg/L	1	12/27/2016 18:19
Bis(2-chloroethyl)ether	U		0.37	5.0	µg/L	1	12/27/2016 18:19
Bis(2-chloroisopropyl)ether	U		0.23	5.0	µg/L	1	12/27/2016 18:19
Bis(2-ethylhexyl)phthalate	U		0.40	5.0	µg/L	1	12/27/2016 18:19
Butyl benzyl phthalate	0.58	J	0.30	5.0	µg/L	1	12/27/2016 18:19
Caprolactam	U		0.96	10	µg/L	1	12/27/2016 18:19
Carbazole	U		0.10	5.0	µg/L	1	12/27/2016 18:19
Chrysene	U		0.048	5.0	µg/L	1	12/27/2016 18:19
Dibenzo(a,h)anthracene	U		0.030	5.0	µg/L	1	12/27/2016 18:19
Dibenzofuran	U		0.23	5.0	µg/L	1	12/27/2016 18:19
Diethyl phthalate	0.35	J	0.17	5.0	µg/L	1	12/27/2016 18:19
Dimethyl phthalate	0.89	J	0.18	5.0	µg/L	1	12/27/2016 18:19
Di-n-butyl phthalate	U		0.21	5.0	µg/L	1	12/27/2016 18:19
Di-n-octyl phthalate	U		0.15	5.0	µg/L	1	12/27/2016 18:19
Fluoranthene	0.060	J	0.038	5.0	µg/L	1	12/27/2016 18:19
Fluorene	U		0.051	5.0	µg/L	1	12/27/2016 18:19
Hexachlorobenzene	U		0.44	5.0	µg/L	1	12/27/2016 18:19
Hexachlorobutadiene	U		0.28	5.0	µg/L	1	12/27/2016 18:19
Hexachlorocyclopentadiene	U		1.1	5.0	µg/L	1	12/27/2016 18:19
Hexachloroethane	U		0.21	5.0	µg/L	1	12/27/2016 18:19
Indeno(1,2,3-cd)pyrene	U		0.067	5.0	µg/L	1	12/27/2016 18:19
Isophorone	U		0.34	5.0	µg/L	1	12/27/2016 18:19
Naphthalene	U		0.067	5.0	µg/L	1	12/27/2016 18:19
Nitrobenzene	U		0.26	5.0	µg/L	1	12/27/2016 18:19

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW6
Collection Date: 12/21/2016 09:45 AM

Work Order: 16121297
Lab ID: 16121297-12
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
N-Nitrosodi-n-propylamine	U		0.35	5.0	µg/L	1	12/27/2016 18:19
N-Nitrosodiphenylamine	U		0.23	5.0	µg/L	1	12/27/2016 18:19
Pentachlorophenol	U		0.97	5.0	µg/L	1	12/27/2016 18:19
Phenanthrene	U		0.030	5.0	µg/L	1	12/27/2016 18:19
Phenol	U		0.21	5.0	µg/L	1	12/27/2016 18:19
Pyrene	0.050	J	0.036	5.0	µg/L	1	12/27/2016 18:19
Surr: 2,4,6-Tribromophenol	63.6			38-115	%REC	1	12/27/2016 18:19
Surr: 2-Fluorobiphenyl	61.1			32-100	%REC	1	12/27/2016 18:19
Surr: 2-Fluorophenol	34.1			22-59	%REC	1	12/27/2016 18:19
Surr: 4-Terphenyl-d14	60.5			23-112	%REC	1	12/27/2016 18:19
Surr: Nitrobenzene-d5	54.7			31-93	%REC	1	12/27/2016 18:19
Surr: Phenol-d6	18.0			13-36	%REC	1	12/27/2016 18:19

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Analyst: BG

1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	12/23/2016 06:20
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	12/23/2016 06:20
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	12/23/2016 06:20
1,1,2-Trichlorotrifluoroethane	U		0.42	1.0	µg/L	1	12/23/2016 06:20
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	12/23/2016 06:20
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 06:20
1,2,4-Trichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 06:20
1,2-Dibromo-3-chloropropane	U		0.97	1.0	µg/L	1	12/23/2016 06:20
1,2-Dibromoethane	U		0.98	1.0	µg/L	1	12/23/2016 06:20
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	12/23/2016 06:20
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	12/23/2016 06:20
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	12/23/2016 06:20
1,3-Dichlorobenzene	U		0.29	1.0	µg/L	1	12/23/2016 06:20
1,4-Dichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 06:20
2-Butanone	1.3	J	0.58	5.0	µg/L	1	12/23/2016 06:20
2-Hexanone	U		0.13	5.0	µg/L	1	12/23/2016 06:20
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	12/23/2016 06:20
Acetone	7.5	J	0.92	10	µg/L	1	12/23/2016 06:20
Benzene	U		0.30	1.0	µg/L	1	12/23/2016 06:20
Bromodichloromethane	U		0.23	1.0	µg/L	1	12/23/2016 06:20
Bromoform	U		0.77	1.0	µg/L	1	12/23/2016 06:20
Bromomethane	U		0.38	1.0	µg/L	1	12/23/2016 06:20
Carbon disulfide	U		0.23	1.0	µg/L	1	12/23/2016 06:20
Carbon tetrachloride	U		0.31	1.0	µg/L	1	12/23/2016 06:20
Chlorobenzene	U		0.27	1.0	µg/L	1	12/23/2016 06:20
Chloroethane	U		0.29	1.0	µg/L	1	12/23/2016 06:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW6
Collection Date: 12/21/2016 09:45 AM

Work Order: 16121297
Lab ID: 16121297-12
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Chloroform	U		0.26	1.0	µg/L	1	12/23/2016 06:20
Chloromethane	U		0.17	1.0	µg/L	1	12/23/2016 06:20
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	12/23/2016 06:20
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	12/23/2016 06:20
Cyclohexane	U		0.22	1.0	µg/L	1	12/23/2016 06:20
Dibromochloromethane	U		0.38	1.0	µg/L	1	12/23/2016 06:20
Dichlorodifluoromethane	U		0.13	1.0	µg/L	1	12/23/2016 06:20
Ethylbenzene	U		0.40	1.0	µg/L	1	12/23/2016 06:20
Isopropylbenzene	U		0.31	1.0	µg/L	1	12/23/2016 06:20
m,p-Xylene	U		0.98	2.0	µg/L	1	12/23/2016 06:20
Methyl acetate	U		0.23	2.0	µg/L	1	12/23/2016 06:20
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	12/23/2016 06:20
Methylcyclohexane	U		0.27	1.0	µg/L	1	12/23/2016 06:20
Methylene chloride	U		0.56	5.0	µg/L	1	12/23/2016 06:20
o-Xylene	U		0.35	1.0	µg/L	1	12/23/2016 06:20
Styrene	U		0.24	1.0	µg/L	1	12/23/2016 06:20
Tetrachloroethene	U		0.27	1.0	µg/L	1	12/23/2016 06:20
Toluene	U		0.37	1.0	µg/L	1	12/23/2016 06:20
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 06:20
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	12/23/2016 06:20
Trichloroethene	U		0.30	1.0	µg/L	1	12/23/2016 06:20
Trichlorofluoromethane	U		0.20	1.0	µg/L	1	12/23/2016 06:20
Vinyl chloride	U		0.20	1.0	µg/L	1	12/23/2016 06:20
Xylenes, Total	U		1.3	3.0	µg/L	1	12/23/2016 06:20
Surr: 1,2-Dichloroethane-d4	106			75-120	%REC	1	12/23/2016 06:20
Surr: 4-Bromofluorobenzene	95.1			80-110	%REC	1	12/23/2016 06:20
Surr: Dibromofluoromethane	105			85-115	%REC	1	12/23/2016 06:20
Surr: Toluene-d8	96.2			85-110	%REC	1	12/23/2016 06:20

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW7
Collection Date: 12/21/2016 10:00 AM

Work Order: 16121297
Lab ID: 16121297-13
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			Method: OA-2			Analyst: IT	
DRO (C10-C20)	0.49		0.023	0.10	mg/L	1	12/28/2016 12:28
ORO (C20-C34)	0.90		0.026	0.10	mg/L	1	12/28/2016 12:28
Surr: 4-Terphenyl-d14	67.9			50-150	%REC	1	12/28/2016 12:28
GASOLINE RANGE ORGANICS BY GC-FID/PID			Method: OA-1			Analyst: IT	
GRO (C6-C10)	U		17	100	µg/L	1	12/28/2016 01:41
Surr: a,a,a-Trifluorotoluene	111			80-120	%REC	1	12/28/2016 01:41
SEMI-VOLATILE ORGANIC COMPOUNDS			Method: SW846 8270D			Prep: SW3510 / 12/27/16	
1,1'-Biphenyl	U		0.49	5.9	µg/L	1	12/27/2016 18:41
2,4,5-Trichlorophenol	U		0.20	5.9	µg/L	1	12/27/2016 18:41
2,4,6-Trichlorophenol	U		0.29	5.9	µg/L	1	12/27/2016 18:41
2,4-Dichlorophenol	U		0.41	5.9	µg/L	1	12/27/2016 18:41
2,4-Dimethylphenol	U		0.42	5.9	µg/L	1	12/27/2016 18:41
2,4-Dinitrophenol	U		0.47	5.9	µg/L	1	12/27/2016 18:41
2,4-Dinitrotoluene	U		0.49	5.9	µg/L	1	12/27/2016 18:41
2,6-Dinitrotoluene	U		0.13	5.9	µg/L	1	12/27/2016 18:41
2-Chloronaphthalene	U		0.088	5.9	µg/L	1	12/27/2016 18:41
2-Chlorophenol	U		0.27	5.9	µg/L	1	12/27/2016 18:41
2-Methylnaphthalene	U		0.076	5.9	µg/L	1	12/27/2016 18:41
2-Methylphenol	U		0.29	5.9	µg/L	1	12/27/2016 18:41
2-Nitroaniline	U		0.25	5.9	µg/L	1	12/27/2016 18:41
2-Nitrophenol	U		0.40	5.9	µg/L	1	12/27/2016 18:41
3&4-Methylphenol	U		0.25	5.9	µg/L	1	12/27/2016 18:41
3,3'-Dichlorobenzidine	U		1.9	5.9	µg/L	1	12/27/2016 18:41
3-Nitroaniline	U		0.75	5.9	µg/L	1	12/27/2016 18:41
4,6-Dinitro-2-methylphenol	U		0.32	5.9	µg/L	1	12/27/2016 18:41
4-Bromophenyl phenyl ether	U		0.39	5.9	µg/L	1	12/27/2016 18:41
4-Chloro-3-methylphenol	U		0.31	5.9	µg/L	1	12/27/2016 18:41
4-Chloroaniline	U		0.40	5.9	µg/L	1	12/27/2016 18:41
4-Chlorophenyl phenyl ether	U		0.36	5.9	µg/L	1	12/27/2016 18:41
4-Nitroaniline	U		0.67	5.9	µg/L	1	12/27/2016 18:41
4-Nitrophenol	U		0.28	5.9	µg/L	1	12/27/2016 18:41
Acenaphthene	U		0.095	5.9	µg/L	1	12/27/2016 18:41
Acenaphthylene	U		0.088	5.9	µg/L	1	12/27/2016 18:41
Acetophenone	U		0.44	1.2	µg/L	1	12/27/2016 18:41
Anthracene	0.14	J	0.033	5.9	µg/L	1	12/27/2016 18:41
Atrazine	U		0.41	1.2	µg/L	1	12/27/2016 18:41
Benzaldehyde	U		0.61	1.2	µg/L	1	12/27/2016 18:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW7
Collection Date: 12/21/2016 10:00 AM

Work Order: 16121297
Lab ID: 16121297-13
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Benzo(a)anthracene	U		0.026	5.9	µg/L	1	12/27/2016 18:41
Benzo(a)pyrene	0.48	J	0.052	5.9	µg/L	1	12/27/2016 18:41
Benzo(b)fluoranthene	0.55	J	0.060	5.9	µg/L	1	12/27/2016 18:41
Benzo(g,h,i)perylene	0.40	J	0.035	5.9	µg/L	1	12/27/2016 18:41
Benzo(k)fluoranthene	0.28	J	0.056	5.9	µg/L	1	12/27/2016 18:41
Bis(2-chloroethoxy)methane	U		0.34	5.9	µg/L	1	12/27/2016 18:41
Bis(2-chloroethyl)ether	U		0.44	5.9	µg/L	1	12/27/2016 18:41
Bis(2-chloroisopropyl)ether	U		0.27	5.9	µg/L	1	12/27/2016 18:41
Bis(2-ethylhexyl)phthalate	2.6	J	0.47	5.9	µg/L	1	12/27/2016 18:41
Butyl benzyl phthalate	U		0.35	5.9	µg/L	1	12/27/2016 18:41
Caprolactam	U		1.1	12	µg/L	1	12/27/2016 18:41
Carbazole	U		0.12	5.9	µg/L	1	12/27/2016 18:41
Chrysene	U		0.056	5.9	µg/L	1	12/27/2016 18:41
Dibenzo(a,h)anthracene	U		0.035	5.9	µg/L	1	12/27/2016 18:41
Dibenzofuran	U		0.27	5.9	µg/L	1	12/27/2016 18:41
Diethyl phthalate	U		0.20	5.9	µg/L	1	12/27/2016 18:41
Dimethyl phthalate	U		0.21	5.9	µg/L	1	12/27/2016 18:41
Di-n-butyl phthalate	0.32	J	0.25	5.9	µg/L	1	12/27/2016 18:41
Di-n-octyl phthalate	1.4	J	0.18	5.9	µg/L	1	12/27/2016 18:41
Fluoranthene	0.65	J	0.045	5.9	µg/L	1	12/27/2016 18:41
Fluorene	U		0.060	5.9	µg/L	1	12/27/2016 18:41
Hexachlorobenzene	U		0.52	5.9	µg/L	1	12/27/2016 18:41
Hexachlorobutadiene	U		0.33	5.9	µg/L	1	12/27/2016 18:41
Hexachlorocyclopentadiene	U		1.3	5.9	µg/L	1	12/27/2016 18:41
Hexachloroethane	U		0.25	5.9	µg/L	1	12/27/2016 18:41
Indeno(1,2,3-cd)pyrene	0.48	J	0.079	5.9	µg/L	1	12/27/2016 18:41
Isophorone	U		0.40	5.9	µg/L	1	12/27/2016 18:41
Naphthalene	U		0.079	5.9	µg/L	1	12/27/2016 18:41
Nitrobenzene	U		0.31	5.9	µg/L	1	12/27/2016 18:41
N-Nitrosodi-n-propylamine	U		0.41	5.9	µg/L	1	12/27/2016 18:41
N-Nitrosodiphenylamine	U		0.27	5.9	µg/L	1	12/27/2016 18:41
Pentachlorophenol	U		1.1	5.9	µg/L	1	12/27/2016 18:41
Phenanthrene	0.11	J	0.035	5.9	µg/L	1	12/27/2016 18:41
Phenol	U		0.25	5.9	µg/L	1	12/27/2016 18:41
Pyrene	0.46	J	0.042	5.9	µg/L	1	12/27/2016 18:41
Surr: 2,4,6-Tribromophenol	66.4			38-115	%REC	1	12/27/2016 18:41
Surr: 2-Fluorobiphenyl	58.5			32-100	%REC	1	12/27/2016 18:41
Surr: 2-Fluorophenol	32.9			22-59	%REC	1	12/27/2016 18:41
Surr: 4-Terphenyl-d14	62.5			23-112	%REC	1	12/27/2016 18:41
Surr: Nitrobenzene-d5	44.7			31-93	%REC	1	12/27/2016 18:41

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW7
Collection Date: 12/21/2016 10:00 AM

Work Order: 16121297
Lab ID: 16121297-13
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Surr: Phenol-d6	18.5			13-36	%REC	1	12/27/2016 18:41
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B			Analyst: BG	
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	12/23/2016 06:46
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	12/23/2016 06:46
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	12/23/2016 06:46
1,1,2-Trichlorotrifluoroethane	U		0.42	1.0	µg/L	1	12/23/2016 06:46
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	12/23/2016 06:46
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 06:46
1,2,4-Trichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 06:46
1,2-Dibromo-3-chloropropane	U		0.97	1.0	µg/L	1	12/23/2016 06:46
1,2-Dibromoethane	U		0.98	1.0	µg/L	1	12/23/2016 06:46
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	12/23/2016 06:46
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	12/23/2016 06:46
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	12/23/2016 06:46
1,3-Dichlorobenzene	U		0.29	1.0	µg/L	1	12/23/2016 06:46
1,4-Dichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 06:46
2-Butanone	U		0.58	5.0	µg/L	1	12/23/2016 06:46
2-Hexanone	U		0.13	5.0	µg/L	1	12/23/2016 06:46
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	12/23/2016 06:46
Acetone	3.6	J	0.92	10	µg/L	1	12/23/2016 06:46
Benzene	U		0.30	1.0	µg/L	1	12/23/2016 06:46
Bromodichloromethane	U		0.23	1.0	µg/L	1	12/23/2016 06:46
Bromoform	U		0.77	1.0	µg/L	1	12/23/2016 06:46
Bromomethane	U		0.38	1.0	µg/L	1	12/23/2016 06:46
Carbon disulfide	U		0.23	1.0	µg/L	1	12/23/2016 06:46
Carbon tetrachloride	U		0.31	1.0	µg/L	1	12/23/2016 06:46
Chlorobenzene	U		0.27	1.0	µg/L	1	12/23/2016 06:46
Chloroethane	U		0.29	1.0	µg/L	1	12/23/2016 06:46
Chloroform	U		0.26	1.0	µg/L	1	12/23/2016 06:46
Chloromethane	U		0.17	1.0	µg/L	1	12/23/2016 06:46
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	12/23/2016 06:46
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	12/23/2016 06:46
Cyclohexane	U		0.22	1.0	µg/L	1	12/23/2016 06:46
Dibromochloromethane	U		0.38	1.0	µg/L	1	12/23/2016 06:46
Dichlorodifluoromethane	U		0.13	1.0	µg/L	1	12/23/2016 06:46
Ethylbenzene	U		0.40	1.0	µg/L	1	12/23/2016 06:46
Isopropylbenzene	U		0.31	1.0	µg/L	1	12/23/2016 06:46
m,p-Xylene	U		0.98	2.0	µg/L	1	12/23/2016 06:46
Methyl acetate	U		0.23	2.0	µg/L	1	12/23/2016 06:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW7
Collection Date: 12/21/2016 10:00 AM

Work Order: 16121297
Lab ID: 16121297-13
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	12/23/2016 06:46
Methylcyclohexane	U		0.27	1.0	µg/L	1	12/23/2016 06:46
Methylene chloride	U		0.56	5.0	µg/L	1	12/23/2016 06:46
o-Xylene	U		0.35	1.0	µg/L	1	12/23/2016 06:46
Styrene	U		0.24	1.0	µg/L	1	12/23/2016 06:46
Tetrachloroethene	U		0.27	1.0	µg/L	1	12/23/2016 06:46
Toluene	U		0.37	1.0	µg/L	1	12/23/2016 06:46
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 06:46
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	12/23/2016 06:46
Trichloroethene	U		0.30	1.0	µg/L	1	12/23/2016 06:46
Trichlorofluoromethane	U		0.20	1.0	µg/L	1	12/23/2016 06:46
Vinyl chloride	U		0.20	1.0	µg/L	1	12/23/2016 06:46
Xylenes, Total	U		1.3	3.0	µg/L	1	12/23/2016 06:46
Surr: 1,2-Dichloroethane-d4	105			75-120	%REC	1	12/23/2016 06:46
Surr: 4-Bromofluorobenzene	94.5			80-110	%REC	1	12/23/2016 06:46
Surr: Dibromofluoromethane	103			85-115	%REC	1	12/23/2016 06:46
Surr: Toluene-d8	98.6			85-110	%REC	1	12/23/2016 06:46

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW8
Collection Date: 12/21/2016 08:45 AM

Work Order: 16121297
Lab ID: 16121297-14
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			Method: OA-2			Analyst: IT	
DRO (C10-C20)	0.67		0.023	0.10	mg/L	1	12/28/2016 12:58
ORO (C20-C34)	0.69		0.026	0.10	mg/L	1	12/28/2016 12:58
Surr: 4-Terphenyl-d14	90.8			50-150	%REC	1	12/28/2016 12:58
GASOLINE RANGE ORGANICS BY GC-FID/PID			Method: OA-1			Analyst: IT	
GRO (C6-C10)	U		17	100	µg/L	1	12/28/2016 02:06
Surr: a,a,a-Trifluorotoluene	109			80-120	%REC	1	12/28/2016 02:06
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B			Analyst: BG	
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	12/23/2016 07:12
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	12/23/2016 07:12
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	12/23/2016 07:12
1,1,2-Trichlorotrifluoroethane	U		0.42	1.0	µg/L	1	12/23/2016 07:12
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	12/23/2016 07:12
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 07:12
1,2,4-Trichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 07:12
1,2-Dibromo-3-chloropropane	U		0.97	1.0	µg/L	1	12/23/2016 07:12
1,2-Dibromoethane	U		0.98	1.0	µg/L	1	12/23/2016 07:12
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	12/23/2016 07:12
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	12/23/2016 07:12
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	12/23/2016 07:12
1,3-Dichlorobenzene	U		0.29	1.0	µg/L	1	12/23/2016 07:12
1,4-Dichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 07:12
2-Butanone	4.0	J	0.58	5.0	µg/L	1	12/23/2016 07:12
2-Hexanone	U		0.13	5.0	µg/L	1	12/23/2016 07:12
4-Methyl-2-pentanone	0.91	J	0.11	1.0	µg/L	1	12/23/2016 07:12
Acetone	8.4	J	0.92	10	µg/L	1	12/23/2016 07:12
Benzene	U		0.30	1.0	µg/L	1	12/23/2016 07:12
Bromodichloromethane	U		0.23	1.0	µg/L	1	12/23/2016 07:12
Bromoform	U		0.77	1.0	µg/L	1	12/23/2016 07:12
Bromomethane	U		0.38	1.0	µg/L	1	12/23/2016 07:12
Carbon disulfide	U		0.23	1.0	µg/L	1	12/23/2016 07:12
Carbon tetrachloride	U		0.31	1.0	µg/L	1	12/23/2016 07:12
Chlorobenzene	U		0.27	1.0	µg/L	1	12/23/2016 07:12
Chloroethane	U		0.29	1.0	µg/L	1	12/23/2016 07:12
Chloroform	U		0.26	1.0	µg/L	1	12/23/2016 07:12
Chloromethane	U		0.17	1.0	µg/L	1	12/23/2016 07:12
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	12/23/2016 07:12
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	12/23/2016 07:12

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW8
Collection Date: 12/21/2016 08:45 AM

Work Order: 16121297
Lab ID: 16121297-14
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Cyclohexane	U		0.22	1.0	µg/L	1	12/23/2016 07:12
Dibromochloromethane	U		0.38	1.0	µg/L	1	12/23/2016 07:12
Dichlorodifluoromethane	U		0.13	1.0	µg/L	1	12/23/2016 07:12
Ethylbenzene	U		0.40	1.0	µg/L	1	12/23/2016 07:12
Isopropylbenzene	U		0.31	1.0	µg/L	1	12/23/2016 07:12
m,p-Xylene	U		0.98	2.0	µg/L	1	12/23/2016 07:12
Methyl acetate	U		0.23	2.0	µg/L	1	12/23/2016 07:12
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	12/23/2016 07:12
Methylcyclohexane	U		0.27	1.0	µg/L	1	12/23/2016 07:12
Methylene chloride	U		0.56	5.0	µg/L	1	12/23/2016 07:12
o-Xylene	U		0.35	1.0	µg/L	1	12/23/2016 07:12
Styrene	U		0.24	1.0	µg/L	1	12/23/2016 07:12
Tetrachloroethene	U		0.27	1.0	µg/L	1	12/23/2016 07:12
Toluene	U		0.37	1.0	µg/L	1	12/23/2016 07:12
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 07:12
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	12/23/2016 07:12
Trichloroethene	U		0.30	1.0	µg/L	1	12/23/2016 07:12
Trichlorofluoromethane	U		0.20	1.0	µg/L	1	12/23/2016 07:12
Vinyl chloride	U		0.20	1.0	µg/L	1	12/23/2016 07:12
Xylenes, Total	U		1.3	3.0	µg/L	1	12/23/2016 07:12
Surr: 1,2-Dichloroethane-d4	107			75-120	%REC	1	12/23/2016 07:12
Surr: 4-Bromofluorobenzene	96.8			80-110	%REC	1	12/23/2016 07:12
Surr: Dibromofluoromethane	104			85-115	%REC	1	12/23/2016 07:12
Surr: Toluene-d8	98.8			85-110	%REC	1	12/23/2016 07:12

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW9
Collection Date: 12/21/2016 09:00 AM

Work Order: 16121297
Lab ID: 16121297-15
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID			Method: OA-2			Analyst: IT	
DRO (C10-C20)	0.40		0.023	0.10	mg/L	1	12/28/2016 01:28
ORO (C20-C34)	0.26		0.026	0.10	mg/L	1	12/28/2016 01:28
Surr: 4-Terphenyl-d14	87.6			50-150	%REC	1	12/28/2016 01:28
GASOLINE RANGE ORGANICS BY GC-FID/PID			Method: OA-1			Analyst: IT	
GRO (C6-C10)	U		17	100	µg/L	1	12/28/2016 02:31
Surr: a,a,a-Trifluorotoluene	114			80-120	%REC	1	12/28/2016 02:31
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B			Analyst: BG	
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	12/23/2016 07:38
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	12/23/2016 07:38
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	12/23/2016 07:38
1,1,2-Trichlorotrifluoroethane	U		0.42	1.0	µg/L	1	12/23/2016 07:38
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	12/23/2016 07:38
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 07:38
1,2,4-Trichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 07:38
1,2-Dibromo-3-chloropropane	U		0.97	1.0	µg/L	1	12/23/2016 07:38
1,2-Dibromoethane	U		0.98	1.0	µg/L	1	12/23/2016 07:38
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	12/23/2016 07:38
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	12/23/2016 07:38
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	12/23/2016 07:38
1,3-Dichlorobenzene	U		0.29	1.0	µg/L	1	12/23/2016 07:38
1,4-Dichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 07:38
2-Butanone	U		0.58	5.0	µg/L	1	12/23/2016 07:38
2-Hexanone	U		0.13	5.0	µg/L	1	12/23/2016 07:38
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	12/23/2016 07:38
Acetone	2.0	J	0.92	10	µg/L	1	12/23/2016 07:38
Benzene	U		0.30	1.0	µg/L	1	12/23/2016 07:38
Bromodichloromethane	U		0.23	1.0	µg/L	1	12/23/2016 07:38
Bromoform	U		0.77	1.0	µg/L	1	12/23/2016 07:38
Bromomethane	U		0.38	1.0	µg/L	1	12/23/2016 07:38
Carbon disulfide	U		0.23	1.0	µg/L	1	12/23/2016 07:38
Carbon tetrachloride	U		0.31	1.0	µg/L	1	12/23/2016 07:38
Chlorobenzene	U		0.27	1.0	µg/L	1	12/23/2016 07:38
Chloroethane	U		0.29	1.0	µg/L	1	12/23/2016 07:38
Chloroform	U		0.26	1.0	µg/L	1	12/23/2016 07:38
Chloromethane	U		0.17	1.0	µg/L	1	12/23/2016 07:38
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	12/23/2016 07:38
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	12/23/2016 07:38

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW9
Collection Date: 12/21/2016 09:00 AM

Work Order: 16121297
Lab ID: 16121297-15
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Cyclohexane	U		0.22	1.0	µg/L	1	12/23/2016 07:38
Dibromochloromethane	U		0.38	1.0	µg/L	1	12/23/2016 07:38
Dichlorodifluoromethane	U		0.13	1.0	µg/L	1	12/23/2016 07:38
Ethylbenzene	U		0.40	1.0	µg/L	1	12/23/2016 07:38
Isopropylbenzene	U		0.31	1.0	µg/L	1	12/23/2016 07:38
m,p-Xylene	U		0.98	2.0	µg/L	1	12/23/2016 07:38
Methyl acetate	U		0.23	2.0	µg/L	1	12/23/2016 07:38
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	12/23/2016 07:38
Methylcyclohexane	U		0.27	1.0	µg/L	1	12/23/2016 07:38
Methylene chloride	U		0.56	5.0	µg/L	1	12/23/2016 07:38
o-Xylene	U		0.35	1.0	µg/L	1	12/23/2016 07:38
Styrene	U		0.24	1.0	µg/L	1	12/23/2016 07:38
Tetrachloroethene	U		0.27	1.0	µg/L	1	12/23/2016 07:38
Toluene	U		0.37	1.0	µg/L	1	12/23/2016 07:38
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 07:38
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	12/23/2016 07:38
Trichloroethene	U		0.30	1.0	µg/L	1	12/23/2016 07:38
Trichlorofluoromethane	U		0.20	1.0	µg/L	1	12/23/2016 07:38
Vinyl chloride	U		0.20	1.0	µg/L	1	12/23/2016 07:38
Xylenes, Total	U		1.3	3.0	µg/L	1	12/23/2016 07:38
Surr: 1,2-Dichloroethane-d4	106			75-120	%REC	1	12/23/2016 07:38
Surr: 4-Bromofluorobenzene	95.4			80-110	%REC	1	12/23/2016 07:38
Surr: Dibromofluoromethane	103			85-115	%REC	1	12/23/2016 07:38
Surr: Toluene-d8	97.4			85-110	%REC	1	12/23/2016 07:38

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW10
Collection Date: 12/21/2016 09:30 AM

Work Order: 16121297
Lab ID: 16121297-16
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
GASOLINE RANGE ORGANICS BY GC-FID/PID			Method: OA-1			Analyst: IT	
GRO (C6-C10)	U		17	100	µg/L	1	12/28/2016 02:56
Surr: a,a,a-Trifluorotoluene	109			80-120	%REC	1	12/28/2016 02:56
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B			Analyst: BG	
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	12/23/2016 08:04
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	12/23/2016 08:04
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	12/23/2016 08:04
1,1,2-Trichlorotrifluoroethane	U		0.42	1.0	µg/L	1	12/23/2016 08:04
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	12/23/2016 08:04
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 08:04
1,2,4-Trichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 08:04
1,2-Dibromo-3-chloropropane	U		0.97	1.0	µg/L	1	12/23/2016 08:04
1,2-Dibromoethane	U		0.98	1.0	µg/L	1	12/23/2016 08:04
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	12/23/2016 08:04
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	12/23/2016 08:04
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	12/23/2016 08:04
1,3-Dichlorobenzene	U		0.29	1.0	µg/L	1	12/23/2016 08:04
1,4-Dichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 08:04
2-Butanone	U		0.58	5.0	µg/L	1	12/23/2016 08:04
2-Hexanone	U		0.13	5.0	µg/L	1	12/23/2016 08:04
4-Methyl-2-pentanone	0.69	J	0.11	1.0	µg/L	1	12/23/2016 08:04
Acetone	2.0	J	0.92	10	µg/L	1	12/23/2016 08:04
Benzene	U		0.30	1.0	µg/L	1	12/23/2016 08:04
Bromodichloromethane	U		0.23	1.0	µg/L	1	12/23/2016 08:04
Bromoform	U		0.77	1.0	µg/L	1	12/23/2016 08:04
Bromomethane	U		0.38	1.0	µg/L	1	12/23/2016 08:04
Carbon disulfide	U		0.23	1.0	µg/L	1	12/23/2016 08:04
Carbon tetrachloride	U		0.31	1.0	µg/L	1	12/23/2016 08:04
Chlorobenzene	U		0.27	1.0	µg/L	1	12/23/2016 08:04
Chloroethane	U		0.29	1.0	µg/L	1	12/23/2016 08:04
Chloroform	U		0.26	1.0	µg/L	1	12/23/2016 08:04
Chloromethane	U		0.17	1.0	µg/L	1	12/23/2016 08:04
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	12/23/2016 08:04
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	12/23/2016 08:04
Cyclohexane	U		0.22	1.0	µg/L	1	12/23/2016 08:04
Dibromochloromethane	U		0.38	1.0	µg/L	1	12/23/2016 08:04
Dichlorodifluoromethane	U		0.13	1.0	µg/L	1	12/23/2016 08:04
Ethylbenzene	U		0.40	1.0	µg/L	1	12/23/2016 08:04
Isopropylbenzene	U		0.31	1.0	µg/L	1	12/23/2016 08:04

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: GW10
Collection Date: 12/21/2016 09:30 AM

Work Order: 16121297
Lab ID: 16121297-16
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
m,p-Xylene	U		0.98	2.0	µg/L	1	12/23/2016 08:04
Methyl acetate	U		0.23	2.0	µg/L	1	12/23/2016 08:04
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	12/23/2016 08:04
Methylcyclohexane	U		0.27	1.0	µg/L	1	12/23/2016 08:04
Methylene chloride	U		0.56	5.0	µg/L	1	12/23/2016 08:04
o-Xylene	U		0.35	1.0	µg/L	1	12/23/2016 08:04
Styrene	U		0.24	1.0	µg/L	1	12/23/2016 08:04
Tetrachloroethene	U		0.27	1.0	µg/L	1	12/23/2016 08:04
Toluene	U		0.37	1.0	µg/L	1	12/23/2016 08:04
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 08:04
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	12/23/2016 08:04
Trichloroethene	U		0.30	1.0	µg/L	1	12/23/2016 08:04
Trichlorofluoromethane	U		0.20	1.0	µg/L	1	12/23/2016 08:04
Vinyl chloride	U		0.20	1.0	µg/L	1	12/23/2016 08:04
Xylenes, Total	U		1.3	3.0	µg/L	1	12/23/2016 08:04
Surr: 1,2-Dichloroethane-d4	107			75-120	%REC	1	12/23/2016 08:04
Surr: 4-Bromofluorobenzene	96.2			80-110	%REC	1	12/23/2016 08:04
Surr: Dibromofluoromethane	105			85-115	%REC	1	12/23/2016 08:04
Surr: Toluene-d8	97.6			85-110	%REC	1	12/23/2016 08:04

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: FB-1
Collection Date: 12/21/2016 07:30 AM

Work Order: 16121297
Lab ID: 16121297-17
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
DIESEL RANGE ORGANICS BY GC-FID							
			Method: OA-2				Analyst: IT
DRO (C10-C20)	0.11		0.023	0.10	mg/L	1	12/28/2016 01:57
ORO (C20-C34)	0.091	J	0.026	0.10	mg/L	1	12/28/2016 01:57
Surr: 4-Terphenyl-d14	105			50-150	%REC	1	12/28/2016 01:57
GASOLINE RANGE ORGANICS BY GC-FID/PID							
			Method: OA-1				Analyst: IT
GRO (C6-C10)	U		17	100	µg/L	1	12/28/2016 03:21
Surr: a,a,a-Trifluorotoluene	113			80-120	%REC	1	12/28/2016 03:21
MERCURY BY CVAA							
			Method: SW7470A			Prep: SW7470 / 12/28/16	Analyst: LR
Mercury	U		0.000019	0.00020	mg/L	1	12/28/2016 16:35
MERCURY BY CVAA (DISSOLVED)							
			Method: SW7470A			Prep: SW7470 / 12/28/16	Analyst: LR
Mercury	U		0.000019	0.00020	mg/L	1	12/28/2016 16:38
METALS BY ICP-MS							
			Method: SW6020A			Prep: SW3005A / 12/28/16	Analyst: ML
Arsenic	U		0.00087	0.0050	mg/L	1	12/29/2016 05:36
Barium	U		0.0022	0.0050	mg/L	1	12/29/2016 05:36
Cadmium	U		0.000050	0.0020	mg/L	1	12/29/2016 05:36
Chromium	U		0.00065	0.0050	mg/L	1	12/29/2016 05:36
Lead	U		0.00033	0.0050	mg/L	1	12/29/2016 05:36
Selenium	U		0.00090	0.0050	mg/L	1	12/29/2016 05:36
Silver	U		0.000050	0.0050	mg/L	1	12/29/2016 05:36
METALS BY ICP-MS (DISSOLVED)							
			Method: SW6020A			Prep: SW3005A / 12/28/16	Analyst: ML
Arsenic	U		0.00087	0.0050	mg/L	1	12/29/2016 05:42
Barium	U		0.0022	0.0050	mg/L	1	12/29/2016 05:42
Cadmium	U		0.000050	0.0020	mg/L	1	12/29/2016 05:42
Chromium	U		0.00065	0.0050	mg/L	1	12/29/2016 05:42
Lead	U		0.00033	0.0050	mg/L	1	12/29/2016 05:42
Selenium	U		0.00090	0.0050	mg/L	1	12/29/2016 05:42
Silver	U		0.000050	0.0050	mg/L	1	12/29/2016 05:42
SEMI-VOLATILE ORGANIC COMPOUNDS							
			Method: SW846 8270D			Prep: SW3510 / 12/27/16	Analyst: JF
1,1'-Biphenyl	U		0.42	5.0	µg/L	1	12/27/2016 17:32
2,4,5-Trichlorophenol	U		0.17	5.0	µg/L	1	12/27/2016 17:32
2,4,6-Trichlorophenol	U		0.25	5.0	µg/L	1	12/27/2016 17:32
2,4-Dichlorophenol	U		0.35	5.0	µg/L	1	12/27/2016 17:32
2,4-Dimethylphenol	U		0.36	5.0	µg/L	1	12/27/2016 17:32
2,4-Dinitrophenol	U		0.40	5.0	µg/L	1	12/27/2016 17:32
2,4-Dinitrotoluene	U		0.42	5.0	µg/L	1	12/27/2016 17:32
2,6-Dinitrotoluene	U		0.11	5.0	µg/L	1	12/27/2016 17:32

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: FB-1
Collection Date: 12/21/2016 07:30 AM

Work Order: 16121297
Lab ID: 16121297-17
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Chloronaphthalene	U		0.075	5.0	µg/L	1	12/27/2016 17:32
2-Chlorophenol	U		0.23	5.0	µg/L	1	12/27/2016 17:32
2-Methylnaphthalene	U		0.065	5.0	µg/L	1	12/27/2016 17:32
2-Methylphenol	U		0.25	5.0	µg/L	1	12/27/2016 17:32
2-Nitroaniline	U		0.21	5.0	µg/L	1	12/27/2016 17:32
2-Nitrophenol	U		0.34	5.0	µg/L	1	12/27/2016 17:32
3&4-Methylphenol	U		0.21	5.0	µg/L	1	12/27/2016 17:32
3,3'-Dichlorobenzidine	U		1.6	5.0	µg/L	1	12/27/2016 17:32
3-Nitroaniline	U		0.64	5.0	µg/L	1	12/27/2016 17:32
4,6-Dinitro-2-methylphenol	U		0.27	5.0	µg/L	1	12/27/2016 17:32
4-Bromophenyl phenyl ether	U		0.33	5.0	µg/L	1	12/27/2016 17:32
4-Chloro-3-methylphenol	U		0.26	5.0	µg/L	1	12/27/2016 17:32
4-Chloroaniline	U		0.34	5.0	µg/L	1	12/27/2016 17:32
4-Chlorophenyl phenyl ether	U		0.31	5.0	µg/L	1	12/27/2016 17:32
4-Nitroaniline	U		0.57	5.0	µg/L	1	12/27/2016 17:32
4-Nitrophenol	U		0.24	5.0	µg/L	1	12/27/2016 17:32
Acenaphthene	U		0.081	5.0	µg/L	1	12/27/2016 17:32
Acenaphthylene	U		0.075	5.0	µg/L	1	12/27/2016 17:32
Acetophenone	U		0.37	1.0	µg/L	1	12/27/2016 17:32
Anthracene	U		0.028	5.0	µg/L	1	12/27/2016 17:32
Atrazine	U		0.35	1.0	µg/L	1	12/27/2016 17:32
Benzaldehyde	1.8		0.52	1.0	µg/L	1	12/27/2016 17:32
Benzo(a)anthracene	U		0.022	5.0	µg/L	1	12/27/2016 17:32
Benzo(a)pyrene	U		0.044	5.0	µg/L	1	12/27/2016 17:32
Benzo(b)fluoranthene	U		0.051	5.0	µg/L	1	12/27/2016 17:32
Benzo(g,h,i)perylene	U		0.030	5.0	µg/L	1	12/27/2016 17:32
Benzo(k)fluoranthene	U		0.048	5.0	µg/L	1	12/27/2016 17:32
Bis(2-chloroethoxy)methane	U		0.29	5.0	µg/L	1	12/27/2016 17:32
Bis(2-chloroethyl)ether	U		0.37	5.0	µg/L	1	12/27/2016 17:32
Bis(2-chloroisopropyl)ether	U		0.23	5.0	µg/L	1	12/27/2016 17:32
Bis(2-ethylhexyl)phthalate	U		0.40	5.0	µg/L	1	12/27/2016 17:32
Butyl benzyl phthalate	U		0.30	5.0	µg/L	1	12/27/2016 17:32
Caprolactam	U		0.96	10	µg/L	1	12/27/2016 17:32
Carbazole	U		0.10	5.0	µg/L	1	12/27/2016 17:32
Chrysene	U		0.048	5.0	µg/L	1	12/27/2016 17:32
Dibenzo(a,h)anthracene	U		0.030	5.0	µg/L	1	12/27/2016 17:32
Dibenzofuran	U		0.23	5.0	µg/L	1	12/27/2016 17:32
Diethyl phthalate	U		0.17	5.0	µg/L	1	12/27/2016 17:32
Dimethyl phthalate	U		0.18	5.0	µg/L	1	12/27/2016 17:32
Di-n-butyl phthalate	U		0.21	5.0	µg/L	1	12/27/2016 17:32

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: FB-1
Collection Date: 12/21/2016 07:30 AM

Work Order: 16121297
Lab ID: 16121297-17
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Di-n-octyl phthalate	U		0.15	5.0	µg/L	1	12/27/2016 17:32
Fluoranthene	U		0.038	5.0	µg/L	1	12/27/2016 17:32
Fluorene	U		0.051	5.0	µg/L	1	12/27/2016 17:32
Hexachlorobenzene	U		0.44	5.0	µg/L	1	12/27/2016 17:32
Hexachlorobutadiene	U		0.28	5.0	µg/L	1	12/27/2016 17:32
Hexachlorocyclopentadiene	U		1.1	5.0	µg/L	1	12/27/2016 17:32
Hexachloroethane	U		0.21	5.0	µg/L	1	12/27/2016 17:32
Indeno(1,2,3-cd)pyrene	U		0.067	5.0	µg/L	1	12/27/2016 17:32
Isophorone	U		0.34	5.0	µg/L	1	12/27/2016 17:32
Naphthalene	U		0.067	5.0	µg/L	1	12/27/2016 17:32
Nitrobenzene	U		0.26	5.0	µg/L	1	12/27/2016 17:32
N-Nitrosodi-n-propylamine	U		0.35	5.0	µg/L	1	12/27/2016 17:32
N-Nitrosodiphenylamine	U		0.23	5.0	µg/L	1	12/27/2016 17:32
Pentachlorophenol	U		0.97	5.0	µg/L	1	12/27/2016 17:32
Phenanthrene	U		0.030	5.0	µg/L	1	12/27/2016 17:32
Phenol	U		0.21	5.0	µg/L	1	12/27/2016 17:32
Pyrene	U		0.036	5.0	µg/L	1	12/27/2016 17:32
Surr: 2,4,6-Tribromophenol	55.7			38-115	%REC	1	12/27/2016 17:32
Surr: 2-Fluorobiphenyl	59.7			32-100	%REC	1	12/27/2016 17:32
Surr: 2-Fluorophenol	31.4			22-59	%REC	1	12/27/2016 17:32
Surr: 4-Terphenyl-d14	72.2			23-112	%REC	1	12/27/2016 17:32
Surr: Nitrobenzene-d5	52.6			31-93	%REC	1	12/27/2016 17:32
Surr: Phenol-d6	15.1			13-36	%REC	1	12/27/2016 17:32

VOLATILE ORGANIC COMPOUNDS

Method: SW8260B

Analyst: BG

1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	12/23/2016 08:31
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	12/23/2016 08:31
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	12/23/2016 08:31
1,1,2-Trichlorotrifluoroethane	U		0.42	1.0	µg/L	1	12/23/2016 08:31
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	12/23/2016 08:31
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 08:31
1,2,4-Trichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 08:31
1,2-Dibromo-3-chloropropane	U		0.97	1.0	µg/L	1	12/23/2016 08:31
1,2-Dibromoethane	U		0.98	1.0	µg/L	1	12/23/2016 08:31
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	12/23/2016 08:31
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	12/23/2016 08:31
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	12/23/2016 08:31
1,3-Dichlorobenzene	U		0.29	1.0	µg/L	1	12/23/2016 08:31
1,4-Dichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 08:31
2-Butanone	U		0.58	5.0	µg/L	1	12/23/2016 08:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: FB-1
Collection Date: 12/21/2016 07:30 AM

Work Order: 16121297
Lab ID: 16121297-17
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
2-Hexanone	U		0.13	5.0	µg/L	1	12/23/2016 08:31
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	12/23/2016 08:31
Acetone	2.5	J	0.92	10	µg/L	1	12/23/2016 08:31
Benzene	U		0.30	1.0	µg/L	1	12/23/2016 08:31
Bromodichloromethane	U		0.23	1.0	µg/L	1	12/23/2016 08:31
Bromoform	U		0.77	1.0	µg/L	1	12/23/2016 08:31
Bromomethane	U		0.38	1.0	µg/L	1	12/23/2016 08:31
Carbon disulfide	U		0.23	1.0	µg/L	1	12/23/2016 08:31
Carbon tetrachloride	U		0.31	1.0	µg/L	1	12/23/2016 08:31
Chlorobenzene	U		0.27	1.0	µg/L	1	12/23/2016 08:31
Chloroethane	U		0.29	1.0	µg/L	1	12/23/2016 08:31
Chloroform	U		0.26	1.0	µg/L	1	12/23/2016 08:31
Chloromethane	U		0.17	1.0	µg/L	1	12/23/2016 08:31
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	12/23/2016 08:31
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	12/23/2016 08:31
Cyclohexane	U		0.22	1.0	µg/L	1	12/23/2016 08:31
Dibromochloromethane	U		0.38	1.0	µg/L	1	12/23/2016 08:31
Dichlorodifluoromethane	U		0.13	1.0	µg/L	1	12/23/2016 08:31
Ethylbenzene	U		0.40	1.0	µg/L	1	12/23/2016 08:31
Isopropylbenzene	U		0.31	1.0	µg/L	1	12/23/2016 08:31
m,p-Xylene	U		0.98	2.0	µg/L	1	12/23/2016 08:31
Methyl acetate	U		0.23	2.0	µg/L	1	12/23/2016 08:31
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	12/23/2016 08:31
Methylcyclohexane	U		0.27	1.0	µg/L	1	12/23/2016 08:31
Methylene chloride	U		0.56	5.0	µg/L	1	12/23/2016 08:31
o-Xylene	U		0.35	1.0	µg/L	1	12/23/2016 08:31
Styrene	U		0.24	1.0	µg/L	1	12/23/2016 08:31
Tetrachloroethene	U		0.27	1.0	µg/L	1	12/23/2016 08:31
Toluene	U		0.37	1.0	µg/L	1	12/23/2016 08:31
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 08:31
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	12/23/2016 08:31
Trichloroethene	U		0.30	1.0	µg/L	1	12/23/2016 08:31
Trichlorofluoromethane	U		0.20	1.0	µg/L	1	12/23/2016 08:31
Vinyl chloride	U		0.20	1.0	µg/L	1	12/23/2016 08:31
Xylenes, Total	U		1.3	3.0	µg/L	1	12/23/2016 08:31
Surr: 1,2-Dichloroethane-d4	107			75-120	%REC	1	12/23/2016 08:31
Surr: 4-Bromofluorobenzene	95.2			80-110	%REC	1	12/23/2016 08:31
Surr: Dibromofluoromethane	104			85-115	%REC	1	12/23/2016 08:31
Surr: Toluene-d8	97.4			85-110	%REC	1	12/23/2016 08:31

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: Trip Blank - Water
Collection Date: 12/21/2016

Work Order: 16121297
Lab ID: 16121297-18
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B			Analyst: BG	
1,1,1-Trichloroethane	U		0.36	1.0	µg/L	1	12/23/2016 01:58
1,1,2,2-Tetrachloroethane	U		0.19	1.0	µg/L	1	12/23/2016 01:58
1,1,2-Trichloroethane	U		0.40	1.0	µg/L	1	12/23/2016 01:58
1,1,2-Trichlorotrifluoroethane	U		0.42	1.0	µg/L	1	12/23/2016 01:58
1,1-Dichloroethane	U		0.31	1.0	µg/L	1	12/23/2016 01:58
1,1-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 01:58
1,2,4-Trichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 01:58
1,2-Dibromo-3-chloropropane	U		0.97	1.0	µg/L	1	12/23/2016 01:58
1,2-Dibromoethane	U		0.98	1.0	µg/L	1	12/23/2016 01:58
1,2-Dichlorobenzene	U		0.22	1.0	µg/L	1	12/23/2016 01:58
1,2-Dichloroethane	U		0.17	1.0	µg/L	1	12/23/2016 01:58
1,2-Dichloropropane	U		0.25	1.0	µg/L	1	12/23/2016 01:58
1,3-Dichlorobenzene	U		0.29	1.0	µg/L	1	12/23/2016 01:58
1,4-Dichlorobenzene	U		0.21	1.0	µg/L	1	12/23/2016 01:58
2-Butanone	U		0.58	5.0	µg/L	1	12/23/2016 01:58
2-Hexanone	U		0.13	5.0	µg/L	1	12/23/2016 01:58
4-Methyl-2-pentanone	U		0.11	1.0	µg/L	1	12/23/2016 01:58
Acetone	U		0.92	10	µg/L	1	12/23/2016 01:58
Benzene	U		0.30	1.0	µg/L	1	12/23/2016 01:58
Bromodichloromethane	U		0.23	1.0	µg/L	1	12/23/2016 01:58
Bromoform	U		0.77	1.0	µg/L	1	12/23/2016 01:58
Bromomethane	U		0.38	1.0	µg/L	1	12/23/2016 01:58
Carbon disulfide	U		0.23	1.0	µg/L	1	12/23/2016 01:58
Carbon tetrachloride	U		0.31	1.0	µg/L	1	12/23/2016 01:58
Chlorobenzene	U		0.27	1.0	µg/L	1	12/23/2016 01:58
Chloroethane	U		0.29	1.0	µg/L	1	12/23/2016 01:58
Chloroform	0.96	J	0.26	1.0	µg/L	1	12/23/2016 01:58
Chloromethane	U		0.17	1.0	µg/L	1	12/23/2016 01:58
cis-1,2-Dichloroethene	U		0.25	1.0	µg/L	1	12/23/2016 01:58
cis-1,3-Dichloropropene	U		0.39	1.0	µg/L	1	12/23/2016 01:58
Cyclohexane	U		0.22	1.0	µg/L	1	12/23/2016 01:58
Dibromochloromethane	U		0.38	1.0	µg/L	1	12/23/2016 01:58
Dichlorodifluoromethane	U		0.13	1.0	µg/L	1	12/23/2016 01:58
Ethylbenzene	U		0.40	1.0	µg/L	1	12/23/2016 01:58
Isopropylbenzene	U		0.31	1.0	µg/L	1	12/23/2016 01:58
m,p-Xylene	U		0.98	2.0	µg/L	1	12/23/2016 01:58
Methyl acetate	U		0.23	2.0	µg/L	1	12/23/2016 01:58
Methyl tert-butyl ether	U		0.12	1.0	µg/L	1	12/23/2016 01:58

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: Trip Blank - Water
Collection Date: 12/21/2016

Work Order: 16121297
Lab ID: 16121297-18
Matrix: WATER

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.27	1.0	µg/L	1	12/23/2016 01:58
Methylene chloride	U		0.56	5.0	µg/L	1	12/23/2016 01:58
o-Xylene	U		0.35	1.0	µg/L	1	12/23/2016 01:58
Styrene	U		0.24	1.0	µg/L	1	12/23/2016 01:58
Tetrachloroethene	U		0.27	1.0	µg/L	1	12/23/2016 01:58
Toluene	U		0.37	1.0	µg/L	1	12/23/2016 01:58
trans-1,2-Dichloroethene	U		0.28	1.0	µg/L	1	12/23/2016 01:58
trans-1,3-Dichloropropene	U		0.82	1.0	µg/L	1	12/23/2016 01:58
Trichloroethene	U		0.30	1.0	µg/L	1	12/23/2016 01:58
Trichlorofluoromethane	U		0.20	1.0	µg/L	1	12/23/2016 01:58
Vinyl chloride	U		0.20	1.0	µg/L	1	12/23/2016 01:58
Xylenes, Total	U		1.3	3.0	µg/L	1	12/23/2016 01:58
Surr: 1,2-Dichloroethane-d4	101			75-120	%REC	1	12/23/2016 01:58
Surr: 4-Bromofluorobenzene	97.7			80-110	%REC	1	12/23/2016 01:58
Surr: Dibromofluoromethane	100			85-115	%REC	1	12/23/2016 01:58
Surr: Toluene-d8	99.0			85-110	%REC	1	12/23/2016 01:58

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA

Date: 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: Trip Blank - Soil
Collection Date: 12/21/2016

Work Order: 16121297
Lab ID: 16121297-19
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
VOLATILE ORGANIC COMPOUNDS			Method: SW8260B			Analyst: BG	
1,1,1-Trichloroethane	U		0.15	5.0	µg/Kg	1	12/28/2016 12:34
1,1,2,2-Tetrachloroethane	U		0.12	5.0	µg/Kg	1	12/28/2016 12:34
1,1,2-Trichloroethane	U		0.62	5.0	µg/Kg	1	12/28/2016 12:34
1,1,2-Trichlorotrifluoroethane	U		0.18	5.0	µg/Kg	1	12/28/2016 12:34
1,1-Dichloroethane	U		0.13	5.0	µg/Kg	1	12/28/2016 12:34
1,1-Dichloroethene	U		0.17	5.0	µg/Kg	1	12/28/2016 12:34
1,2,4-Trichlorobenzene	U		0.14	5.0	µg/Kg	1	12/28/2016 12:34
1,2-Dibromo-3-chloropropane	U		0.52	5.0	µg/Kg	1	12/28/2016 12:34
1,2-Dibromoethane	U		0.15	5.0	µg/Kg	1	12/28/2016 12:34
1,2-Dichlorobenzene	U		0.088	5.0	µg/Kg	1	12/28/2016 12:34
1,2-Dichloroethane	U		0.15	5.0	µg/Kg	1	12/28/2016 12:34
1,2-Dichloropropane	U		0.36	5.0	µg/Kg	1	12/28/2016 12:34
1,3-Dichlorobenzene	U		0.083	5.0	µg/Kg	1	12/28/2016 12:34
1,4-Dichlorobenzene	U		0.17	5.0	µg/Kg	1	12/28/2016 12:34
2-Butanone	U		0.85	10	µg/Kg	1	12/28/2016 12:34
2-Hexanone	U		0.67	5.0	µg/Kg	1	12/28/2016 12:34
4-Methyl-2-pentanone	U		0.18	5.0	µg/Kg	1	12/28/2016 12:34
Acetone	2.7	J	1.5	10	µg/Kg	1	12/28/2016 12:34
Benzene	U		0.097	5.0	µg/Kg	1	12/28/2016 12:34
Bromodichloromethane	U		0.11	5.0	µg/Kg	1	12/28/2016 12:34
Bromoform	U		0.15	5.0	µg/Kg	1	12/28/2016 12:34
Bromomethane	U		0.31	10	µg/Kg	1	12/28/2016 12:34
Carbon disulfide	U		0.19	5.0	µg/Kg	1	12/28/2016 12:34
Carbon tetrachloride	U		0.24	5.0	µg/Kg	1	12/28/2016 12:34
Chlorobenzene	U		0.16	5.0	µg/Kg	1	12/28/2016 12:34
Chloroethane	U		0.52	5.0	µg/Kg	1	12/28/2016 12:34
Chloroform	0.80	J	0.20	5.0	µg/Kg	1	12/28/2016 12:34
Chloromethane	U		0.26	10	µg/Kg	1	12/28/2016 12:34
cis-1,2-Dichloroethene	U		0.12	5.0	µg/Kg	1	12/28/2016 12:34
cis-1,3-Dichloropropene	U		0.12	5.0	µg/Kg	1	12/28/2016 12:34
Cyclohexane	U		0.17	5.0	µg/Kg	1	12/28/2016 12:34
Dibromochloromethane	U		0.15	5.0	µg/Kg	1	12/28/2016 12:34
Dichlorodifluoromethane	U		0.25	10	µg/Kg	1	12/28/2016 12:34
Ethylbenzene	U		0.12	5.0	µg/Kg	1	12/28/2016 12:34
Isopropylbenzene	U		0.15	5.0	µg/Kg	1	12/28/2016 12:34
m,p-Xylene	U		0.37	2.5	µg/Kg	1	12/28/2016 12:34
Methyl acetate	U		0.45	10	µg/Kg	1	12/28/2016 12:34
Methyl tert-butyl ether	U		0.18	5.0	µg/Kg	1	12/28/2016 12:34

Note: See Qualifiers page for a list of qualifiers and their definitions.

ALS Group, USA**Date:** 03-Jan-17

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
Sample ID: Trip Blank - Soil
Collection Date: 12/21/2016

Work Order: 16121297
Lab ID: 16121297-19
Matrix: SOIL

Analyses	Result	Qual	MDL	Report Limit	Units	Dilution Factor	Date Analyzed
Methylcyclohexane	U		0.22	10	µg/Kg	1	12/28/2016 12:34
Methylene chloride	U		0.14	5.0	µg/Kg	1	12/28/2016 12:34
o-Xylene	U		0.18	2.5	µg/Kg	1	12/28/2016 12:34
Styrene	U		0.30	5.0	µg/Kg	1	12/28/2016 12:34
Tetrachloroethene	U		0.22	5.0	µg/Kg	1	12/28/2016 12:34
Toluene	U		0.12	5.0	µg/Kg	1	12/28/2016 12:34
trans-1,2-Dichloroethene	U		0.23	5.0	µg/Kg	1	12/28/2016 12:34
trans-1,3-Dichloropropene	U		0.16	10	µg/Kg	1	12/28/2016 12:34
Trichloroethene	U		0.19	5.0	µg/Kg	1	12/28/2016 12:34
Trichlorofluoromethane	U		0.27	5.0	µg/Kg	1	12/28/2016 12:34
Vinyl chloride	U		0.17	5.0	µg/Kg	1	12/28/2016 12:34
Xylenes, Total	U		0.54	5.0	µg/Kg	1	12/28/2016 12:34
Surr: 1,2-Dichloroethane-d4	100			70-120	%REC	1	12/28/2016 12:34
Surr: 4-Bromofluorobenzene	97.4			75-120	%REC	1	12/28/2016 12:34
Surr: Dibromofluoromethane	95.6			85-115	%REC	1	12/28/2016 12:34
Surr: Toluene-d8	96.6			85-120	%REC	1	12/28/2016 12:34

Note: See Qualifiers page for a list of qualifiers and their definitions.

Client: Tetra Tech
Project: 1302 Locust Street/Carter Lake X9025.0002.019.022
WorkOrder: 16121297

QUALIFIERS, ACRONYMS, UNITS

<u>Qualifier</u>	<u>Description</u>
*	Value exceeds Regulatory Limit
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 is present at an estimated concentration between the MDL and Report Limit
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
X	Analyte was detected in the Method Blank between the MDL and Reporting Limit, sample results may exhibit background or reagent contamination at the observed level.

<u>Acronym</u>	<u>Description</u>
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
LOD	Limit of Detection (see MDL)
LOQ	Limit of Quantitation (see PQL)
MBLK	Method Blank
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PQL	Practical Quantitation Limit
RPD	Relative Percent Difference
TDL	Target Detection Limit
TNTC	Too Numerous To Count
A	APHA Standard Methods
D	ASTM
E	EPA
SW	SW-846 Update III

<u>Units Reported</u>	<u>Description</u>
% of sample	Percent of Sample
µg/Kg	Micrograms per Kilogram
µg/Kg-dry	Micrograms per Kilogram Dry Weight
µg/L	Micrograms per Liter
mg/Kg-dry	Milligrams per Kilogram Dry Weight
mg/L	Milligrams per Liter

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96238b** Instrument ID **GC8** Method: **OA-2**

MBLK		Sample ID: DBLKW1-96238-96238b				Units: mg/L		Analysis Date: 12/27/2016 06:03 PM		
Client ID:		Run ID: GC8_161227B				SeqNo: 4220227		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C20)	U	0.10								
ORO (C20-C34)	U	0.10								
<i>Surr: 4-Terphenyl-d14</i>	<i>0.1174</i>	<i>0</i>	<i>0.1143</i>	<i>0</i>	<i>103</i>	<i>50-150</i>	<i>0</i>			

LCS		Sample ID: DLCSW1-96238-96238b				Units: mg/L		Analysis Date: 12/27/2016 06:33 PM		
Client ID:		Run ID: GC8_161227B				SeqNo: 4220228		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C20)	7.045	0.10	5.714	0	123	50-150	0			
ORO (C20-C34)	7.875	0.10	5.714	0	138	50-150	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>0.1171</i>	<i>0</i>	<i>0.1143</i>	<i>0</i>	<i>102</i>	<i>50-150</i>	<i>0</i>			

MS		Sample ID: 16121284-05B MS				Units: mg/L		Analysis Date: 12/27/2016 07:03 PM		
Client ID:		Run ID: GC8_161227B				SeqNo: 4220229		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C20)	6.73	0.10	5.714	0.2287	114	50-150	0			
ORO (C20-C34)	8.425	0.10	5.714	0.4514	140	50-150	0			
<i>Surr: 4-Terphenyl-d14</i>	<i>0.1091</i>	<i>0</i>	<i>0.1143</i>	<i>0</i>	<i>95.4</i>	<i>50-150</i>	<i>0</i>			

MSD		Sample ID: 16121284-05B MSD				Units: mg/L		Analysis Date: 12/27/2016 07:32 PM		
Client ID:		Run ID: GC8_161227B				SeqNo: 4220230		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C20)	7.001	0.10	5.714	0.2287	119	50-150	6.73	3.95	30	
ORO (C20-C34)	8.276	0.10	5.714	0.4514	137	50-150	8.425	1.79	30	
<i>Surr: 4-Terphenyl-d14</i>	<i>0.115</i>	<i>0</i>	<i>0.1143</i>	<i>0</i>	<i>101</i>	<i>50-150</i>	<i>0.1091</i>	<i>5.26</i>	<i>30</i>	

The following samples were analyzed in this batch:

16121297-10C	16121297-11B	16121297-12C
16121297-13C	16121297-14B	16121297-15B
16121297-17C		

Client: Tetra Tech
 Work Order: 16121297
 Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96294** Instrument ID **GC8** Method: **OA-2**

MBLK				Sample ID: DBLKS1-96294-96294				Units: mg/Kg			Analysis Date: 12/29/2016 05:33 A			
Client ID:				Run ID: GC8_161228A				SeqNo: 4223331			Prep Date: 12/28/2016		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C20)				U	5.0									
ORO (C20-C34)				U	5.0									
Surr: 4-Terphenyl-d14				2.067	0	3.33	0	62.1	39-133		0			

MBLK		Sample ID: DBLKS1-96294-96294				Units: mg/Kg		Analysis Date: 12/29/2016 05:33 A		
Client ID:		Run ID: GC8_161228A		SeqNo: 4223343		Prep Date: 12/28/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C20)	U	5.0								
Surr: 4-Terphenyl-d14	2.067	0	3.33	0	62.1	39-133	0			

LCS				Sample ID: DLCSS1-96294-96294				Units: mg/Kg			Analysis Date: 12/29/2016 06:02 A			
Client ID:				Run ID: GC8_161228A				SeqNo: 4223332			Prep Date: 12/28/2016		DF: 1	
Analyte				Result		PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (C10-C20)				242.3		5.0	333	0	72.8	61-109		0		
ORO (C20-C34)				287		5.0	333	0	86.2	61-119		0		
Surr: 4-Terphenyl-d14				1.803		0	3.33	0	54.1	39-133		0		

LCS				Sample ID: DLCSS1-96294-96294				Units: mg/Kg			Analysis Date: 12/29/2016 06:02 A			
Client ID:				Run ID: GC8_161228A				SeqNo: 4223344			Prep Date: 12/28/2016		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C20)				242.3	5.0	333	0	72.8	61-109	0				
Surr: 4-Terphenyl-d14				1.803	0	3.33	0	54.1	39-133	0				

MS				Sample ID: 16121253-22B MS				Units: mg/Kg			Analysis Date: 12/29/2016 06:32 A			
Client ID:				Run ID: GC8_161228A				SeqNo: 4223333			Prep Date: 12/28/2016		DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
DRO (C10-C20)		276	4.9	324.6	29.46	76	48-110		0					
ORO (C20-C34)		329.7	4.9	324.6	35.43	90.7	39-140		0					
Surr: 4-Terphenyl-d14		1.78	0	3.246	0	54.9	39-133		0					

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

Client: Tetra Tech
 Work Order: 16121297
 Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96294** Instrument ID **GC8** Method: **OA-2**

MS				Sample ID: 16121253-22B MS				Units: mg/Kg			Analysis Date: 12/29/2016 06:32 A		
Client ID:			Run ID: GC8_161228A			SeqNo: 4223345			Prep Date: 12/28/2016		DF: 1		
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
DRO (C10-C20)	276	4.9	324.6	29.46	76	48-110		0					
Surr: 4-Terphenyl-d14	1.78	0	3.246	0	54.9	39-133		0					

MSD				Sample ID: 16121253-22B MSD			Units: mg/Kg		Analysis Date: 12/29/2016 07:02 A		
Client ID:			Run ID: GC8_161228A			SeqNo: 4223334		Prep Date: 12/28/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C20)	315.9	4.9	326.7	29.46	87.7	48-110	276	13.5	30		
ORO (C20-C34)	372.6	4.9	326.7	35.43	103	39-140	329.7	12.2	30		
Surr: 4-Terphenyl-d14	2.014	0	3.267	0	61.7	39-133	1.78	12.3	30		

MSD				Sample ID: 16121253-22B MSD				Units: mg/Kg			Analysis Date: 12/29/2016 07:02 A			
Client ID:				Run ID: GC8_161228A				SeqNo: 4223346			Prep Date: 12/28/2016		DF: 1	
Analyte				Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
DRO (C10-C20)				315.9	4.9	326.7	29.46	87.7	48-110	276	13.5	30		
Surr: 4-Terphenyl-d14				2.014	0	3.267	0	61.7	39-133	1.78	12.3	30		

The following samples were analyzed in this batch:

16121297-01B	16121297-02B	16121297-03B
16121297-04B	16121297-05B	16121297-06B
16121297-07B		

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96222** Instrument ID **GC9** Method: **OA-1**

MBLK		Sample ID: MBLK-96222-96222				Units: µg/Kg-dry		Analysis Date: 12/28/2016 11:16 A		
Client ID:		Run ID: GC9_161227B				SeqNo: 4221001		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) U 2,500
Surr: a,a,a-Trifluorotoluene 1116 0 1000 0 112 80-120 0

MBLK		Sample ID: MBLK-96222-96222				Units: µg/Kg-dry		Analysis Date: 12/28/2016 06:38 PM		
Client ID:		Run ID: GC9_161228A				SeqNo: 4223182		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) U 2,500

LCS		Sample ID: LCS-96222-96222				Units: µg/Kg-dry		Analysis Date: 12/28/2016 10:51 A		
Client ID:		Run ID: GC9_161227B				SeqNo: 4220998		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 527100 2,500 500000 0 105 80-120 0
Surr: a,a,a-Trifluorotoluene 979.5 0 1000 0 98 80-120 0

LCS		Sample ID: LCS-96222-96222				Units: µg/Kg-dry		Analysis Date: 12/28/2016 05:48 PM		
Client ID:		Run ID: GC9_161228A				SeqNo: 4223180		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 560400 2,500 500000 0 112 70-130 0

MS		Sample ID: 16121297-06A MS				Units: µg/Kg-dry		Analysis Date: 12/28/2016 02:16 PM		
Client ID: SB6		Run ID: GC9_161227B				SeqNo: 4221016		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 956400 4,300 851400 0 112 80-120 0
Surr: a,a,a-Trifluorotoluene 1677 0 1703 0 98.5 80-120 0

MS		Sample ID: 16121299-02A MS				Units: µg/Kg-dry		Analysis Date: 12/28/2016 08:19 PM		
Client ID:		Run ID: GC9_161228A				SeqNo: 4223186		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

GRO (C6-C10) 633700 3,000 602500 0 105 70-130 0

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96222** Instrument ID **GC9** Method: **OA-1**

MSD		Sample ID: 16121297-06A MSD				Units: µg/Kg-dry		Analysis Date: 12/28/2016 02:41 PM		
Client ID: SB6		Run ID: GC9_161227B				SeqNo: 4221018		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	926800	4,300	851400	0	109	80-120	956400	3.14	20	
<i>Surr: a,a,a-Trifluorotoluene</i>	<i>1706</i>	<i>0</i>	<i>1703</i>	<i>0</i>	<i>100</i>	<i>80-120</i>	<i>1677</i>	<i>1.71</i>		

MSD		Sample ID: 16121299-02A MSD				Units: µg/Kg-dry		Analysis Date: 12/28/2016 08:44 PM		
Client ID:		Run ID: GC9_161228A				SeqNo: 4223187		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	687800	3,000	602500	0	114	70-130	633700	8.19	30	

The following samples were analyzed in this batch:

16121297-01A	16121297-02A	16121297-03A
16121297-04A	16121297-05A	16121297-06A
16121297-07A		

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

Client: Tetra Tech
 Work Order: 16121297
 Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203176** Instrument ID **GC9** Method: **OA-1**

MBLK		Sample ID: IBLKW1-161227-R203176				Units: µg/L		Analysis Date: 12/27/2016 08:41 PM		
Client ID:		Run ID: GC9_161227A				SeqNo: 4219512		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	U	100								
Surr: a,a,a-Trifluorotoluene	20.23	0	20	0	101	80-120	0			

LCS		Sample ID: ILCSW1-161227-R203176				Units: µg/L		Analysis Date: 12/27/2016 08:16 PM		
Client ID:		Run ID: GC9_161227A				SeqNo: 4219511		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	11260	100	10000	0	113	80-120	0			
Surr: a,a,a-Trifluorotoluene	19.92	0	20	0	99.6	80-120	0			

MS		Sample ID: 16121297-10A MS				Units: µg/L		Analysis Date: 12/27/2016 11:36 PM		
Client ID: RB1		Run ID: GC9_161227A				SeqNo: 4219519		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	10860	100	10000	0	109	80-120	0			
Surr: a,a,a-Trifluorotoluene	20.51	0	20	0	103	80-120	0			

MSD		Sample ID: 16121297-10A MSD				Units: µg/L		Analysis Date: 12/28/2016 12:01 PM		
Client ID: RB1		Run ID: GC9_161227A				SeqNo: 4219526		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
GRO (C6-C10)	10780	100	10000	0	108	80-120	10860	0.785	20	
Surr: a,a,a-Trifluorotoluene	20.8	0	20	0	104	80-120	20.51	1.4		

The following samples were analyzed in this batch:

16121297-10A	16121297-11A	16121297-12A
16121297-13A	16121297-14A	16121297-15A
16121297-16A	16121297-17A	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96306** Instrument ID **HG1** Method: **SW7470A**

MBLK		Sample ID: MBLK-96306-96306				Units: mg/L		Analysis Date: 12/28/2016 03:45 PM			
Client ID:		Run ID: HG1_161228A				SeqNo: 4221078		Prep Date: 12/28/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	

Mercury U 0.00020

LCS				Sample ID: LCS-96306-96306				Units: mg/L				Analysis Date: 12/28/2016 03:48 PM					
Client ID:				Run ID: HG1_161228A				SeqNo: 4221079				Prep Date: 12/28/2016				DF: 1	
Analyte		Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual						

Mercury 0.002 0.00020 0.002 0 100 80-120 0

MS		Sample ID: 16121320-02AMS					Units: mg/L		Analysis Date: 12/28/2016 03:55 PM	
Client ID:			Run ID: HG1_161228A			SeqNo: 4221082		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.0208 0.0020 0.02 -0.00044 106 75-125 0

MSD				Sample ID: 16121320-02AMSD				Units: mg/L			Analysis Date: 12/28/2016 03:58 PM			
Client ID:				Run ID: HG1_161228A				SeqNo: 4221083			Prep Date: 12/28/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				

Mercury 0.0216 0.0020 0.02 -0.00044 110 75-125 0.0208 3.77 20

The following samples were analyzed in this batch:

16121297-10D	16121297-12D	16121297-17D
16121297-17E		

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96341** Instrument ID **HG1** Method: **SW7471B**

MBLK		Sample ID: MBLK-96341-96341				Units: mg/Kg		Analysis Date: 12/28/2016 08:06 PM		
Client ID:		Run ID: HG1_161228A				SeqNo: 4223111		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury U 0.020

LCS		Sample ID: LCS-96341-96341				Units: mg/Kg		Analysis Date: 12/28/2016 08:09 PM		
Client ID:		Run ID: HG1_161228A				SeqNo: 4223112		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1825 0.020 0.1665 0 110 80-120 0

MS		Sample ID: 16121297-04BMS				Units: mg/Kg		Analysis Date: 12/28/2016 08:42 PM		
Client ID: SB4		Run ID: HG1_161228A				SeqNo: 4223125		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1546 0.013 0.1044 0.02806 121 75-125 0

MSD		Sample ID: 16121297-04BMSD				Units: mg/Kg		Analysis Date: 12/28/2016 08:44 PM		
Client ID: SB4		Run ID: HG1_161228A				SeqNo: 4223126		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Mercury 0.1514 0.012 0.104 0.02806 119 75-125 0.1546 2.12 35

The following samples were analyzed in this batch:

16121297-01B	16121297-02B	16121297-03B
16121297-04B	16121297-05B	16121297-06B
16121297-07B	16121297-08A	16121297-09A

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96236** Instrument ID **ICP2** Method: **SW846 6010C**

MBLK		Sample ID: MBLK-96236-96236				Units: mg/Kg		Analysis Date: 12/28/2016 11:45 A		
Client ID:		Run ID: ICP2_161228A				SeqNo: 4221749		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.25								
Barium	U	0.25								
Cadmium	U	0.50								
Chromium	0.03198	0.25								J
Lead	U	0.25								
Selenium	U	0.50								
Silver	U	0.25								

LCS		Sample ID: LCS-96236-96236				Units: mg/Kg		Analysis Date: 12/28/2016 11:50 A		
Client ID:		Run ID: ICP2_161228A				SeqNo: 4221750		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	5.128	0.25	5	0	103	80-120	0			
Barium	4.85	0.25	5	0	97	80-120	0			
Cadmium	5.081	0.50	5	0	102	80-120	0			
Chromium	5.114	0.25	5	0	102	80-120	0			
Lead	4.829	0.25	5	0	96.6	80-120	0			
Selenium	4.923	0.50	5	0	98.5	80-120	0			
Silver	4.835	0.25	5	0	96.7	80-120	0			

MS		Sample ID: 16121284-01AMS				Units: mg/Kg		Analysis Date: 12/28/2016 12:07 PM		
Client ID:		Run ID: ICP2_161228A				SeqNo: 4221753		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.96	0.36	7.205	6.261	121	75-125	0			
Barium	114.2	0.36	7.205	97.07	238	75-125	0			SO
Cadmium	8.089	0.72	7.205	0.729	102	75-125	0			
Chromium	19.49	0.36	7.205	9.994	132	75-125	0			S
Lead	53.36	0.36	7.205	49.28	56.6	75-125	0			SO
Selenium	6.97	0.72	7.205	0.07427	95.7	75-125	0			
Silver	6.982	0.36	7.205	-0.1094	98.4	75-125	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96236** Instrument ID **ICP2** Method: **SW846 6010C**

MSD		Sample ID: 16121284-01AMSD				Units: mg/Kg		Analysis Date: 12/28/2016 12:12 PM		
Client ID:		Run ID: ICP2_161228A				SeqNo: 4221754		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	14.32	0.36	7.184	6.261	112	75-125	14.96	4.37	20	
Barium	101	0.36	7.184	97.07	54.5	75-125	114.2	12.3	20	SO
Cadmium	8.109	0.72	7.184	0.729	103	75-125	8.089	0.245	20	
Chromium	18.27	0.36	7.184	9.994	115	75-125	19.49	6.47	20	
Lead	48.69	0.36	7.184	49.28	-8.26	75-125	53.36	9.16	20	SO
Selenium	6.662	0.72	7.184	0.07427	91.7	75-125	6.97	4.53	20	
Silver	6.894	0.36	7.184	-0.1094	97.5	75-125	6.982	1.25	20	

The following samples were analyzed in this batch:

16121297-01B	16121297-02B	16121297-03B
16121297-04B	16121297-05B	16121297-06B
16121297-07B	16121297-08A	16121297-09A

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96303** Instrument ID **ICPMS1** Method: **SW6020A**

MBLK		Sample ID: MBLK-96303-96303				Units: mg/L		Analysis Date: 12/29/2016 02:24 A		
Client ID:		Run ID: ICPMS1_161228B				SeqNo: 4222717		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.0050								
Barium	U	0.0050								
Cadmium	U	0.0020								
Chromium	U	0.0050								
Lead	U	0.0050								
Selenium	U	0.0050								
Silver	U	0.0050								

LCS		Sample ID: LCS-96303-96303				Units: mg/L		Analysis Date: 12/29/2016 02:50 A		
Client ID:		Run ID: ICPMS1_161228B				SeqNo: 4222721		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.0965	0.0050	0.1	0	96.5	80-120	0			
Barium	0.09203	0.0050	0.1	0	92	80-120	0			
Cadmium	0.09343	0.0020	0.1	0	93.4	80-120	0			
Chromium	0.09341	0.0050	0.1	0	93.4	80-120	0			
Lead	0.09181	0.0050	0.1	0	91.8	80-120	0			
Selenium	0.08831	0.0050	0.1	0	88.3	80-120	0			
Silver	0.09368	0.0050	0.1	0	93.7	80-120	0			

MS		Sample ID: 16121192-03AMS				Units: mg/L		Analysis Date: 12/29/2016 03:09 A		
Client ID:		Run ID: ICPMS1_161228B				SeqNo: 4222724		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1419	0.0050	0.1	0.04659	95.3	75-125	0			
Barium	0.3521	0.0050	0.1	0.259	93.1	75-125	0			
Cadmium	0.09234	0.0020	0.1	0.000475	91.9	75-125	0			
Chromium	0.09136	0.0050	0.1	0.0001735	91.2	75-125	0			
Lead	0.09224	0.0050	0.1	0.00002427	92.2	75-125	0			
Selenium	0.0907	0.0050	0.1	0.0003993	90.3	75-125	0			
Silver	0.08833	0.0050	0.1	5.241E-06	88.3	75-125	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96303** Instrument ID **ICPMS1** Method: **SW6020A**

MSD				Sample ID: 16121192-03AMSD			Units: mg/L		Analysis Date: 12/29/2016 03:15 A	
Client ID:			Run ID: ICPMS1_161228B			SeqNo: 4222725		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	0.1403	0.0050	0.1	0.04659	93.7	75-125	0.1419	1.13	20	
Barium	0.3507	0.0050	0.1	0.259	91.7	75-125	0.3521	0.398	20	
Cadmium	0.09168	0.0020	0.1	0.000475	91.2	75-125	0.09234	0.717	20	
Chromium	0.0908	0.0050	0.1	0.0001735	90.6	75-125	0.09136	0.615	20	
Lead	0.09248	0.0050	0.1	0.00002427	92.5	75-125	0.09224	0.26	20	
Selenium	0.09114	0.0050	0.1	0.0003993	90.7	75-125	0.0907	0.484	20	
Silver	0.08873	0.0050	0.1	5.241E-06	88.7	75-125	0.08833	0.452	20	

The following samples were analyzed in this batch:

16121297-10D	16121297-12D	16121297-17D
16121297-17E		

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96203** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK		Sample ID: SBLKW1-96203-96203				Units: µg/L		Analysis Date: 12/27/2016 03:39 PM		
Client ID:		Run ID: SVMS5_161227A				SeqNo: 4220758		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	U	5.0								
2,4,5-Trichlorophenol	U	5.0								
2,4,6-Trichlorophenol	U	5.0								
2,4-Dichlorophenol	U	5.0								
2,4-Dimethylphenol	U	5.0								
2,4-Dinitrophenol	U	5.0								
2,4-Dinitrotoluene	U	5.0								
2,6-Dinitrotoluene	U	5.0								
2-Chloronaphthalene	U	5.0								
2-Chlorophenol	U	5.0								
2-Methylnaphthalene	U	5.0								
2-Methylphenol	U	5.0								
2-Nitroaniline	U	5.0								
2-Nitrophenol	U	5.0								
3&4-Methylphenol	U	5.0								
3,3'-Dichlorobenzidine	U	5.0								
3-Nitroaniline	U	5.0								
4,6-Dinitro-2-methylphenol	U	5.0								
4-Bromophenyl phenyl ether	U	5.0								
4-Chloro-3-methylphenol	U	5.0								
4-Chloroaniline	U	5.0								
4-Chlorophenyl phenyl ether	U	5.0								
4-Nitroaniline	U	5.0								
4-Nitrophenol	U	5.0								
Acenaphthene	U	5.0								
Acenaphthylene	U	5.0								
Acetophenone	U	1.0								
Anthracene	U	5.0								
Atrazine	U	1.0								
Benzaldehyde	U	1.0								
Benzo(a)anthracene	U	5.0								
Benzo(a)pyrene	U	5.0								
Benzo(b)fluoranthene	U	5.0								
Benzo(g,h,i)perylene	U	5.0								
Benzo(k)fluoranthene	U	5.0								
Bis(2-chloroethoxy)methane	U	5.0								
Bis(2-chloroethyl)ether	U	5.0								
Bis(2-chloroisopropyl)ether	U	5.0								
Bis(2-ethylhexyl)phthalate	U	5.0								
Butyl benzyl phthalate	U	5.0								
Caprolactam	U	10								
Carbazole	U	5.0								

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96203		Instrument ID SVMS5		Method: SW846 8270D				
Chrysene	U	5.0						
Dibenzo(a,h)anthracene	U	5.0						
Dibenzofuran	U	5.0						
Diethyl phthalate	U	5.0						
Dimethyl phthalate	U	5.0						
Di-n-butyl phthalate	U	5.0						
Di-n-octyl phthalate	U	5.0						
Fluoranthene	U	5.0						
Fluorene	U	5.0						
Hexachlorobenzene	U	5.0						
Hexachlorobutadiene	U	5.0						
Hexachlorocyclopentadiene	U	5.0						
Hexachloroethane	U	5.0						
Indeno(1,2,3-cd)pyrene	U	5.0						
Isophorone	U	5.0						
Naphthalene	U	5.0						
Nitrobenzene	U	5.0						
N-Nitrosodi-n-propylamine	U	5.0						
N-Nitrosodiphenylamine	U	5.0						
Pentachlorophenol	U	5.0						
Phenanthrene	U	5.0						
Phenol	U	5.0						
Pyrene	U	5.0						
<i>Surr: 2,4,6-Tribromophenol</i>	<i>28.38</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>56.8</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>29.91</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>59.8</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>18.24</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>36.5</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>34.07</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>68.1</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>28.62</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>57.2</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>9.47</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>18.9</i>	<i>13-36</i>	<i>0</i>	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96203** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS		Sample ID: SLCSW1-96203-96203				Units: µg/L		Analysis Date: 12/27/2016 04:01 PM		
Client ID:		Run ID: SVMS5_161227A				SeqNo: 4220759		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	13.08	5.0	20	0	65.4	30-120	0			
2,4,5-Trichlorophenol	16.23	5.0	20	0	81.2	50-110	0			
2,4,6-Trichlorophenol	10.94	5.0	20	0	54.7	50-115	0			
2,4-Dichlorophenol	11.25	5.0	20	0	56.2	50-105	0			
2,4-Dimethylphenol	11.71	5.0	20	0	58.6	30-110	0			
2,4-Dinitrophenol	12.1	5.0	20	0	60.5	15-140	0			
2,4-Dinitrotoluene	14.34	5.0	20	0	71.7	50-120	0			
2,6-Dinitrotoluene	14.34	5.0	20	0	71.7	50-115	0			
2-Chloronaphthalene	13.21	5.0	20	0	66	50-105	0			
2-Chlorophenol	13.12	5.0	20	0	65.6	35-105	0			
2-Methylnaphthalene	12.23	5.0	20	0	61.2	45-105	0			
2-Methylphenol	11.67	5.0	20	0	58.4	40-110	0			
2-Nitroaniline	12.44	5.0	20	0	62.2	50-115	0			
2-Nitrophenol	12.84	5.0	20	0	64.2	40-115	0			
3&4-Methylphenol	9.96	5.0	20	0	49.8	30-110	0			
3,3'-Dichlorobenzidine	14.04	5.0	20	0	70.2	30-120	0			
3-Nitroaniline	13.26	5.0	20	0	66.3	20-125	0			
4,6-Dinitro-2-methylphenol	15.88	5.0	20	0	79.4	40-130	0			
4-Bromophenyl phenyl ether	14.92	5.0	20	0	74.6	50-115	0			
4-Chloro-3-methylphenol	12.25	5.0	20	0	61.2	45-110	0			
4-Chloroaniline	13.42	5.0	20	0	67.1	15-110	0			
4-Chlorophenyl phenyl ether	14.2	5.0	20	0	71	50-110	0			
4-Nitroaniline	14.29	5.0	20	0	71.4	35-150	0			
4-Nitrophenol	3.85	5.0	20	0	19.2	10-58	0			J
Acenaphthene	13.51	5.0	20	0	67.6	45-110	0			
Acenaphthylene	13.76	5.0	20	0	68.8	50-105	0			
Acetophenone	14.73	1.0	20	0	73.6	30-120	0			
Anthracene	15.66	5.0	20	0	78.3	55-110	0			
Atrazine	18.16	1.0	20	0	90.8	30-120	0			
Benzaldehyde	16.3	1.0	20	0	81.5	30-120	0			
Benzo(a)anthracene	15.17	5.0	20	0	75.8	55-110	0			
Benzo(a)pyrene	18.86	5.0	20	0	94.3	55-110	0			
Benzo(b)fluoranthene	16.66	5.0	20	0	83.3	45-120	0			
Benzo(g,h,i)perylene	18.41	5.0	20	0	92	40-125	0			
Benzo(k)fluoranthene	19.78	5.0	20	0	98.9	45-125	0			
Bis(2-chloroethoxy)methane	13.34	5.0	20	0	66.7	45-105	0			
Bis(2-chloroethyl)ether	13.14	5.0	20	0	65.7	35-110	0			
Bis(2-ethylhexyl)phthalate	16.96	5.0	20	0	84.8	40-125	0			
Butyl benzyl phthalate	15.13	5.0	20	0	75.6	45-115	0			
Carbazole	15.73	5.0	20	0	78.6	50-150	0			
Chrysene	17.25	5.0	20	0	86.2	55-110	0			
Dibenzo(a,h)anthracene	18.37	5.0	20	0	91.8	40-125	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96203		Instrument ID SVMS5		Method: SW846 8270D				
Dibenzofuran	13.22	5.0	20	0	66.1	55-105	0	
Diethyl phthalate	15.07	5.0	20	0	75.4	40-120	0	
Dimethyl phthalate	14.88	5.0	20	0	74.4	25-125	0	
Di-n-butyl phthalate	16.53	5.0	20	0	82.6	55-115	0	
Di-n-octyl phthalate	18.18	5.0	20	0	90.9	35-135	0	
Fluoranthene	16.04	5.0	20	0	80.2	55-115	0	
Fluorene	13.91	5.0	20	0	69.6	50-110	0	
Hexachlorobenzene	15.35	5.0	20	0	76.8	50-110	0	
Hexachlorobutadiene	10.49	5.0	20	0	52.4	25-105	0	
Hexachlorocyclopentadiene	8.07	5.0	20	0	40.4	25-105	0	
Hexachloroethane	10.59	5.0	20	0	53	30-95	0	
Indeno(1,2,3-cd)pyrene	15.72	5.0	20	0	78.6	45-125	0	
Isophorone	13.46	5.0	20	0	67.3	50-110	0	
Naphthalene	12.42	5.0	20	0	62.1	40-100	0	
Nitrobenzene	12.68	5.0	20	0	63.4	45-110	0	
N-Nitrosodi-n-propylamine	13.88	5.0	20	0	69.4	35-130	0	
N-Nitrosodiphenylamine	14.8	5.0	20	0	74	50-110	0	
Pentachlorophenol	15.3	5.0	20	0	76.5	40-115	0	
Phenanthrene	15.05	5.0	20	0	75.2	50-115	0	
Phenol	4.36	5.0	20	0	21.8	12-43	0	J
Pyrene	14.82	5.0	20	0	74.1	50-130	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>34.51</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>69</i>	<i>38-115</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>32.94</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>65.9</i>	<i>32-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>19.05</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>38.1</i>	<i>22-59</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>35.63</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>71.3</i>	<i>23-112</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>30.35</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>60.7</i>	<i>31-93</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>11.39</i>	<i>0</i>	<i>50</i>	<i>0</i>	<i>22.8</i>	<i>13-36</i>	<i>0</i>	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96203** Instrument ID **SVMS5** Method: **SW846 8270D**

MS				Sample ID: 16121297-10B MS			Units: µg/L		Analysis Date: 12/27/2016 04:47 PM	
Client ID: RB1				Run ID: SVMS5_161227A			SeqNo: 4220761		Prep Date: 12/27/2016	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	13.22	5.3	21.01	0	63	30-120	0			
2,4,5-Trichlorophenol	17.25	5.3	21.01	0	82.1	50-110	0			
2,4,6-Trichlorophenol	10.92	5.3	21.01	0	52	50-115	0			
2,4-Dichlorophenol	11.11	5.3	21.01	0	52.9	50-105	0			
2,4-Dimethylphenol	11.45	5.3	21.01	0	54.5	30-110	0			
2,4-Dinitrophenol	13.86	5.3	21.01	0	66	15-140	0			
2,4-Dinitrotoluene	14.36	5.3	21.01	0	68.4	50-120	0			
2,6-Dinitrotoluene	14.36	5.3	21.01	0	68.4	50-115	0			
2-Chloronaphthalene	14.08	5.3	21.01	0	67	50-105	0			
2-Chlorophenol	13.3	5.3	21.01	0	63.3	35-105	0			
2-Methylnaphthalene	12.5	5.3	21.01	0	59.5	45-105	0			
2-Methylphenol	10.96	5.3	21.01	0	52.2	40-110	0			
2-Nitroaniline	12.73	5.3	21.01	0	60.6	50-115	0			
2-Nitrophenol	12.63	5.3	21.01	0	60.1	40-115	0			
3&4-Methylphenol	9.034	5.3	21.01	0	43	30-110	0			
3,3'-Dichlorobenzidine	13.56	5.3	21.01	0	64.6	30-120	0			
3-Nitroaniline	13.36	5.3	21.01	0	63.6	20-125	0			
4,6-Dinitro-2-methylphenol	15.88	5.3	21.01	0	75.6	40-130	0			
4-Bromophenyl phenyl ether	15.12	5.3	21.01	0	72	50-115	0			
4-Chloro-3-methylphenol	12.25	5.3	21.01	0	58.3	45-110	0			
4-Chloroaniline	13.7	5.3	21.01	0	65.2	15-110	0			
4-Chlorophenyl phenyl ether	14.78	5.3	21.01	0	70.4	50-110	0			
4-Nitroaniline	15.02	5.3	21.01	0	71.5	35-150	0			
4-Nitrophenol	4.076	5.3	21.01	0	19.4	1-58	0			J
Acenaphthene	14.41	5.3	21.01	0	68.6	45-110	0			
Acenaphthylene	14.23	5.3	21.01	0	67.8	50-105	0			
Acetophenone	14.61	1.1	21.01	0	69.6	30-120	0			
Anthracene	16.23	5.3	21.01	0	77.2	55-110	0			
Atrazine	18.39	1.1	21.01	0	87.6	30-120	0			
Benzaldehyde	16.81	1.1	21.01	0	80	30-120	0			
Benzo(a)anthracene	15.48	5.3	21.01	0	73.7	55-110	0			
Benzo(a)pyrene	19.35	5.3	21.01	0	92.1	55-110	0			
Benzo(b)fluoranthene	17.33	5.3	21.01	0	82.5	45-120	0			
Benzo(g,h,i)perylene	18.96	5.3	21.01	0	90.2	40-125	0			
Benzo(k)fluoranthene	20.47	5.3	21.01	0	97.4	45-125	0			
Bis(2-chloroethoxy)methane	13.12	5.3	21.01	0	62.4	45-105	0			
Bis(2-chloroethyl)ether	13.7	5.3	21.01	0	65.2	35-110	0			
Bis(2-ethylhexyl)phthalate	17.09	5.3	21.01	0	81.4	40-125	0			
Butyl benzyl phthalate	15.2	5.3	21.01	0	72.4	45-115	0			
Carbazole	15.83	5.3	21.01	0	75.4	50-150	0			
Chrysene	17.89	5.3	21.01	0	85.2	55-110	0			
Dibenzo(a,h)anthracene	18.8	5.3	21.01	0	89.5	40-125	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96203		Instrument ID SVMS5		Method: SW846 8270D			
Dibenzofuran	13.7	5.3	21.01	0	65.2	55-105	0
Diethyl phthalate	15.6	5.3	21.01	0	74.2	40-120	0
Dimethyl phthalate	15.35	5.3	21.01	0	73	25-125	0
Di-n-butyl phthalate	16.76	5.3	21.01	0	79.8	55-115	0
Di-n-octyl phthalate	18.12	5.3	21.01	0	86.2	35-135	0
Fluoranthene	16.32	5.3	21.01	0	77.7	55-115	0
Fluorene	14.53	5.3	21.01	0	69.2	50-110	0
Hexachlorobenzene	15.05	5.3	21.01	0	71.6	50-110	0
Hexachlorobutadiene	9.947	5.3	21.01	0	47.4	25-105	0
Hexachlorocyclopentadiene	8.382	5.3	21.01	0	39.9	25-105	0
Hexachloroethane	10.38	5.3	21.01	0	49.4	30-95	0
Indeno(1,2,3-cd)pyrene	14.58	5.3	21.01	0	69.4	45-125	0
Isophorone	14.03	5.3	21.01	0	66.8	50-110	0
Naphthalene	12.51	5.3	21.01	0	59.6	40-100	0
Nitrobenzene	12.36	5.3	21.01	0	58.8	45-110	0
N-Nitrosodi-n-propylamine	14.02	5.3	21.01	0	66.8	35-130	0
N-Nitrosodiphenylamine	14.82	5.3	21.01	0	70.6	50-110	0
Pentachlorophenol	15.71	5.3	21.01	0	74.8	40-115	0
Phenanthrene	15.53	5.3	21.01	0	73.9	50-115	0
Phenol	3.824	5.3	21.01	0	18.2	12-43	0
Pyrene	15.12	5.3	21.01	0	72	50-130	0
<i>Surr: 2,4,6-Tribromophenol</i>	33.84	0	52.52	0	64.4	38-115	0
<i>Surr: 2-Fluorobiphenyl</i>	33.78	0	52.52	0	64.3	32-100	0
<i>Surr: 2-Fluorophenol</i>	18	0	52.52	0	34.3	22-59	0
<i>Surr: 4-Terphenyl-d14</i>	35.63	0	52.52	0	67.8	23-112	0
<i>Surr: Nitrobenzene-d5</i>	29.57	0	52.52	0	56.3	31-93	0
<i>Surr: Phenol-d6</i>	9.79	0	52.52	0	18.6	13-36	0

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96203** Instrument ID **SVMS5** Method: **SW846 8270D**

DUP				Sample ID: 16121297-17B DUP			Units: µg/L		Analysis Date: 12/27/2016 05:55 PM		
Client ID: FB-1			Run ID: SVMS5_161227A			SeqNo: 4220764		Prep Date: 12/27/2016		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual	
1,1`-Biphenyl	U	5.0	0	0	0		0	0	30		
2,4,5-Trichlorophenol	U	5.0	0	0	0	0-0	0	0	30		
2,4,6-Trichlorophenol	U	5.0	0	0	0	0-0	0	0	30		
2,4-Dichlorophenol	U	5.0	0	0	0	0-0	0	0	30		
2,4-Dimethylphenol	U	5.0	0	0	0	0-0	0	0	30		
2,4-Dinitrophenol	U	5.0	0	0	0	0-0	0	0	30		
2,4-Dinitrotoluene	U	5.0	0	0	0	0-0	0	0	30		
2,6-Dinitrotoluene	U	5.0	0	0	0	0-0	0	0	30		
2-Chloronaphthalene	U	5.0	0	0	0	0-0	0	0	30		
2-Chlorophenol	U	5.0	0	0	0	0-0	0	0	30		
2-Methylnaphthalene	U	5.0	0	0	0	0-0	0	0	30		
2-Methylphenol	U	5.0	0	0	0	0-0	0	0	30		
2-Nitroaniline	U	5.0	0	0	0	0-0	0	0	30		
2-Nitrophenol	U	5.0	0	0	0	0-0	0	0	30		
3&4-Methylphenol	U	5.0	0	0	0		0	0	30		
3,3`-Dichlorobenzidine	U	5.0	0	0	0	0-0	0	0	30		
3-Nitroaniline	U	5.0	0	0	0	0-0	0	0	30		
4,6-Dinitro-2-methylphenol	U	5.0	0	0	0	0-0	0	0	30		
4-Bromophenyl phenyl ether	U	5.0	0	0	0	0-0	0	0	30		
4-Chloro-3-methylphenol	U	5.0	0	0	0	0-0	0	0	30		
4-Chloroaniline	U	5.0	0	0	0	0-0	0	0	30		
4-Chlorophenyl phenyl ether	U	5.0	0	0	0	0-0	0	0	30		
4-Nitroaniline	U	5.0	0	0	0	0-0	0	0	30		
4-Nitrophenol	U	5.0	0	0	0	0-0	0	0	30		
Acenaphthene	U	5.0	0	0	0	0-0	0	0	30		
Acenaphthylene	U	5.0	0	0	0	0-0	0	0	30		
Acetophenone	U	1.0	0	0	0	0-0	0	0	30		
Anthracene	U	5.0	0	0	0	0-0	0	0	30		
Atrazine	U	1.0	0	0	0		0	0	30		
Benzaldehyde	2.83	1.0	0	0	0		1.85	41.9	30	R	
Benzo(a)anthracene	U	5.0	0	0	0	0-0	0	0	30		
Benzo(a)pyrene	U	5.0	0	0	0	0-0	0	0	30		
Benzo(b)fluoranthene	U	5.0	0	0	0	0-0	0	0	30		
Benzo(g,h,i)perylene	U	5.0	0	0	0	0-0	0	0	30		
Benzo(k)fluoranthene	U	5.0	0	0	0	0-0	0	0	30		
Bis(2-chloroethoxy)methane	U	5.0	0	0	0	0-0	0	0	30		
Bis(2-chloroethyl)ether	U	5.0	0	0	0	0-0	0	0	30		
Bis(2-chloroisopropyl)ether	U	5.0	0	0	0	0-0	0	0	30		
Bis(2-ethylhexyl)phthalate	U	5.0	0	0	0	0-0	0	0	30		
Butyl benzyl phthalate	U	5.0	0	0	0	0-0	0	0	30		
Caprolactam	U	10	0	0	0		0	0	30		
Carbazole	U	5.0	0	0	0	0-0	0	0	30		

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96203		Instrument ID SVMS5		Method: SW846 8270D					
Chrysene	U	5.0	0	0	0	0-0	0	0	30
Dibenzo(a,h)anthracene	U	5.0	0	0	0	0-0	0	0	30
Dibenzofuran	U	5.0	0	0	0	0-0	0	0	30
Diethyl phthalate	U	5.0	0	0	0	0-0	0	0	30
Dimethyl phthalate	U	5.0	0	0	0	0-0	0	0	30
Di-n-butyl phthalate	U	5.0	0	0	0	0-0	0	0	30
Di-n-octyl phthalate	U	5.0	0	0	0	0-0	0	0	30
Fluoranthene	U	5.0	0	0	0	0-0	0	0	30
Fluorene	U	5.0	0	0	0	0-0	0	0	30
Hexachlorobenzene	U	5.0	0	0	0	0-0	0	0	30
Hexachlorobutadiene	U	5.0	0	0	0	0-0	0	0	30
Hexachlorocyclopentadiene	U	5.0	0	0	0	0-0	0	0	30
Hexachloroethane	U	5.0	0	0	0	0-0	0	0	30
Indeno(1,2,3-cd)pyrene	U	5.0	0	0	0	0-0	0	0	30
Isophorone	U	5.0	0	0	0	0-0	0	0	30
Naphthalene	U	5.0	0	0	0	0-0	0	0	30
Nitrobenzene	U	5.0	0	0	0	0-0	0	0	30
N-Nitrosodi-n-propylamine	U	5.0	0	0	0	0-0	0	0	30
N-Nitrosodiphenylamine	U	5.0	0	0	0	0-0	0	0	30
Pentachlorophenol	U	5.0	0	0	0	0-0	0	0	30
Phenanthrene	U	5.0	0	0	0	0-0	0	0	30
Phenol	U	5.0	0	0	0	0-0	0	0	30
Pyrene	U	5.0	0	0	0	0-0	0	0	30
Surr: 2,4,6-Tribromophenol	30.51	0	50	0	61	38-115	27.87	9.04	40
Surr: 2-Fluorobiphenyl	32.54	0	50	0	65.1	32-100	29.84	8.66	40
Surr: 2-Fluorophenol	18.83	0	50	0	37.7	22-59	15.68	18.3	40
Surr: 4-Terphenyl-d14	34.48	0	50	0	69	23-112	36.09	4.56	40
Surr: Nitrobenzene-d5	29.27	0	50	0	58.5	31-93	26.28	10.8	40
Surr: Phenol-d6	9.68	0	50	0	19.4	13-36	7.53	25	40

The following samples were analyzed in this batch:

16121297-10B	16121297-12B	16121297-13B
16121297-17B		

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96252** Instrument ID **SVMS5** Method: **SW846 8270D**

MBLK		Sample ID: SBLKS1-96252-96252				Units: µg/Kg		Analysis Date: 12/28/2016 03:40 PM		
Client ID:		Run ID: SVMS5_161228A				SeqNo: 4223404		Prep Date: 12/28/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	U	33								
2,4,5-Trichlorophenol	U	33								
2,4,6-Trichlorophenol	U	33								
2,4-Dichlorophenol	U	33								
2,4-Dimethylphenol	U	33								
2,4-Dinitrophenol	U	33								
2,4-Dinitrotoluene	U	33								
2,6-Dinitrotoluene	U	33								
2-Chloronaphthalene	U	6.7								
2-Chlorophenol	U	33								
2-Methylnaphthalene	U	6.7								
2-Methylphenol	U	33								
2-Nitroaniline	U	33								
2-Nitrophenol	U	33								
3&4-Methylphenol	U	33								
3,3'-Dichlorobenzidine	U	170								
3-Nitroaniline	U	33								
4,6-Dinitro-2-methylphenol	U	33								
4-Bromophenyl phenyl ether	U	33								
4-Chloro-3-methylphenol	U	33								
4-Chloroaniline	U	67								
4-Chlorophenyl phenyl ether	U	33								
4-Nitroaniline	U	170								
4-Nitrophenol	U	33								
Acenaphthene	U	6.7								
Acenaphthylene	U	6.7								
Acetophenone	U	33								
Anthracene	U	6.7								
Atrazine	U	33								
Benzaldehyde	U	67								
Benzo(a)anthracene	U	6.7								
Benzo(a)pyrene	U	6.7								
Benzo(b)fluoranthene	U	6.7								
Benzo(g,h,i)perylene	U	6.7								
Benzo(k)fluoranthene	U	6.7								
Bis(2-chloroethoxy)methane	U	33								
Bis(2-chloroethyl)ether	U	33								
Bis(2-chloroisopropyl)ether	U	33								
Bis(2-ethylhexyl)phthalate	U	33								
Butyl benzyl phthalate	U	33								
Caprolactam	U	33								
Carbazole	U	33								

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96252		Instrument ID SVMS5		Method: SW846 8270D				
Chrysene	U	6.7						
Dibenzo(a,h)anthracene	U	6.7						
Dibenzofuran	U	33						
Diethyl phthalate	U	33						
Dimethyl phthalate	U	33						
Di-n-butyl phthalate	U	33						
Di-n-octyl phthalate	U	33						
Fluoranthene	U	6.7						
Fluorene	U	6.7						
Hexachlorobenzene	U	33						
Hexachlorobutadiene	U	33						
Hexachlorocyclopentadiene	U	33						
Hexachloroethane	U	33						
Indeno(1,2,3-cd)pyrene	U	6.7						
Isophorone	U	170						
Naphthalene	U	6.7						
Nitrobenzene	U	170						
N-Nitrosodi-n-propylamine	U	33						
N-Nitrosodiphenylamine	U	33						
Pentachlorophenol	U	33						
Phenanthrene	U	6.7						
Phenol	U	33						
Pyrene	U	6.7						
<i>Surr: 2,4,6-Tribromophenol</i>	2065	0	3333	0	61.9	34-140	0	
<i>Surr: 2-Fluorobiphenyl</i>	2471	0	3333	0	74.1	12-100	0	
<i>Surr: 2-Fluorophenol</i>	2279	0	3333	0	68.4	33-117	0	
<i>Surr: 4-Terphenyl-d14</i>	2485	0	3333	0	74.6	25-137	0	
<i>Surr: Nitrobenzene-d5</i>	2169	0	3333	0	65.1	37-107	0	
<i>Surr: Phenol-d6</i>	1909	0	3333	0	57.3	40-106	0	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96252** Instrument ID **SVMS5** Method: **SW846 8270D**

LCS				Sample ID: SLCSS1-96252-96252			Units: µg/Kg		Analysis Date: 12/28/2016 04:03 PM	
Client ID:				Run ID: SVMS5_161228A			SeqNo: 4223405		Prep Date: 12/28/2016	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	1117	33	1333	0	83.8	30-120	0			
2,4,5-Trichlorophenol	1378	33	1333	0	103	50-110	0			
2,4,6-Trichlorophenol	911.3	33	1333	0	68.4	45-110	0			
2,4-Dichlorophenol	896.7	33	1333	0	67.3	45-110	0			
2,4-Dimethylphenol	1071	33	1333	0	80.4	30-105	0			
2,4-Dinitrophenol	479.3	33	1333	0	36	15-130	0			
2,4-Dinitrotoluene	1190	33	1333	0	89.3	50-115	0			
2,6-Dinitrotoluene	1190	33	1333	0	89.3	50-110	0			
2-Chloronaphthalene	1203	6.7	1333	0	90.3	45-105	0			
2-Chlorophenol	1096	33	1333	0	82.2	45-105	0			
2-Methylnaphthalene	1099	6.7	1333	0	82.4	45-105	0			
2-Methylphenol	1088	33	1333	0	81.6	40-105	0			
2-Nitroaniline	1059	33	1333	0	79.4	45-120	0			
2-Nitrophenol	976.7	33	1333	0	73.3	40-110	0			
3&4-Methylphenol	1027	33	1333	0	77	40-105	0			
3,3'-Dichlorobenzidine	1013	170	1333	0	76	30-120	0			
3-Nitroaniline	757.3	33	1333	0	56.8	25-150	0			
4,6-Dinitro-2-methylphenol	1047	33	1333	0	78.5	40-130	0			
4-Bromophenyl phenyl ether	1201	33	1333	0	90.1	45-115	0			
4-Chloro-3-methylphenol	1003	33	1333	0	75.2	45-115	0			
4-Chloroaniline	1014	67	1333	0	76.1	15-110	0			
4-Chlorophenyl phenyl ether	1205	33	1333	0	90.4	45-110	0			
4-Nitroaniline	1066	170	1333	0	80	35-150	0			
4-Nitrophenol	602.7	33	1333	0	45.2	15-140	0			
Acenaphthene	1139	6.7	1333	0	85.4	45-110	0			
Acenaphthylene	1192	6.7	1333	0	89.4	45-105	0			
Acetophenone	1134	33	1333	0	85.1	30-120	0			
Anthracene	1258	6.7	1333	0	94.4	55-105	0			
Atrazine	1472	33	1333	0	110	30-120	0			
Benzaldehyde	406.7	67	1333	0	30.5	30-120	0			
Benzo(a)anthracene	1170	6.7	1333	0	87.8	50-110	0			
Benzo(a)pyrene	1267	6.7	1333	0	95.1	50-110	0			
Benzo(b)fluoranthene	1179	6.7	1333	0	88.4	45-115	0			
Benzo(g,h,i)perylene	1246	6.7	1333	0	93.5	40-125	0			
Benzo(k)fluoranthene	1345	6.7	1333	0	101	45-115	0			
Bis(2-chloroethoxy)methane	1064	33	1333	0	79.8	45-110	0			
Bis(2-chloroethyl)ether	1056	33	1333	0	79.2	40-105	0			
Bis(2-ethylhexyl)phthalate	1239	33	1333	0	92.9	45-125	0			
Butyl benzyl phthalate	1163	33	1333	0	87.2	50-125	0			
Caprolactam	1009	33	1333	0	75.7	30-120	0			
Carbazole	1261	33	1333	0	94.6	50-150	0			
Chrysene	1356	6.7	1333	0	102	55-110	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96252		Instrument ID SVMS5		Method: SW846 8270D				
Dibenzo(a,h)anthracene	1235	6.7	1333	0	92.6	40-125	0	
Dibenzofuran	1142	33	1333	0	85.7	50-105	0	
Diethyl phthalate	1265	33	1333	0	94.9	50-115	0	
Dimethyl phthalate	1260	33	1333	0	94.5	50-110	0	
Di-n-butyl phthalate	1294	33	1333	0	97.1	55-110	0	
Di-n-octyl phthalate	1115	33	1333	0	83.7	40-130	0	
Fluoranthene	1293	6.7	1333	0	97	55-115	0	
Fluorene	1198	6.7	1333	0	89.9	50-110	0	
Hexachlorobenzene	1209	33	1333	0	90.7	45-120	0	
Hexachlorobutadiene	1087	33	1333	0	81.5	40-115	0	
Hexachlorocyclopentadiene	1020	33	1333	0	76.5	40-115	0	
Hexachloroethane	1077	33	1333	0	80.8	35-110	0	
Indeno(1,2,3-cd)pyrene	944.7	6.7	1333	0	70.9	40-120	0	
Isophorone	1081	170	1333	0	81.1	45-110	0	
Naphthalene	1127	6.7	1333	0	84.6	40-105	0	
Nitrobenzene	1015	170	1333	0	76.2	40-115	0	
N-Nitrosodi-n-propylamine	1107	33	1333	0	83	40-115	0	
N-Nitrosodiphenylamine	1177	33	1333	0	88.3	50-115	0	
Pentachlorophenol	1189	33	1333	0	89.2	25-120	0	
Phenanthrene	1227	6.7	1333	0	92.1	50-110	0	
Phenol	1120	33	1333	0	84	40-100	0	
Pyrene	1201	6.7	1333	0	90.1	45-125	0	
<i>Surr: 2,4,6-Tribromophenol</i>	<i>2595</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>77.9</i>	<i>34-140</i>	<i>0</i>	
<i>Surr: 2-Fluorobiphenyl</i>	<i>2759</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>82.8</i>	<i>12-100</i>	<i>0</i>	
<i>Surr: 2-Fluorophenol</i>	<i>2439</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>73.2</i>	<i>33-117</i>	<i>0</i>	
<i>Surr: 4-Terphenyl-d14</i>	<i>2759</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>82.8</i>	<i>25-137</i>	<i>0</i>	
<i>Surr: Nitrobenzene-d5</i>	<i>2373</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>71.2</i>	<i>37-107</i>	<i>0</i>	
<i>Surr: Phenol-d6</i>	<i>2250</i>	<i>0</i>	<i>3333</i>	<i>0</i>	<i>67.5</i>	<i>40-106</i>	<i>0</i>	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96252** Instrument ID **SVMS5** Method: **SW846 8270D**

MS				Sample ID: 16121253-22B MS			Units: µg/Kg		Analysis Date: 12/28/2016 07:06 PM	
Client ID:				Run ID: SVMS5_161228A			SeqNo: 4223406		Prep Date: 12/28/2016	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	1153	32	1282	0	89.9	30-120	0			
2,4,5-Trichlorophenol	1031	32	1282	0	80.4	50-110	0			
2,4,6-Trichlorophenol	730.5	32	1282	0	57	45-110	0			
2,4-Dichlorophenol	880.6	32	1282	0	68.7	45-110	0			
2,4-Dimethylphenol	1090	32	1282	0	85	30-105	0			
2,4-Dinitrophenol	352.7	32	1282	0	27.5	15-130	0			
2,4-Dinitrotoluene	1108	32	1282	0	86.4	50-115	0			
2,6-Dinitrotoluene	1108	32	1282	0	86.4	50-110	0			
2-Chloronaphthalene	1095	6.4	1282	0	85.4	45-105	0			
2-Chlorophenol	1119	32	1282	0	87.3	45-105	0			
2-Methylnaphthalene	1120	6.4	1282	10.7	86.5	45-105	0			
2-Methylphenol	1139	32	1282	0	88.8	40-105	0			
2-Nitroaniline	1011	32	1282	0	78.9	45-120	0			
2-Nitrophenol	1235	32	1282	0	96.3	40-110	0			
3&4-Methylphenol	1085	32	1282	0	84.6	40-105	0			
3,3'-Dichlorobenzidine	1020	160	1282	0	79.6	30-120	0			
3-Nitroaniline	673.4	32	1282	0	52.5	25-150	0			
4,6-Dinitro-2-methylphenol	473.3	32	1282	0	36.9	40-130	0			S
4-Bromophenyl phenyl ether	1187	32	1282	0	92.6	45-115	0			
4-Chloro-3-methylphenol	1072	32	1282	0	83.6	45-115	0			
4-Chloroaniline	752.3	64	1282	0	58.7	15-110	0			
4-Chlorophenyl phenyl ether	1151	32	1282	0	89.7	45-110	0			
4-Nitroaniline	992.2	160	1282	0	77.4	35-150	0			
4-Nitrophenol	465.6	32	1282	0	36.3	15-140	0			
Acenaphthene	1066	6.4	1282	0	83.1	45-110	0			
Acenaphthylene	1143	6.4	1282	0	89.1	45-105	0			
Acetophenone	1149	32	1282	0	89.6	30-120	0			
Anthracene	1207	6.4	1282	0	94.1	55-105	0			
Atrazine	1462	32	1282	0	114	30-120	0			
Benzaldehyde	405.3	64	1282	0	31.6	30-120	0			
Benzo(a)anthracene	1146	6.4	1282	0	89.4	50-110	0			
Benzo(a)pyrene	1211	6.4	1282	0	94.4	50-110	0			
Benzo(b)fluoranthene	1093	6.4	1282	0	85.2	45-115	0			
Benzo(g,h,i)perylene	1112	6.4	1282	0	86.7	40-125	0			
Benzo(k)fluoranthene	1260	6.4	1282	0	98.2	45-115	0			
Bis(2-chloroethoxy)methane	1102	32	1282	0	86	45-110	0			
Bis(2-chloroethyl)ether	1395	32	1282	0	109	40-105	0			S
Bis(2-ethylhexyl)phthalate	1153	32	1282	0	89.9	45-125	0			
Butyl benzyl phthalate	1112	32	1282	0	86.7	50-125	0			
Caprolactam	1142	32	1282	0	89.1	30-120	0			
Carbazole	1220	32	1282	0	95.2	50-150	0			
Chrysene	1299	6.4	1282	0	101	55-110	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96252		Instrument ID SVMS5		Method: SW846 8270D				
Dibenzo(a,h)anthracene	1166	6.4	1282	0	90.9	40-125	0	
Dibenzofuran	1110	32	1282	0	86.6	50-105	0	
Diethyl phthalate	1172	32	1282	0	91.4	50-115	0	
Dimethyl phthalate	1163	32	1282	0	90.7	50-110	0	
Di-n-butyl phthalate	1204	32	1282	0	93.9	55-110	0	
Di-n-octyl phthalate	1145	32	1282	0	89.3	40-130	0	
Fluoranthene	1237	6.4	1282	0	96.4	55-115	0	
Fluorene	1149	6.4	1282	0	89.6	50-110	0	
Hexachlorobenzene	1173	32	1282	0	91.5	45-120	0	
Hexachlorobutadiene	1070	32	1282	0	83.5	40-115	0	
Hexachlorocyclopentadiene	463.7	32	1282	0	36.2	40-115	0	S
Hexachloroethane	1067	32	1282	0	83.2	35-110	0	
Indeno(1,2,3-cd)pyrene	978.1	6.4	1282	0	76.3	40-120	0	
Isophorone	1117	160	1282	0	87.1	45-110	0	
Naphthalene	1140	6.4	1282	0	88.9	40-105	0	
Nitrobenzene	1040	160	1282	0	81.1	40-115	0	
N-Nitrosodi-n-propylamine	1162	32	1282	0	90.6	40-115	0	
N-Nitrosodiphenylamine	1243	32	1282	0	96.9	50-115	0	
Pentachlorophenol	358.5	32	1282	0	28	25-120	0	
Phenanthrene	1195	6.4	1282	0	93.2	50-110	0	
Phenol	1149	32	1282	0	89.6	40-100	0	
Pyrene	1130	6.4	1282	0	88.1	45-125	0	
Surr: 2,4,6-Tribromophenol	2204	0	3206	0	68.7	34-140	0	
Surr: 2-Fluorobiphenyl	2479	0	3206	0	77.3	12-100	0	
Surr: 2-Fluorophenol	2554	0	3206	0	79.6	33-117	0	
Surr: 4-Terphenyl-d14	2457	0	3206	0	76.6	25-137	0	
Surr: Nitrobenzene-d5	2478	0	3206	0	77.3	37-107	0	
Surr: Phenol-d6	2370	0	3206	0	73.9	40-106	0	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96252** Instrument ID **SVMS5** Method: **SW846 8270D**

MSD				Sample ID: 16121253-22B MSD			Units: µg/Kg		Analysis Date: 12/28/2016 07:30 PM	
Client ID:				Run ID: SVMS5_161228A			SeqNo: 4223407		Prep Date: 12/28/2016	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1'-Biphenyl	1086	32	1289	0	84.3	30-120	1153	5.97	30	
2,4,5-Trichlorophenol	1062	32	1289	0	82.4	50-110	1031	2.92	30	
2,4,6-Trichlorophenol	768.5	32	1289	0	59.6	45-110	730.5	5.07	30	
2,4-Dichlorophenol	865.2	32	1289	0	67.1	45-110	880.6	1.76	30	
2,4-Dimethylphenol	1071	32	1289	0	83.1	30-105	1090	1.68	30	
2,4-Dinitrophenol	365.5	32	1289	0	28.4	15-130	352.7	3.56	30	
2,4-Dinitrotoluene	1148	32	1289	0	89.1	50-115	1108	3.6	30	
2,6-Dinitrotoluene	1148	32	1289	0	89.1	50-110	1108	3.6	30	
2-Chloronaphthalene	1130	6.5	1289	0	87.6	45-105	1095	3.12	30	
2-Chlorophenol	1026	32	1289	0	79.6	45-105	1119	8.65	30	
2-Methylnaphthalene	1061	6.5	1289	10.7	81.4	45-105	1120	5.49	30	
2-Methylphenol	1076	32	1289	0	83.5	40-105	1139	5.69	30	
2-Nitroaniline	1017	32	1289	0	78.9	45-120	1011	0.584	30	
2-Nitrophenol	1173	32	1289	0	91	40-110	1235	5.14	30	
3&4-Methylphenol	1003	32	1289	0	77.8	40-105	1085	7.86	30	
3,3'-Dichlorobenzidine	1033	160	1289	0	80.1	30-120	1020	1.21	30	
3-Nitroaniline	667.9	32	1289	0	51.8	25-110	673.4	0.821	30	
4,6-Dinitro-2-methylphenol	507.4	32	1289	0	39.4	40-130	473.3	6.95	30	S
4-Bromophenyl phenyl ether	1162	32	1289	0	90.1	45-115	1187	2.16	30	
4-Chloro-3-methylphenol	1037	32	1289	0	80.4	45-115	1072	3.32	30	
4-Chloroaniline	742.1	65	1289	0	57.6	15-110	752.3	1.37	30	
4-Chlorophenyl phenyl ether	1138	32	1289	0	88.3	45-110	1151	1.11	30	
4-Nitroaniline	1002	160	1289	0	77.7	35-150	992.2	0.972	30	
4-Nitrophenol	475.8	32	1289	0	36.9	15-140	465.6	2.16	30	
Acenaphthene	1042	6.5	1289	0	80.8	45-110	1066	2.29	30	
Acenaphthylene	1143	6.5	1289	0	88.7	45-105	1143	0.0145	30	
Acetophenone	1069	32	1289	0	82.9	30-120	1149	7.25	30	
Anthracene	1242	6.5	1289	0	96.4	55-105	1207	2.88	30	
Atrazine	1482	32	1289	0	115	30-120	1462	1.35	30	
Benzaldehyde	390	65	1289	0	30.3	30-120	405.3	3.84	30	
Benzo(a)anthracene	1152	6.5	1289	0	89.4	50-110	1146	0.521	30	
Benzo(a)pyrene	1256	6.5	1289	0	97.4	50-110	1211	3.65	30	
Benzo(b)fluoranthene	1173	6.5	1289	0	91	45-115	1093	7.05	30	
Benzo(g,h,i)perylene	1242	6.5	1289	0	96.3	40-125	1112	11	30	
Benzo(k)fluoranthene	1348	6.5	1289	0	105	45-115	1260	6.78	30	
Bis(2-chloroethoxy)methane	1044	32	1289	0	81	45-110	1102	5.41	30	
Bis(2-chloroethyl)ether	1210	32	1289	0	93.9	40-105	1395	14.2	30	
Bis(2-ethylhexyl)phthalate	1146	32	1289	0	88.9	45-125	1153	0.542	30	
Butyl benzyl phthalate	1090	32	1289	0	84.5	50-125	1112	2.05	30	
Caprolactam	1170	32	1289	0	90.8	30-120	1142	2.41	30	
Carbazole	1275	32	1289	0	98.9	50-150	1220	4.39	30	
Chrysene	1264	6.5	1289	0	98	55-110	1299	2.74	30	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96252		Instrument ID SVMS5		Method: SW846 8270D					
Dibenzo(a,h)anthracene	1258	6.5	1289	0	97.6	40-125	1166	7.58	30
Dibenzofuran	1066	32	1289	0	82.7	50-105	1110	4.09	30
Diethyl phthalate	1172	32	1289	0	90.9	50-115	1172	0.027	30
Dimethyl phthalate	1188	32	1289	0	92.2	50-110	1163	2.11	30
Di-n-butyl phthalate	1286	32	1289	0	99.8	55-110	1204	6.62	30
Di-n-octyl phthalate	1199	32	1289	0	93	40-130	1145	4.64	30
Fluoranthene	1305	6.5	1289	0	101	55-115	1237	5.38	30
Fluorene	1135	6.5	1289	0	88	50-110	1149	1.23	30
Hexachlorobenzene	1171	32	1289	0	90.8	45-120	1173	0.192	30
Hexachlorobutadiene	1076	32	1289	0	83.5	40-115	1070	0.521	30
Hexachlorocyclopentadiene	421	32	1289	0	32.7	40-115	463.7	9.65	30 S
Hexachloroethane	1015	32	1289	0	78.7	35-110	1067	5.04	30
Indeno(1,2,3-cd)pyrene	1108	6.5	1289	0	86	40-120	978.1	12.5	30
Isophorone	1048	160	1289	0	81.3	45-110	1117	6.31	30
Naphthalene	1100	6.5	1289	0	85.3	40-105	1140	3.56	30
Nitrobenzene	995.4	160	1289	0	77.2	40-115	1040	4.41	30
N-Nitrosodi-n-propylamine	1055	32	1289	0	81.8	40-115	1162	9.69	30
N-Nitrosodiphenylamine	1231	32	1289	0	95.5	50-115	1243	0.934	30
Pentachlorophenol	381.7	32	1289	0	29.6	25-120	358.5	6.25	30
Phenanthrene	1207	6.5	1289	0	93.6	50-110	1195	0.949	30
Phenol	1040	32	1289	0	80.7	40-100	1149	9.99	30
Pyrene	1112	6.5	1289	0	86.3	45-125	1130	1.6	30
<i>Surr: 2,4,6-Tribromophenol</i>	2205	0	3223	0	68.4	34-140	2204	0.025	40
<i>Surr: 2-Fluorobiphenyl</i>	2554	0	3223	0	79.2	12-100	2479	2.95	40
<i>Surr: 2-Fluorophenol</i>	2309	0	3223	0	71.6	33-117	2554	10.1	40
<i>Surr: 4-Terphenyl-d14</i>	2498	0	3223	0	77.5	25-137	2457	1.64	40
<i>Surr: Nitrobenzene-d5</i>	2325	0	3223	0	72.1	37-107	2478	6.36	40
<i>Surr: Phenol-d6</i>	2187	0	3223	0	67.8	40-106	2370	8.03	40

The following samples were analyzed in this batch:

16121297-01B	16121297-02B	16121297-03B
16121297-04B	16121297-05B	16121297-06B
16121297-07B		

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96221** Instrument ID **VMS5** Method: **SW8260B**

MBLK				Sample ID: MBLK-96221-96221			Units: µg/Kg-dry		Analysis Date: 12/27/2016 12:49 PM	
Client ID:				Run ID: VMS5_161227A			SeqNo: 4219209		Prep Date: 12/27/2016	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	30	0	0	0	0-0	0			
1,1,2,2-Tetrachloroethane	U	30	0	0	0	0-0	0			
1,1,2-Trichloroethane	U	30	0	0	0	0-0	0			
1,1,2-Trichlorotrifluoroethane	U	30	0	0	0		0			
1,1-Dichloroethane	U	30	0	0	0	0-0	0			
1,1-Dichloroethene	U	30	0	0	0	0-0	0			
1,2,4-Trichlorobenzene	U	30	0	0	0	0-0	0			
1,2-Dibromo-3-chloropropane	U	30	0	0	0	0-0	0			
1,2-Dibromoethane	U	30	0	0	0	0-0	0			
1,2-Dichlorobenzene	U	30	0	0	0	0-0	0			
1,2-Dichloroethane	U	30	0	0	0	0-0	0			
1,2-Dichloropropane	U	30	0	0	0	0-0	0			
1,3-Dichlorobenzene	U	30	0	0	0	0-0	0			
1,4-Dichlorobenzene	U	30	0	0	0	0-0	0			
2-Butanone	U	200	0	0	0	0-0	0			
2-Hexanone	U	30	0	0	0	0-0	0			
4-Methyl-2-pentanone	U	30	0	0	0	0-0	0			
Acetone	U	100	0	0	0	0-0	0			
Benzene	U	30	0	0	0	0-0	0			
Bromodichloromethane	U	30	0	0	0	0-0	0			
Bromoform	U	30	0	0	0	0-0	0			
Bromomethane	U	75	0	0	0	0-0	0			
Carbon disulfide	U	30	0	0	0	0-0	0			
Carbon tetrachloride	U	30	0	0	0	0-0	0			
Chlorobenzene	U	30	0	0	0	0-0	0			
Chloroethane	U	100	0	0	0	0-0	0			
Chloroform	U	30	0	0	0	0-0	0			
Chloromethane	U	100	0	0	0	0-0	0			
cis-1,2-Dichloroethene	U	30	0	0	0	0-0	0			
cis-1,3-Dichloropropene	U	30	0	0	0	0-0	0			
Cyclohexane	U	30	0	0	0		0			
Dibromochloromethane	U	30	0	0	0	0-0	0			
Dichlorodifluoromethane	U	30	0	0	0	0-0	0			
Ethylbenzene	U	30	0	0	0	0-0	0			
Isopropylbenzene	U	30	0	0	0	0-0	0			
m,p-Xylene	U	60	0	0	0	0-0	0			
Methyl acetate	U	200	0	0	0		0			
Methyl tert-butyl ether	U	30	0	0	0	0-0	0			
Methylcyclohexane	U	30	0	0	0		0			
Methylene chloride	U	30	0	0	0	0-0	0			
o-Xylene	U	30	0	0	0	0-0	0			
Styrene	U	30	0	0	0	0-0	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96221		Instrument ID VMS5		Method: SW8260B			
Tetrachloroethene	U	30	0	0	0	0-0	0
Toluene	U	30	0	0	0	0-0	0
trans-1,2-Dichloroethene	U	30	0	0	0	0-0	0
trans-1,3-Dichloropropene	U	30	0	0	0	0-0	0
Trichloroethene	U	30	0	0	0	0-0	0
Trichlorofluoromethane	U	30	0	0	0	0-0	0
Vinyl chloride	U	30	0	0	0	0-0	0
Xylenes, Total	U	90	0	0	0	0-0	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>983</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.3</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>965.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>96.6</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>1028</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>103</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>972.5</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>97.2</i>	<i>70-130</i>	<i>0</i>

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96221** Instrument ID **VMS5** Method: **SW8260B**

LCS		Sample ID: LCS-96221-96221				Units: µg/Kg-dry		Analysis Date: 12/27/2016 11:31 A		
Client ID:		Run ID: VMS5_161227A				SeqNo: 4219208		Prep Date: 12/27/2016		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1054	30	1000	0	105	70-135	0			
1,1,2,2-Tetrachloroethane	1000	30	1000	0	100	55-130	0			
1,1,2-Trichloroethane	1038	30	1000	0	104	60-125	0			
1,1-Dichloroethane	1058	30	1000	0	106	75-125	0			
1,1-Dichloroethene	1120	30	1000	0	112	65-135	0			
1,2,4-Trichlorobenzene	1100	30	1000	0	110	65-130	0			
1,2-Dibromo-3-chloropropane	1038	30	1000	0	104	40-135	0			
1,2-Dibromoethane	1262	30	1000	0	126	80-195	0			
1,2-Dichlorobenzene	1020	30	1000	0	102	75-120	0			
1,2-Dichloroethane	966	30	1000	0	96.6	70-135	0			
1,2-Dichloropropane	1006	30	1000	0	101	70-120	0			
1,3-Dichlorobenzene	1069	30	1000	0	107	70-125	0			
1,4-Dichlorobenzene	1020	30	1000	0	102	70-125	0			
2-Butanone	996.5	200	1000	0	99.6	30-160	0			
2-Hexanone	928.5	30	1000	0	92.8	45-145	0			
4-Methyl-2-pentanone	1268	30	1000	0	127	74-176	0			
Acetone	946.5	100	1000	0	94.6	20-160	0			
Benzene	1060	30	1000	0	106	75-125	0			
Bromodichloromethane	1045	30	1000	0	104	70-130	0			
Bromoform	1010	30	1000	0	101	55-135	0			
Bromomethane	1076	75	1000	0	108	50-170	0			
Carbon disulfide	1064	30	1000	0	106	45-160	0			
Carbon tetrachloride	843	30	1000	0	84.3	65-135	0			
Chlorobenzene	1048	30	1000	0	105	75-125	0			
Chloroethane	1038	100	1000	0	104	40-155	0			
Chloroform	1031	30	1000	0	103	70-125	0			
Chloromethane	1115	100	1000	0	112	50-144	0			
cis-1,2-Dichloroethene	1050	30	1000	0	105	65-125	0			
cis-1,3-Dichloropropene	1044	30	1000	0	104	70-125	0			
Dibromochloromethane	1013	30	1000	0	101	65-135	0			
Dichlorodifluoromethane	890	30	1000	0	89	35-135	0			
Ethylbenzene	1090	30	1000	0	109	75-125	0			
Isopropylbenzene	1146	30	1000	0	115	75-130	0			
m,p-Xylene	2226	60	2000	0	111	80-125	0			
Methyl tert-butyl ether	996.5	30	1000	0	99.6	75-125	0			
Methylene chloride	1042	30	1000	0	104	55-145	0			
o-Xylene	1088	30	1000	0	109	75-125	0			
Styrene	1164	30	1000	0	116	80-138	0			
Tetrachloroethene	1090	30	1000	0	109	67-167	0			
Toluene	1057	30	1000	0	106	70-125	0			
trans-1,2-Dichloroethene	1066	30	1000	0	107	65-135	0			
trans-1,3-Dichloropropene	1038	30	1000	0	104	59-129	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96221	Instrument ID VMS5			Method: SW8260B			
Trichloroethene	1081	30	1000	0	108	75-125	0
Trichlorofluoromethane	1088	30	1000	0	109	25-185	0
Vinyl chloride	1069	30	1000	0	107	60-125	0
Xylenes, Total	3314	90	3000	0	110	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>923</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>92.3</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>1007</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>985</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>98.5</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>999</i>	<i>0</i>	<i>1000</i>	<i>0</i>	<i>99.9</i>	<i>70-130</i>	<i>0</i>

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96221** Instrument ID **VMS5** Method: **SW8260B**

MS				Sample ID: 16121297-06A MS			Units: µg/Kg-dry		Analysis Date: 12/27/2016 09:31 PM	
Client ID: SB6				Run ID: VMS5_161227A			SeqNo: 4219216		Prep Date: 12/27/2016	
							DF: 1			
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1649	51	1703	0	96.8	70-135	0			
1,1,2,2-Tetrachloroethane	1332	51	1703	0	78.2	55-130	0			
1,1,2-Trichloroethane	1572	51	1703	0	92.3	60-125	0			
1,1-Dichloroethane	1771	51	1703	0	104	75-125	0			
1,1-Dichloroethene	1868	51	1703	0	110	65-135	0			
1,2,4-Trichlorobenzene	1629	51	1703	0	95.7	65-130	0			
1,2-Dibromo-3-chloropropane	1468	51	1703	0	86.2	40-135	0			
1,2-Dibromoethane	1888	51	1703	0	111	80-195	0			
1,2-Dichlorobenzene	1552	51	1703	0	91.2	75-120	0			
1,2-Dichloroethane	1507	51	1703	0	88.5	70-135	0			
1,2-Dichloropropane	1568	51	1703	0	92.1	70-120	0			
1,3-Dichlorobenzene	1609	51	1703	0	94.5	70-125	0			
1,4-Dichlorobenzene	1522	51	1703	0	89.4	70-125	0			
2-Butanone	2900	340	1703	0	170	30-160	0			S
2-Hexanone	2042	51	1703	0	120	45-145	0			
4-Methyl-2-pentanone	1872	51	1703	0	110	74-176	0			
Acetone	3869	170	1703	140.5	219	20-160	0			S
Benzene	1691	51	1703	0	99.3	75-125	0			
Bromodichloromethane	1537	51	1703	0	90.2	70-130	0			
Bromoform	1314	51	1703	0	77.2	55-135	0			
Bromomethane	1349	130	1703	0	79.2	50-170	0			
Carbon disulfide	1674	51	1703	27.24	96.7	45-160	0			
Carbon tetrachloride	1390	51	1703	0	81.6	65-135	0			
Chlorobenzene	1606	51	1703	0	94.3	75-125	0			
Chloroethane	1688	170	1703	0	99.2	40-155	0			
Chloroform	1706	51	1703	0	100	70-125	0			
Chloromethane	1801	170	1703	0	106	50-144	0			
cis-1,2-Dichloroethene	1725	51	1703	0	101	65-125	0			
cis-1,3-Dichloropropene	1559	51	1703	0	91.6	70-125	0			
Dibromochloromethane	1412	51	1703	0	83	65-135	0			
Dichlorodifluoromethane	1496	51	1703	0	87.8	35-135	0			
Ethylbenzene	1681	51	1703	0	98.8	75-125	0			
Isopropylbenzene	1764	51	1703	0	104	75-130	0			
m,p-Xylene	3419	100	3405	0	100	80-125	0			
Methyl tert-butyl ether	1813	51	1703	0	106	75-125	0			
Methylene chloride	1767	51	1703	0	104	55-145	0			
o-Xylene	1701	51	1703	0	99.9	75-125	0			
Styrene	1790	51	1703	0	105	80-138	0			
Tetrachloroethene	2895	51	1703	0	170	67-167	0			S
Toluene	1640	51	1703	0	96.3	70-125	0			
trans-1,2-Dichloroethene	1767	51	1703	0	104	65-135	0			
trans-1,3-Dichloropropene	1452	51	1703	0	85.2	59-129	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96221	Instrument ID VMS5		Method: SW8260B				
Trichloroethene	1817	51	1703	0	107	75-125	0
Trichlorofluoromethane	1804	51	1703	0	106	25-185	0
Vinyl chloride	1824	51	1703	0	107	60-125	0
Xylenes, Total	5120	150	5108	0	100	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1571</i>	<i>0</i>	<i>1703</i>	<i>0</i>	<i>92.2</i>	<i>70-130</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>1721</i>	<i>0</i>	<i>1703</i>	<i>0</i>	<i>101</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>1699</i>	<i>0</i>	<i>1703</i>	<i>0</i>	<i>99.8</i>	<i>70-130</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>1684</i>	<i>0</i>	<i>1703</i>	<i>0</i>	<i>98.9</i>	<i>70-130</i>	<i>0</i>

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **96221** Instrument ID **VMS5** Method: **SW8260B**

MSD				Sample ID: 16121297-06A MSD			Units: µg/Kg-dry		Analysis Date: 12/27/2016 09:57 PM	
Client ID: SB6				Run ID: VMS5_161227A			SeqNo: 4219217		Prep Date: 12/27/2016	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1755	51	1703	0	103	70-135	1649	6.25	30	
1,1,2,2-Tetrachloroethane	1415	51	1703	0	83.1	55-130	1332	6.01	30	
1,1,2-Trichloroethane	1666	51	1703	0	97.8	60-125	1572	5.84	30	
1,1-Dichloroethane	1899	51	1703	0	112	75-125	1771	7.01	30	
1,1-Dichloroethene	2016	51	1703	0	118	65-135	1868	7.63	30	
1,2,4-Trichlorobenzene	1719	51	1703	0	101	65-130	1629	5.34	30	
1,2-Dibromo-3-chloropropane	1484	51	1703	0	87.2	40-135	1468	1.1	30	
1,2-Dibromoethane	2016	51	1703	0	118	80-195	1888	6.54	30	
1,2-Dichlorobenzene	1636	51	1703	0	96.1	75-120	1552	5.29	30	
1,2-Dichloroethane	1594	51	1703	0	93.6	70-135	1507	5.6	30	
1,2-Dichloropropane	1673	51	1703	0	98.2	70-120	1568	6.46	30	
1,3-Dichlorobenzene	1678	51	1703	0	98.6	70-125	1609	4.2	30	
1,4-Dichlorobenzene	1617	51	1703	0	95	70-125	1522	6.02	30	
2-Butanone	3162	340	1703	0	186	30-160	2900	8.65	30	S
2-Hexanone	2111	51	1703	0	124	45-145	2042	3.36	30	
4-Methyl-2-pentanone	1915	51	1703	0	112	74-176	1872	2.25	30	
Acetone	4416	170	1703	140.5	251	20-160	3869	13.2	30	S
Benzene	1784	51	1703	0	105	75-125	1691	5.34	30	
Bromodichloromethane	1632	51	1703	0	95.8	70-130	1537	6.02	30	
Bromoform	1423	51	1703	0	83.6	55-135	1314	7.9	30	
Bromomethane	777.3	130	1703	0	45.6	50-170	1349	53.8	30	SR
Carbon disulfide	1806	51	1703	27.24	104	45-160	1674	7.59	30	
Carbon tetrachloride	1475	51	1703	0	86.6	65-135	1390	5.94	30	
Chlorobenzene	1723	51	1703	0	101	75-125	1606	7.06	30	
Chloroethane	1525	170	1703	0	89.6	40-155	1688	10.2	30	
Chloroform	1827	51	1703	0	107	70-125	1706	6.84	30	
Chloromethane	2019	170	1703	0	119	50-144	1801	11.4	30	
cis-1,2-Dichloroethene	1841	51	1703	0	108	65-125	1725	6.49	30	
cis-1,3-Dichloropropene	1637	51	1703	0	96.2	70-125	1559	4.9	30	
Dibromochloromethane	1524	51	1703	0	89.5	65-135	1412	7.6	30	
Dichlorodifluoromethane	1654	51	1703	0	97.2	35-135	1496	10.1	30	
Ethylbenzene	1813	51	1703	0	106	75-125	1681	7.55	30	
Isopropylbenzene	1921	51	1703	0	113	75-130	1764	8.5	30	
m,p-Xylene	3739	100	3405	0	110	80-125	3419	8.94	30	
Methyl tert-butyl ether	1953	51	1703	0	115	75-125	1813	7.46	30	
Methylene chloride	1899	51	1703	0	112	55-145	1767	7.25	30	
o-Xylene	1824	51	1703	0	107	75-125	1701	7	30	
Styrene	1920	51	1703	0	113	80-138	1790	7.02	30	
Tetrachloroethene	3084	51	1703	0	181	67-167	2895	6.32	30	S
Toluene	1768	51	1703	0	104	70-125	1640	7.54	30	
trans-1,2-Dichloroethene	1921	51	1703	0	113	65-135	1767	8.36	30	
trans-1,3-Dichloropropene	1566	51	1703	0	92	59-129	1452	7.56	30	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: 96221	Instrument ID VMS5			Method: SW8260B					
Trichloroethene	1956	51	1703	0	115	75-125	1817	7.4	30
Trichlorofluoromethane	1914	51	1703	0	112	25-185	1804	5.91	30
Vinyl chloride	2054	51	1703	0	121	60-125	1824	11.9	30
Xylenes, Total	5564	150	5108	0	109	75-125	5120	8.3	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>1601</i>	<i>0</i>	<i>1703</i>	<i>0</i>	<i>94</i>	<i>70-130</i>	<i>1571</i>	<i>1.93</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>1763</i>	<i>0</i>	<i>1703</i>	<i>0</i>	<i>104</i>	<i>70-130</i>	<i>1721</i>	<i>2.39</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>1675</i>	<i>0</i>	<i>1703</i>	<i>0</i>	<i>98.4</i>	<i>70-130</i>	<i>1699</i>	<i>1.46</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>1729</i>	<i>0</i>	<i>1703</i>	<i>0</i>	<i>102</i>	<i>70-130</i>	<i>1684</i>	<i>2.64</i>	<i>30</i>

The following samples were analyzed in this batch:	16121297-01A	16121297-02A	16121297-03A
	16121297-04A	16121297-06A	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203084a** Instrument ID **VMS5** Method: **SW8260B**

MBLK		Sample ID: VLKW2-161222-R203084a				Units: µg/L		Analysis Date: 12/23/2016 01:06 A		
Client ID:		Run ID: VMS5_161222B				SeqNo: 4217200		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	1.0								
1,1,2,2-Tetrachloroethane	U	1.0								
1,1,2-Trichloroethane	U	1.0								
1,1,2-Trichlorotrifluoroethane	U	1.0								
1,1-Dichloroethane	U	1.0								
1,1-Dichloroethene	U	1.0								
1,2,4-Trichlorobenzene	U	1.0								
1,2-Dibromo-3-chloropropane	U	1.0								
1,2-Dibromoethane	U	1.0								
1,2-Dichlorobenzene	U	1.0								
1,2-Dichloroethane	U	1.0								
1,2-Dichloropropane	U	1.0								
1,3-Dichlorobenzene	U	1.0								
1,4-Dichlorobenzene	U	1.0								
2-Butanone	U	5.0								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	1.0								
Acetone	U	10								
Benzene	U	1.0								
Bromodichloromethane	U	1.0								
Bromoform	U	1.0								
Bromomethane	U	1.0								
Carbon disulfide	U	1.0								
Carbon tetrachloride	U	1.0								
Chlorobenzene	U	1.0								
Chloroethane	U	1.0								
Chloroform	U	1.0								
Chloromethane	U	1.0								
cis-1,2-Dichloroethene	U	1.0								
cis-1,3-Dichloropropene	U	1.0								
Cyclohexane	U	1.0								
Dibromochloromethane	U	1.0								
Dichlorodifluoromethane	U	1.0								
Ethylbenzene	U	1.0								
Isopropylbenzene	U	1.0								
m,p-Xylene	U	2.0								
Methyl acetate	U	2.0								
Methyl tert-butyl ether	U	1.0								
Methylcyclohexane	U	1.0								
Methylene chloride	U	5.0								
o-Xylene	U	1.0								
Styrene	U	1.0								

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: R203084a		Instrument ID VMS5		Method: SW8260B			
Tetrachloroethene	U	1.0					
Toluene	U	1.0					
trans-1,2-Dichloroethene	U	1.0					
trans-1,3-Dichloropropene	U	1.0					
Trichloroethene	U	1.0					
Trichlorofluoromethane	U	1.0					
Vinyl chloride	U	1.0					
Xylenes, Total	U	3.0					
Surr: 1,2-Dichloroethane-d4	19.88	0	20	0	99.4	75-120	0
Surr: 4-Bromofluorobenzene	19.54	0	20	0	97.7	80-110	0
Surr: Dibromofluoromethane	19.76	0	20	0	98.8	85-115	0
Surr: Toluene-d8	19.75	0	20	0	98.8	85-110	0

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

Client: Tetra Tech
 Work Order: 16121297
 Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203084a** Instrument ID **VMS5** Method: **SW8260B**

LCS		Sample ID: VLCSW2-161222-R203084a				Units: µg/L		Analysis Date: 12/23/2016 12:14 PM		
Client ID:		Run ID: VMS5_161222B				SeqNo: 4217220		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	21.14	1.0	20	0	106	75-130	0			
1,1,2,2-Tetrachloroethane	21.02	1.0	20	0	105	75-130	0			
1,1,2-Trichloroethane	21.06	1.0	20	0	105	75-125	0			
1,1-Dichloroethane	21.72	1.0	20	0	109	75-133	0			
1,1-Dichloroethene	22.2	1.0	20	0	111	70-145	0			
1,2,4-Trichlorobenzene	21.93	1.0	20	0	110	70-135	0			
1,2-Dibromo-3-chloropropane	20.98	1.0	20	0	105	60-130	0			
1,2-Dibromoethane	25.81	1.0	20	0	129	90-195	0			
1,2-Dichlorobenzene	20.74	1.0	20	0	104	70-130	0			
1,2-Dichloroethane	20.16	1.0	20	0	101	78-125	0			
1,2-Dichloropropane	20.89	1.0	20	0	104	75-125	0			
1,3-Dichlorobenzene	21.46	1.0	20	0	107	75-130	0			
1,4-Dichlorobenzene	20.48	1.0	20	0	102	75-130	0			
2-Butanone	22.9	5.0	20	0	114	55-150	0			
2-Hexanone	21.56	5.0	20	0	108	60-135	0			
4-Methyl-2-pentanone	29.36	1.0	20	0	147	77-178	0			
Acetone	23.87	10	20	0	119	60-160	0			
Benzene	21.55	1.0	20	0	108	85-125	0			
Bromodichloromethane	21.3	1.0	20	0	106	75-125	0			
Bromoform	19.57	1.0	20	0	97.8	60-125	0			
Bromomethane	21.12	1.0	20	0	106	30-185	0			
Carbon disulfide	20.8	1.0	20	0	104	60-165	0			
Carbon tetrachloride	17.11	1.0	20	0	85.6	65-140	0			
Chlorobenzene	21.35	1.0	20	0	107	80-120	0			
Chloroethane	21.1	1.0	20	0	106	50-140	0			
Chloroform	20.95	1.0	20	0	105	80-130	0			
Chloromethane	23.13	1.0	20	0	116	46-148	0			
cis-1,2-Dichloroethene	21.17	1.0	20	0	106	75-134	0			
cis-1,3-Dichloropropene	20.92	1.0	20	0	105	70-130	0			
Dibromochloromethane	20.28	1.0	20	0	101	60-115	0			
Dichlorodifluoromethane	16.25	1.0	20	0	81.2	20-120	0			
Ethylbenzene	22.41	1.0	20	0	112	85-125	0			
Isopropylbenzene	23.24	1.0	20	0	116	80-127	0			
m,p-Xylene	45.38	2.0	40	0	113	75-130	0			
Methyl tert-butyl ether	19.85	1.0	20	0	99.2	80-130	0			
Methylene chloride	22.12	5.0	20	0	111	75-140	0			
o-Xylene	22.61	1.0	20	0	113	80-125	0			
Styrene	24	1.0	20	0	120	83-137	0			
Tetrachloroethene	20.97	1.0	20	0	105	68-166	0			
Toluene	21.66	1.0	20	0	108	85-125	0			
trans-1,2-Dichloroethene	21.6	1.0	20	0	108	80-140	0			
trans-1,3-Dichloropropene	20.76	1.0	20	0	104	56-132	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: R203084a	Instrument ID VMS5			Method: SW8260B			
Trichloroethene	21.32	1.0	20	0	107	84-130	0
Trichlorofluoromethane	20.61	1.0	20	0	103	60-140	0
Vinyl chloride	20.97	1.0	20	0	105	50-136	0
Xylenes, Total	67.99	3.0	60	0	113	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.34</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>96.7</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>20.3</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>102</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>19.71</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.6</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>20.28</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>101</i>	<i>85-110</i>	<i>0</i>

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203084a** Instrument ID **VMS5** Method: **SW8260B**

MS				Sample ID: 16121284-08A MS			Units: µg/L		Analysis Date: 12/23/2016 09:49 A	
Client ID:				Run ID: VMS5_161222B			SeqNo: 4217218		Prep Date:	
									DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1986	100	2000	0	99.3	75-130	0			
1,1,2,2-Tetrachloroethane	1824	100	2000	0	91.2	75-130	0			
1,1,2-Trichloroethane	1836	100	2000	0	91.8	75-125	0			
1,1-Dichloroethane	2005	100	2000	0	100	75-133	0			
1,1-Dichloroethene	2144	100	2000	0	107	70-145	0			
1,2,4-Trichlorobenzene	1615	100	2000	0	80.8	70-135	0			
1,2-Dibromo-3-chloropropane	1658	100	2000	0	82.9	60-130	0			
1,2-Dibromoethane	2196	100	2000	0	110	90-195	0			
1,2-Dichlorobenzene	1764	100	2000	0	88.2	70-130	0			
1,2-Dichloroethane	1883	100	2000	0	94.2	78-125	0			
1,2-Dichloropropane	1859	100	2000	0	93	75-125	0			
1,3-Dichlorobenzene	1840	100	2000	0	92	75-130	0			
1,4-Dichlorobenzene	1740	100	2000	0	87	75-130	0			
2-Butanone	1878	500	2000	0	93.9	55-150	0			
2-Hexanone	1731	500	2000	0	86.6	60-135	0			
4-Methyl-2-pentanone	2349	100	2000	0	117	77-178	0			
Acetone	2028	1,000	2000	0	101	60-160	0			
Benzene	1975	100	2000	0	98.8	85-125	0			
Bromodichloromethane	1926	100	2000	0	96.3	75-125	0			
Bromoform	1650	100	2000	0	82.5	60-125	0			
Bromomethane	1777	100	2000	0	88.8	30-185	0			
Carbon disulfide	1971	100	2000	0	98.6	60-165	0			
Carbon tetrachloride	1729	100	2000	0	86.4	65-140	0			
Chlorobenzene	1873	100	2000	0	93.6	80-120	0			
Chloroethane	2109	100	2000	0	105	50-140	0			
Chloroform	1921	100	2000	0	96	80-130	0			
Chloromethane	2098	100	2000	0	105	46-148	0			
cis-1,2-Dichloroethene	1905	100	2000	0	95.2	75-134	0			
cis-1,3-Dichloropropene	1741	100	2000	0	87	70-130	0			
Dibromochloromethane	1766	100	2000	0	88.3	60-115	0			
Dichlorodifluoromethane	1663	100	2000	0	83.2	20-120	0			
Ethylbenzene	1995	100	2000	0	99.8	85-125	0			
Isopropylbenzene	2019	100	2000	0	101	80-127	0			
m,p-Xylene	4058	200	4000	0	101	75-130	0			
Methyl tert-butyl ether	1733	100	2000	0	86.6	80-130	0			
Methylene chloride	2068	500	2000	0	103	75-140	0			
o-Xylene	1985	100	2000	0	99.2	80-125	0			
Styrene	2116	100	2000	0	106	83-137	0			
Tetrachloroethene	1869	100	2000	0	93.4	68-166	0			
Toluene	1919	100	2000	0	96	85-125	0			
trans-1,2-Dichloroethene	2047	100	2000	0	102	80-140	0			
trans-1,3-Dichloropropene	1679	100	2000	0	84	56-132	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: R203084a	Instrument ID VMS5		Method: SW8260B				
Trichloroethene	1939	100	2000	0	97	84-130	0
Trichlorofluoromethane	2101	100	2000	0	105	60-140	0
Vinyl chloride	2094	100	2000	0	105	50-136	0
Xylenes, Total	6043	300	6000	0	101	80-126	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>2061</i>	<i>0</i>	<i>2000</i>	<i>0</i>	<i>103</i>	<i>75-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>2059</i>	<i>0</i>	<i>2000</i>	<i>0</i>	<i>103</i>	<i>80-110</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>2013</i>	<i>0</i>	<i>2000</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>2036</i>	<i>0</i>	<i>2000</i>	<i>0</i>	<i>102</i>	<i>85-110</i>	<i>0</i>

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

Client: Tetra Tech
 Work Order: 16121297
 Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203084a** Instrument ID **VMS5** Method: **SW8260B**

MSD				Sample ID: 16121284-08A MSD			Units: µg/L		Analysis Date: 12/23/2016 10:15 A	
Client ID:				Run ID: VMS5_161222B			SeqNo: 4217219		Prep Date:	
									DF: 100	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	1690	100	2000	0	84.5	75-130	1986	16.1	30	
1,1,2,2-Tetrachloroethane	1689	100	2000	0	84.4	75-130	1824	7.69	30	
1,1,2-Trichloroethane	1710	100	2000	0	85.5	75-125	1836	7.11	30	
1,1-Dichloroethane	1756	100	2000	0	87.8	75-133	2005	13.2	30	
1,1-Dichloroethene	1841	100	2000	0	92	70-145	2144	15.2	30	
1,2,4-Trichlorobenzene	1566	100	2000	0	78.3	70-135	1615	3.08	30	
1,2-Dibromo-3-chloropropane	1545	100	2000	0	77.2	60-130	1658	7.06	30	
1,2-Dibromoethane	2032	100	2000	0	102	90-195	2196	7.76	30	
1,2-Dichlorobenzene	1609	100	2000	0	80.4	70-130	1764	9.19	30	
1,2-Dichloroethane	1688	100	2000	0	84.4	78-125	1883	10.9	30	
1,2-Dichloropropane	1665	100	2000	0	83.2	75-125	1859	11	30	
1,3-Dichlorobenzene	1656	100	2000	0	82.8	75-130	1840	10.5	30	
1,4-Dichlorobenzene	1588	100	2000	0	79.4	75-130	1740	9.13	30	
2-Butanone	1702	500	2000	0	85.1	55-150	1878	9.83	30	
2-Hexanone	1551	500	2000	0	77.6	60-135	1731	11	30	
4-Methyl-2-pentanone	2143	100	2000	0	107	77-178	2349	9.17	30	
Acetone	1800	1,000	2000	0	90	60-160	2028	11.9	30	
Benzene	1726	100	2000	0	86.3	85-125	1975	13.5	30	
Bromodichloromethane	1736	100	2000	0	86.8	75-125	1926	10.4	30	
Bromoform	1463	100	2000	0	73.2	60-125	1650	12	30	
Bromomethane	1681	100	2000	0	84	30-185	1777	5.55	30	
Carbon disulfide	1663	100	2000	0	83.2	60-165	1971	17	30	
Carbon tetrachloride	1497	100	2000	0	74.8	65-140	1729	14.4	30	
Chlorobenzene	1655	100	2000	0	82.8	80-120	1873	12.4	30	
Chloroethane	1807	100	2000	0	90.4	50-140	2109	15.4	30	
Chloroform	1695	100	2000	0	84.8	80-130	1921	12.5	30	
Chloromethane	1901	100	2000	0	95	46-148	2098	9.85	30	
cis-1,2-Dichloroethene	1691	100	2000	0	84.6	75-134	1905	11.9	30	
cis-1,3-Dichloropropene	1565	100	2000	0	78.2	70-130	1741	10.6	30	
Dibromochloromethane	1592	100	2000	0	79.6	60-115	1766	10.4	30	
Dichlorodifluoromethane	1285	100	2000	0	64.2	20-120	1663	25.6	30	
Ethylbenzene	1722	100	2000	0	86.1	85-125	1995	14.7	30	
Isopropylbenzene	1768	100	2000	0	88.4	80-127	2019	13.3	30	
m,p-Xylene	3527	200	4000	0	88.2	75-130	4058	14	30	
Methyl tert-butyl ether	1569	100	2000	0	78.4	80-130	1733	9.93	30	S
Methylene chloride	1833	500	2000	0	91.6	75-140	2068	12	30	
o-Xylene	1739	100	2000	0	87	80-125	1985	13.2	30	
Styrene	1842	100	2000	0	92.1	83-137	2116	13.8	30	
Tetrachloroethene	1597	100	2000	0	79.8	68-166	1869	15.7	30	
Toluene	1696	100	2000	0	84.8	85-125	1919	12.3	30	S
trans-1,2-Dichloroethene	1754	100	2000	0	87.7	80-140	2047	15.4	30	
trans-1,3-Dichloropropene	1518	100	2000	0	75.9	56-132	1679	10.1	30	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: R203084a	Instrument ID VMS5			Method: SW8260B					
Trichloroethene	1703	100	2000	0	85.2	84-130	1939	13	30
Trichlorofluoromethane	1737	100	2000	0	86.8	60-140	2101	19	30
Vinyl chloride	1792	100	2000	0	89.6	50-136	2094	15.5	30
Xylenes, Total	5266	300	6000	0	87.8	80-126	6043	13.7	30
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>2024</i>	<i>0</i>	<i>2000</i>	<i>0</i>	<i>101</i>	<i>75-120</i>	<i>2061</i>	<i>1.81</i>	<i>30</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>2035</i>	<i>0</i>	<i>2000</i>	<i>0</i>	<i>102</i>	<i>80-110</i>	<i>2059</i>	<i>1.17</i>	<i>30</i>
<i>Surr: Dibromofluoromethane</i>	<i>2020</i>	<i>0</i>	<i>2000</i>	<i>0</i>	<i>101</i>	<i>85-115</i>	<i>2013</i>	<i>0.347</i>	<i>30</i>
<i>Surr: Toluene-d8</i>	<i>1998</i>	<i>0</i>	<i>2000</i>	<i>0</i>	<i>99.9</i>	<i>85-110</i>	<i>2036</i>	<i>1.88</i>	<i>30</i>

The following samples were analyzed in this batch:

16121297-10A	16121297-11A	16121297-12A
16121297-13A	16121297-14A	16121297-15A
16121297-16A	16121297-17A	16121297-18A

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203190** Instrument ID **VMS8** Method: **SW8260B**

MBLK		Sample ID: VLKS1-161228-R203190				Units: µg/Kg		Analysis Date: 12/28/2016 11:47 A		
Client ID:		Run ID: VMS8_161228A				SeqNo: 4222805		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	U	5.0								
1,1,2,2-Tetrachloroethane	U	5.0								
1,1,2-Trichloroethane	U	5.0								
1,1,2-Trichlorotrifluoroethane	U	5.0								
1,1-Dichloroethane	U	5.0								
1,1-Dichloroethene	U	5.0								
1,2,4-Trichlorobenzene	U	5.0								
1,2-Dibromo-3-chloropropane	U	5.0								
1,2-Dibromoethane	U	5.0								
1,2-Dichlorobenzene	U	5.0								
1,2-Dichloroethane	U	5.0								
1,2-Dichloropropane	U	5.0								
1,3-Dichlorobenzene	U	5.0								
1,4-Dichlorobenzene	U	5.0								
2-Butanone	U	10								
2-Hexanone	U	5.0								
4-Methyl-2-pentanone	U	5.0								
Acetone	U	10								
Benzene	U	5.0								
Bromodichloromethane	U	5.0								
Bromoform	U	5.0								
Bromomethane	U	10								
Carbon disulfide	U	5.0								
Carbon tetrachloride	U	5.0								
Chlorobenzene	U	5.0								
Chloroethane	U	5.0								
Chloroform	0.65	5.0								J
Chloromethane	U	10								
cis-1,2-Dichloroethene	U	5.0								
cis-1,3-Dichloropropene	U	5.0								
Cyclohexane	U	5.0								
Dibromochloromethane	U	5.0								
Dichlorodifluoromethane	U	10								
Ethylbenzene	U	5.0								
Isopropylbenzene	U	5.0								
m,p-Xylene	U	2.5								
Methyl acetate	U	10								
Methyl tert-butyl ether	U	5.0								
Methylcyclohexane	U	10								
Methylene chloride	U	5.0								
o-Xylene	U	2.5								
Styrene	U	5.0								

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: R203190	Instrument ID VMS8	Method: SW8260B
Tetrachloroethene	U	5.0
Toluene	U	5.0
trans-1,2-Dichloroethene	U	5.0
trans-1,3-Dichloropropene	U	5.0
Trichloroethene	U	5.0
Trichlorofluoromethane	U	5.0
Vinyl chloride	U	5.0
Xylenes, Total	U	5.0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>19.64</i>	<i>0 20 0 98.2 70-120 0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.6</i>	<i>0 20 0 98 75-120 0</i>
<i>Surr: Dibromofluoromethane</i>	<i>18.77</i>	<i>0 20 0 93.8 85-115 0</i>
<i>Surr: Toluene-d8</i>	<i>19.45</i>	<i>0 20 0 97.2 85-120 0</i>

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203190** Instrument ID **VMS8** Method: **SW8260B**

LCS		Sample ID: VLCSS1-161228-R203190				Units: µg/Kg		Analysis Date: 12/28/2016 10:43 A		
Client ID:		Run ID: VMS8_161228A				SeqNo: 4222804		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	20.38	5.0	20	0	102	70-135	0			
1,1,2,2-Tetrachloroethane	17.06	5.0	20	0	85.3	55-130	0			
1,1,2-Trichloroethane	19.03	5.0	20	0	95.2	60-125	0			
1,1-Dichloroethane	20.64	5.0	20	0	103	75-125	0			
1,1-Dichloroethene	22.72	5.0	20	0	114	65-135	0			
1,2,4-Trichlorobenzene	22.77	5.0	20	0	114	65-130	0			
1,2-Dibromo-3-chloropropane	13.36	5.0	20	0	66.8	40-135	0			
1,2-Dibromoethane	20.82	5.0	20	0	104	71-144	0			
1,2-Dichlorobenzene	20.99	5.0	20	0	105	75-120	0			
1,2-Dichloroethane	19.45	5.0	20	0	97.2	70-135	0			
1,2-Dichloropropane	19.89	5.0	20	0	99.4	70-120	0			
1,3-Dichlorobenzene	21.76	5.0	20	0	109	70-125	0			
1,4-Dichlorobenzene	20.47	5.0	20	0	102	70-125	0			
2-Butanone	16.85	10	20	0	84.2	30-160	0			
2-Hexanone	16.1	5.0	20	0	80.5	45-145	0			
4-Methyl-2-pentanone	19.68	5.0	20	0	98.4	74-173	0			
Acetone	16.69	10	20	0	83.4	20-160	0			
Benzene	20.89	5.0	20	0	104	75-125	0			
Bromodichloromethane	17.19	5.0	20	0	86	70-130	0			
Bromoform	15.59	5.0	20	0	78	55-135	0			
Bromomethane	16.36	10	20	0	81.8	30-160	0			
Carbon disulfide	20.69	5.0	20	0	103	45-160	0			
Carbon tetrachloride	20.44	5.0	20	0	102	65-135	0			
Chlorobenzene	21.26	5.0	20	0	106	75-125	0			
Chloroethane	11.85	5.0	20	0	59.2	40-155	0			
Chloroform	21.12	5.0	20	0	106	70-125	0			
Chloromethane	23.48	10	20	0	117	50-130	0			
cis-1,2-Dichloroethene	20.86	5.0	20	0	104	65-125	0			
cis-1,3-Dichloropropene	17.12	5.0	20	0	85.6	70-125	0			
Dibromochloromethane	14.95	5.0	20	0	74.8	65-135	0			
Dichlorodifluoromethane	20.92	10	20	0	105	35-135	0			
Ethylbenzene	21.42	5.0	20	0	107	75-125	0			
Isopropylbenzene	21.84	5.0	20	0	109	75-130	0			
m,p-Xylene	44.36	2.5	40	0	111	80-125	0			
Methyl tert-butyl ether	18.76	5.0	20	0	93.8	75-125	0			
Methylene chloride	17.34	5.0	20	0	86.7	55-140	0			
o-Xylene	21.1	2.5	20	0	106	75-125	0			
Styrene	22.73	5.0	20	0	114	74-134	0			
Tetrachloroethene	30.28	5.0	20	0	151	81-171	0			
Toluene	21.58	5.0	20	0	108	70-125	0			
trans-1,2-Dichloroethene	21.43	5.0	20	0	107	65-135	0			
trans-1,3-Dichloropropene	16.54	5.0	20	0	82.7	65-125	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: R203190	Instrument ID VMS8		Method: SW8260B				
Trichloroethene	20.78	5.0	20	0	104	75-125	0
Trichlorofluoromethane	20.51	5.0	20	0	103	25-185	0
Vinyl chloride	22.84	5.0	20	0	114	60-125	0
Xylenes, Total	65.46	5.0	60	0	109	75-125	0
<i>Surr: 1,2-Dichloroethane-d4</i>	<i>18.16</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>90.8</i>	<i>70-120</i>	<i>0</i>
<i>Surr: 4-Bromofluorobenzene</i>	<i>19.73</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.6</i>	<i>75-120</i>	<i>0</i>
<i>Surr: Dibromofluoromethane</i>	<i>18.58</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>92.9</i>	<i>85-115</i>	<i>0</i>
<i>Surr: Toluene-d8</i>	<i>19.65</i>	<i>0</i>	<i>20</i>	<i>0</i>	<i>98.2</i>	<i>85-120</i>	<i>0</i>

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203190** Instrument ID **VMS8** Method: **SW8260B**

MS				Sample ID: 16121379-02A MS			Units: µg/Kg		Analysis Date: 12/28/2016 05:27 PM	
Client ID:				Run ID: VMS8_161228A			SeqNo: 4222813		Prep Date:	
									DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
1,1,1-Trichloroethane	19.07	5.0	20	0	95.4	70-135	0			
1,1,2,2-Tetrachloroethane	17.89	5.0	20	0	89.4	55-130	0			
1,1,2-Trichloroethane	21.79	5.0	20	0	109	60-125	0			
1,1-Dichloroethane	19.53	5.0	20	0	97.6	75-125	0			
1,1-Dichloroethene	20.83	5.0	20	0	104	65-135	0			
1,2,4-Trichlorobenzene	19.16	5.0	20	0	95.8	65-130	0			
1,2-Dibromo-3-chloropropane	14.18	5.0	20	0	70.9	40-135	0			
1,2-Dibromoethane	24.02	5.0	20	0	120	71-144	0			
1,2-Dichlorobenzene	21.06	5.0	20	0	105	75-120	0			
1,2-Dichloroethane	21.03	5.0	20	0	105	70-135	0			
1,2-Dichloropropane	20.67	5.0	20	0	103	70-120	0			
1,3-Dichlorobenzene	21.21	5.0	20	0	106	70-125	0			
1,4-Dichlorobenzene	20.22	5.0	20	0	101	70-125	0			
2-Butanone	20.83	10	20	0	104	30-160	0			
2-Hexanone	19.42	5.0	20	0	97.1	45-145	0			
4-Methyl-2-pentanone	23.04	5.0	20	0	115	74-173	0			
Acetone	22.08	10	20	20.03	10.3	20-160	0			S
Benzene	20.46	5.0	20	0	102	75-125	0			
Bromodichloromethane	18.83	5.0	20	0	94.2	70-130	0			
Bromoform	18.8	5.0	20	0	94	55-135	0			
Bromomethane	22.79	10	20	0	114	30-160	0			
Carbon disulfide	17.19	5.0	20	0	86	45-160	0			
Carbon tetrachloride	19.65	5.0	20	0	98.2	65-135	0			
Chlorobenzene	22.07	5.0	20	0	110	75-125	0			
Chloroethane	19.17	5.0	20	0	95.8	40-155	0			
Chloroform	22.02	5.0	20	0.8217	106	70-125	0			
Chloromethane	19.45	10	20	0	97.2	50-130	0			
cis-1,2-Dichloroethene	19.82	5.0	20	0	99.1	65-125	0			
cis-1,3-Dichloropropene	16.91	5.0	20	0	84.6	70-125	0			
Dibromochloromethane	15.89	5.0	20	0	79.4	65-135	0			
Dichlorodifluoromethane	18.44	10	20	0	92.2	35-135	0			
Ethylbenzene	22.26	5.0	20	0	111	75-125	0			
Isopropylbenzene	22.3	5.0	20	0	112	75-130	0			
m,p-Xylene	45.46	2.5	40	0	114	80-125	0			
Methyl tert-butyl ether	18.18	5.0	20	0	90.9	75-125	0			
Methylene chloride	16.99	5.0	20	0	85	55-140	0			
o-Xylene	21.6	2.5	20	0	108	75-125	0			
Styrene	22.93	5.0	20	0	115	74-134	0			
Tetrachloroethene	34.86	5.0	20	0	174	81-171	0			S
Toluene	22	5.0	20	0	110	70-125	0			
trans-1,2-Dichloroethene	19.25	5.0	20	0	96.2	65-135	0			
trans-1,3-Dichloropropene	15	5.0	20	0	75	65-125	0			

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: R203190	Instrument ID VMS8			Method: SW8260B			
Trichloroethene	23.04	5.0	20	0	115	75-125	0
Trichlorofluoromethane	18.99	5.0	20	0	95	25-185	0
Vinyl chloride	20.52	5.0	20	0	103	60-125	0
Xylenes, Total	67.06	5.0	60	0	112	75-125	0
Surr: 1,2-Dichloroethane-d4	19.48	0	20	0	97.4	70-120	0
Surr: 4-Bromofluorobenzene	20.29	0	20	0	101	75-120	0
Surr: Dibromofluoromethane	20.23	0	20	0	101	85-115	0
Surr: Toluene-d8	19.37	0	20	0	96.8	85-120	0

The following samples were analyzed in this batch:	16121297-05A	16121297-06A	16121297-07A
	16121297-19A		

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203189** Instrument ID **MOIST** Method: **SW3550C**

MBLK				Sample ID: WBLKS-R203189				Units: % of sample			Analysis Date: 12/27/2016 12:42 PM			
Client ID:				Run ID: MOIST_161227A				SeqNo: 4220104			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Moisture	0.03	0.050								J				

LCS				Sample ID: LCS-R203189				Units: % of sample			Analysis Date: 12/27/2016 12:42 PM		
Client ID:				Run ID: MOIST_161227A				SeqNo: 4220103		Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual			
Moisture	100	0.050	100	0	100	99.5-100.5	0						

DUP				Sample ID: 16121297-03C DUP				Units: % of sample			Analysis Date: 12/27/2016 12:42 PM			
Client ID: SB3				Run ID: MOIST_161227A				SeqNo: 4220086			Prep Date:		DF: 1	
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual				
Moisture	23.65	0.050	0	0	0		21.68	8.69	5	R				

DUP		Sample ID: 16121297-05C DUP				Units: % of sample		Analysis Date: 12/27/2016 12:42 PM		
Client ID: SB5		Run ID: MOIST_161227A				SeqNo: 4220089		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Moisture	23.28	0.050	0	0	0		22.76	2.26	5	

The following samples were analyzed in this batch:

16121297-01C	16121297-02C	16121297-03C
16121297-04C	16121297-05C	

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

Client: Tetra Tech
Work Order: 16121297
Project: 1302 Locust Street/Carter Lake X9025.0002.019.02

QC BATCH REPORT

Batch ID: **R203191** Instrument ID **MOIST** Method: **SW3550C**

MBLK		Sample ID: WBLKS-R203191				Units: % of sample		Analysis Date: 12/27/2016 01:53 PM		
Client ID:		Run ID: MOIST_161227B				SeqNo: 4220136		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture U 0.050

LCS		Sample ID: LCS-R203191				Units: % of sample		Analysis Date: 12/27/2016 01:53 PM		
Client ID:		Run ID: MOIST_161227B				SeqNo: 4220135		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 100 0.050 100 0 100 99.5-100.5 0

DUP		Sample ID: 16121297-06C DUP				Units: % of sample		Analysis Date: 12/27/2016 01:53 PM		
Client ID: SB6		Run ID: MOIST_161227B				SeqNo: 4220114		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 26.47 0.050 0 0 0 26.41 0.227 5

DUP		Sample ID: 16121297-07C DUP				Units: % of sample		Analysis Date: 12/27/2016 01:53 PM		
Client ID: SB7		Run ID: MOIST_161227B				SeqNo: 4220116		Prep Date:		DF: 1
Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual

Moisture 29.2 0.050 0 0 0 30.56 4.55 5

The following samples were analyzed in this batch:

16121297-06C	16121297-07C	16121297-08A
16121297-09A		

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



Cincinnati, OH
+1 513 733 5336

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Chain of Custody Form

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COC ID: 42078

Houston, TX
+1 281 530 5656

Middletown, PA
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Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

Customer Information			Project Information			ALS Project Manager: ALS Work Order #: 116121297														
Parameter/Method Request for Analysis																				
Purchase Order	1132697		Project Name	1302 Locust Street / Carter Lake		A	TCL Volatiles													
Work Order			Project Number	X9025.0002.019.022		B	TCL SVOCs													
Company Name	Tetra Tech		Bill To Company	Tetra Tech		C	GRODRO (8015)													
Send Report To			Invoice Attn	Emily Fisher		D	RCRA 8 Metals													
Address	415 Oak Street		Address	415 Oak Street		E	Moisture													
City/State/Zip	Kansas City, MO 64106		City/State/Zip	Kansas City, MO 64106		F	Dissolved RCRA 8 Metals - Lab Filter													
Phone	(816) 412-1755		Phone	(816) 412-1755		G														
Fax	(816) 410-1748		Fax	(816) 410-1748		H														
e-Mail Address			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	SB1	12/20/2016	8:45	G		5	X	X	X	X	X									
2	SB2		10:15																	
3	SB3		10:46																	
4	SB4		12:40																	
5	SB5		1:30																	
6	SB6		2:30																	
7	SB7		3:00																	
8	SS1		1:45			1					X									
9	SS2		1:50			1					X									
10	RB1		12:56			10	X	X	X	X										
Sampler(s) Please Print & Sign			Shipment Method			Turnaround Time in Business Days (BD)			Other			Results Due Date:								
Megan Sawyer			FedEx			10 BD			5 BD			3 BD			2 BD			1 BD		
Relinquished by:			Date:			Time:			Received by:			Notes:								
Megan Sawyer			12/21/2016			12:10			M. Sawyer											
Relinquished by:			Date:			Time:			Received by (Laboratory):			Cooler ID								
Megan Sawyer			12/22/16			1030			M. Sawyer			Cooler Temp								
Logged by (Laboratory):			Date:			Time:			Checked by (Laboratory):			QC Package: (Check One Box Below)								
MB			12/22/16			1256			M. Sawyer			Level II Std QC								
												Level III Std QC/Raw Date								
												Level IV SW846/CLP								
												Other								
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035																				
5L pH2																				

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 completed accurately.

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Chain of Custody Form

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COC ID: 42080

Houston, TX
+1 281 530 5656

Middletown, PA
+1 717 944 5541

Spring City, PA
+1 610 948 4903

Salt Lake City, UT
+1 801 266 7700

South Charleston, WV
+1 304 356 3168

York, PA
+1 717 505 5280

Customer Information		Project Information		ALS Project Manager:		ALS Work Order #: 16021291	
Purchase Order		Project Name	130 Locust Street / Carter Lake	A	TCL Volatiles		
Work Order		Project Number	X9125.002.019.022	B	TCL SVOCs		
Company Name	Tetra Tech	Bill To Company	Tetra Tech	C	GRO/DRO (8015)		
Send Report To		Invoice Attn	Emily Fisher	D	RCRA 8 Metals		
Address	415 Oak Street	Address	415 Oak Street	E	Moisture		
City/State/Zip	Kansas City, MO 64106	City/State/Zip	Kansas City, MO 64106	F	Dissolved RCRA 8 Metals - Lab Filter		
Phone	(816) 412-1755	Phone	(816) 412-1755	G			
Fax	(816) 410-1748	Fax	(816) 410-1748	H			
e-Mail Address		e-Mail Address		I			
				J			

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
11	GW5	10/21/2016	9:25	G		7	X		X								
12	GW6		9:45			9	X	X	X	X							
13	GW7		10:00			8	X	X	X								
14	GW8		8:45			7	X		X								
15	GW9		9:00			7	X		X								
16	GW10		9:30			1	X		X								
17	FB-1		7:30			11	X	X	X	X		X					
18	TB					6											
9																	
10																	

Sampler(s) Please Print & Sign Megan Sawyer Megan Sawyer		Shipment Method FedEx		Turnaround Time in Business Days (BD) <input checked="" type="checkbox"/> 10 BD <input type="checkbox"/> 5 BD <input type="checkbox"/> 3 BD <input type="checkbox"/> 2 BD <input type="checkbox"/> 1 BD		Results Due Date:	
Relinquished by: Megan Sawyer		Received by: [Signature]		Notes:			
Relinquished by: MB		Received by (Laboratory): [Signature]		Cooler ID: [Blank]			
Logged by (Laboratory): MB		Checked by (Laboratory): [Signature]		Cooler Temp: 3.0			
Preservative Key: 1-HCl 2-HNO ₃ 3-H ₂ SO ₄ 4-NaOH 5-Na ₂ S ₂ O ₃ 6-NaHSO ₄ 7-Other 8-4°C 9-5035				QC Package: (Check One Box Below) <input type="checkbox"/> Level II Std QC <input type="checkbox"/> TRRP Checklist <input type="checkbox"/> Level III Std QC/Raw Date <input type="checkbox"/> TRRP Level IV <input type="checkbox"/> Level IV SW846/CLP <input type="checkbox"/> Other			

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 completed accurately.

Copyright 2012 by ALS Environmental.

Sample Receipt Checklist

Client Name: **TETRATECH - MO**

Date/Time Received: **22-Dec-16 10:30**

Work Order: **16121297**

Received by: **MBB**

Checklist completed by Meghan Broadbent
eSignature

22-Dec-16
Date

Reviewed by: Joseph Ribar
eSignature

22-Dec-16
Date

Matrices: **water, soil**

Carrier name: **FedEx**

Shipping container/cooler in good condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on shipping container/cooler?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	Not Present <input type="checkbox"/>
Custody seals intact on sample bottles?	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Not Present <input checked="" type="checkbox"/>
Chain of custody present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody signed when relinquished and received?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Chain of custody agrees with sample labels?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Samples in proper container/bottle?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample containers intact?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sufficient sample volume for indicated test?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
All samples received within holding time?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Container/Temp Blank temperature in compliance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Sample(s) received on ice?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Temperature(s)/Thermometer(s):	<u>3.0/3.0 3.4/3.4</u>		<u>SR2</u>
Cooler(s)/Kit(s):	<u></u>		
Date/Time sample(s) sent to storage:	<u>12/22/2016 1:37:29 PM</u>		
Water - VOA vials have zero headspace?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	No VOA vials submitted <input type="checkbox"/>
Water - pH acceptable upon receipt?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	N/A <input type="checkbox"/>
pH adjusted by:	<u>-</u>		

Login Notes:

Client Contacted:

Date Contacted:

Person Contacted:

Contacted By:

Regarding:

Comments:

CorrectiveAction:

Tetra Tech, Inc.
DATA VALIDATION REPORT
LEVEL II

Site: 1302 Locust Street, Carter Lake, Iowa (Omaha Tribe of Iowa Property)

Laboratory: ALS Environmental Group (Holland, Michigan)

Data Reviewer: Harry Ellis, Tetra Tech, Inc. (Tetra Tech)

Review Date: February 1, 2017

Sample Delivery Group (SDG): 16121297

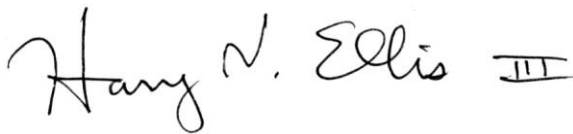
Sample Numbers: SB1, SB2, SB3, SB4, SB5, SB6, SB7, SS1, SS2, GW5, GW6, GW7, GW8, GW9, GW10, RB1, FB1, Trip Blank-Water, and Trip Blank-Soil

Matrix / Number of Samples: 9 Soil Samples, 6 Groundwater Samples, and 4 Quality Control Samples

The data were qualified according to the U.S. Environmental Protection Agency (EPA) Region 7 documents entitled "Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", dated September 2016, and "Contract Laboratory Program National Functional Guidelines for Superfund Inorganic Methods Data Review", also dated September 2016. In addition, the Tetra Tech document "Review of Data Packages from Subcontracted Laboratories" (February 2002) was used along with other criteria specified in the applicable methods.

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

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



1 February 2017

Certified by Harry Ellis, Chemist

Date

DATA VALIDATION QUALIFIERS

- U** — The analyte was not detected above the reported sample quantitation limit.
- J** — The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ** — The analyte was not detected above the reported sample quantitation limit, which is estimated.
- R** — The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet QC criteria. Presence or absence of the analyte cannot be verified.

DATA ASSESSMENT

Sample delivery group (SDG) 16121297 included nine (9) environmental soil samples, six (6) environmental groundwater samples, and four (4) quality control (QC) samples (one rinsate blank, one field blank, and two trip blanks). Samples were analyzed for volatile organic compounds (VOC) by EPA SW-846 Method 8260G, semivolatile organic compounds (SVOC) by EPA SW-846 Method 8270D, total petroleum hydrocarbons (TPH) by Iowa Methods OA-1 (gasoline range organics, GRO) and OA-2 (diesel range organics, DRO, and oil range organics, ORO), and metals by EPA SW-846 Methods 6010C, 6020A, 7470A, and 7471B. All samples did not receive all analyses. The following summarizes the data validation that was performed.

VOLATILE ORGANIC COMPOUND ANALYSES

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

The samples were received by the laboratory and analyzed within the established holding time of 14 days from sample collection to analysis. No data were qualified.

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

The soil MS/MSD analyses were performed on sample SB6. 2-Butanone, acetone, and tetrachloroethene recoveries exceeded QC limits. None of these analytes was detected in the unspiked sample, so no qualifications were applied. Bromomethane yielded a slightly low recovery from the MSD sample, but the MS and average recoveries were well within limits. Therefore, again, no qualifications were applied. The aqueous MS/MSD analyses were performed on a sample from another site and were not evaluated.

III. Blanks

The laboratory (method) blanks yielded no detectable concentrations of analytes. Both trip blanks yielded low concentrations of chloroform, indicating use of potable water. Chloroform was not detected in the other field samples so no qualifications were applied. Low concentrations (less than the sample reporting limits) of the common laboratory contaminant acetone were detected in the soil trip blank, the rinsate blank, and the field blank. Therefore similar concentrations of acetone in sample SB6 and several groundwater samples were qualified as handling artifacts and flagged "U".

IV. Laboratory Control Sample (LCS)

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

V. Surrogates

Almost all surrogate recoveries were within their QC limits. In the undiluted analyses of samples SB2 and SB3, two surrogates yielded recoveries slightly above their QC limits, apparently due to matrix interference from the high concentrations of hydrocarbons in those samples. The recoveries of all four surrogates from the diluted re-analyses of these two samples were well within QC limits, so no qualifications were applied.

VI. Comments

Some detected concentrations were less than their reporting limits (“RL”). These low-concentration results were qualified as estimated (flagged “J”). At the other end of the range, some soil samples were analyzed as medium-level samples, rather than as low-level samples because of their high hydrocarbon content. Therefore their detection and reporting limits were increased proportionately. In addition, one or more hydrocarbons in those samples had concentrations exceeding their calibration range. The laboratory re-analyzed these samples at dilutions (5- to 100-fold) for those analytes, bringing them within range. Therefore no further qualifications were applied.

VII. Overall Assessment of Data

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

SEMIVOLATILE ORGANIC COMPOUND ANALYSES

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

The samples were received by the laboratory and analyzed within the established holding time of 14 days from sample collection to extraction and 40 days to analysis. No data were qualified.

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

The aqueous MS analysis performed on the rinsate blank had no irregularities, but the laboratory duplicate performed on the field blank yielded an excessive relative percent difference for benzaldehyde. The unspiked result for benzaldehyde in that sample was qualified as estimated and flagged “J”.

III. Blanks

The laboratory (method) blanks yielded no detectable analyte concentrations. The field blank yielded the flavoring agent (mmmm, almond!) benzaldehyde. That analyte was not detected in any other sample so no qualifications were applied.

IV. Laboratory Control Sample (LCS)

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

V. Surrogates

All surrogate recoveries were within QC limits so no qualifications were applied.

VI. Comments

A few detected concentrations were less than their RLs. These low-concentration results were qualified as estimated (flagged “J”). Due to their high organic content (TPH and possibly some other compounds), samples SB2 and SB3 were analyzed at 5-fold dilutions to minimize matrix interference. No qualifications were applied, but the detection and reporting limits for these two samples are therefore not comparable to the other samples. In addition, sample SB1 was re-analyzed at a 5-fold dilution to bring

high concentrations of 2-methylnaphthalene and naphthalene within calibration range. This succeeded, so no further qualifications were applied.

VII. Overall Assessment of Data

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

TOTAL PETROLEUM HYDROCARBON ANALYSES

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

The samples were received by the laboratory and analyzed within the established holding times. No data were qualified.

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

All MS/MSD results were within limits. No qualifications were applied.

III. Blanks

The laboratory (method) blanks yielded no detectable analytes. The rinsate and field blanks yielded low concentrations of DRO and ORO. No qualifications were applied for the generally higher concentrations in the other field samples.

IV. Laboratory Control Sample (LCS)

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

V. Surrogates

All surrogate recoveries were within QC limits so no qualifications were applied.

VI. Comments

A few detected concentrations were less than their RLs. These low-concentration results were qualified as estimated (flagged "J"). Samples SB2 and SB3 were analyzed at dilutions to bring their high TPH concentrations within calibration range. No further qualifications were applied.

VII. Overall Assessment of Data

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

METALS ANALYSES

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

The samples were received by the laboratory and analyzed within the established holding times of 28 days (for mercury) and 6 months (for all other metals) from sample collection to analysis. No data were qualified.

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

There were no irregularities in MS/MSD analyses performed on our samples. Those performed on samples from other sites were not evaluated. No qualifications were applied.

III. Blanks

The laboratory soil blank yielded a low concentration of chromium. All soil samples yielded much higher concentrations so no qualifications were applied. All other blanks yielded no detectable metals.

IV. Laboratory Control Sample (LCS)

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

V. Comments

A few detected concentrations (including all for cadmium) were less than their RLs. These low-concentration results were qualified as estimated (flagged "J"). Sample GW6 was re-analyzed for barium at a 100-fold dilution to minimize matrix interference. No further qualifications were applied.

VI. Overall Assessment of Data

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

APPENDIX E
ANALYTICAL TABLES

TABLE E-1

SUMMARY OF VOC ANALYSIS OF SOIL SAMPLES
OMAHA TRIBE OF IOWA
1302 LOCUST STREET

Sample Number	Sample Depth (ft bgs)	Sample Results (mg/kg)														
		2-Butanone	Acetone	Benzene	Carbon Disulfide	Chloroform	Cyclohexane	Ethylbenzene	Isopropylbenzene	m,p-Xylene	Methyl acetate	Methylcyclohexane	o-Xylene	Styrene	Toluene	Xylenes, Total
SB-1	12-14	U	U	7.5	U	U	13	3.7	2	2	U	27	0.15	U	0.42	2.1
SB-2	6-8	U	U	33	U	U	55	69	7.8	120	U	78	6.6	0.1	5.3	130
SB-3	8-10	U	U	9.1	U	U	44	40	6.7	13	U	92	0.28	U	1.4	13
SB-4	10-12	U	U	0.32	U	U	7.7	0.6	0.76	0.67	U	12	0.047 J	U	0.091	0.72
SB-5	10-12	U	0.051	0.0019 J	0.0021 J	0.0014 J	0.0021 J	U	U	U	U	0.0033 J	U	U	0.0012 J	U
SB-6	8-10	0.075	0.14 J	0.0013 J	0.065	0.0014 J	0.0036 J	U	U	0.00089 J	0.0041 J	0.0057 J	U	U	0.0028 J	0.00089 J
SB-7	10-12	U	0.017	0.0011 J	U	0.0013 J	U	U	U	U	U	0.0027 J	U	U	0.00073 J	U
TB-1	NA	U	0.0027 J	U	U	0.00080 J	U	U	U	U	U	U	U	U	U	U
Screening Values (mg/kg)																
EPA RSL for Residential Soil		2,700	6,100	1.2	77	0.32	650	5.8	190	55.5	7,800	NE	650	600	4,900	58
EPA RSL for Industrial Soil		19,000	67,000	5.1	350	1.4	2,700	25	990	240	120,000	NE	28,000	3,500	4,700	250
IDNR Statewide Standards for Soil		46,000	68,000	56	7,600	NE	NE	7,600	7,600	NE	NE	NE	NE	15,000	6,100	15,000

Notes:

Bold value indicates result is greater than the EPA RSL for residential soil.
Bold and shaded value indicates result is greater than the EPA RSLs for residential and industrial soil.

- bgs
- Below ground surface
- EPA
- U.S. Environmental Protection Agency
- ft
- Feet
- IDNR
- Iowa Department of Natural Resources
- J
- Analyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit
- mg/kg
- Milligrams per kilogram
- NE
- None established
- RSL
- Regional screening level
- SB
- Soil boring
- TB
- Trip blank
- U
- Analyte was not detected above the reported Sample Quantitation Limit
- VOC
- Volatile organic compound

TABLE E-2

SUMMARY OF SVOC ANALYSIS OF SOIL SAMPLES

OMAHA TRIBE OF IOWA

1302 LOCUST STREET

Sample Number	Sample Depth (ft bgs)	Sample Results (mg/kg)																
		2-Methylnaphthalene	Acenaphthylene	Anthracene	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	Chrysene	Dibenzo(a,h)anthracene	Diethyl Phthalate	Fluorene	Fluoranthene	Indeno(1,2,3-cd) Pyrene	Naphthalene	Phenanthrene	Pyrene
SB-1	12-14	13	U	U	U	U	U	U	U	U	U	U	0.2	U	U	10	0.0091U	0.0082
SB-2	6-8	5.5	U	U	U	U	U	U	U	U	U	U	U	U	U	5.9	0.088	0.051
SB-3	8-10	0.31	U	U	U	U	U	U	U	U	U	U	U	0.087	U	0.54	0.074	0.1
SB-4	10-12	2.8	U	U	U	U	U	U	U	U	U	U	U	U	U	2.2	U	0.0088 J
SB-5	10-12	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
SB-6	8-10	0.011	0.021	0.027	0.074	0.087	0.096	0.059	0.052	0.091	0.013	0.018 J	U	0.13	0.063	U	0.058	0.13
SB-7	10-12	U	U	U	U	U	0.0093	U	0.0093	U	U	U	U	0.0093	U	U	U	0.0083 J
Screening Values (mg/kg)																		
EPA RSL for Residential Soil		24	360	1,800	0.16	.016	0.16	0.16	1.6	16	0.016	5,100	240	240	0.16	3.8	NE	180
EPA RSL for Industrial Soil		3,000	4,500	23,000	0.29	0.29	2.9	2.9	29	290	0.29	66,000	3,000	3,000	2.9	17	NE	2,300
IDNR Statewide Standards for Soil		2,300	1,700	17,000	0.016	0.016	3.1	3.1	170	310	0.31	6,100	2,300	2,300	3.1	1,100	1,700	1,700

Notes:

Bold value indicates result is greater than the EPA RSL for residential soil.

- bgs
- Below ground surface
- EPA
- U.S. Environmental Protection Agency
- ft
- Feet
- IDNR
- Iowa Department of Natural Resources
- J
- Analyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit
- mg/kg
- Milligrams per kilogram
- NE
- None established
- RSL
- Regional screening level
- SB
- Soil boring
- SVOC
- Semivolatile organic compound
- U
- Analyte was not detected above the reported Sample Quantitation Limit

TABLE E-3

**SUMMARY OF TPH ANALYSIS OF SOIL SAMPLES
OMAHA TRIBE OF IOWA
1302 LOCUST STREET**

Sample Number	Sample Depth (ft bgs)	Sample Results (mg/kg)		TPH-GRO
		TPH-DRO	TPH-ORO	
SB-1	12-14	1,400	41	1,900
SB-2	6-8	470	420	6,100
SB-3	8-10	42	270	6,300
SB-4	10-12	480	55	880
SB-5	10-12	2.7 J	23	U
SB-6	8-10	9.4	100	U
SB-7	10-12	5.3 J	27	U
Screening Values (mg/kg)				
EPA RSL for Residential Soil		NE	NE	NE
EPA RSL for Industrial Soil		NE	NE	NE
IDNR Statewide Standards for Soil		28,000*	9,400**	NE

Notes:

Bold value indicates result is greater than one or more screening values.

* No statewide standard has been established for TPH-DRO. The value represents the statewide standard for TEH Diesel.

** No statewide standard has been established for TPH-ORO. The value represents the statewide standard for TEH Waste Oil.

bgs	Below ground surface
DRO	Diesel-range organics
EPA	U.S. Environmental Protection Agency
ft	Feet
GRO	Gasoline-range organics
mg/kg	Milligrams per kilogram
IDNR	Iowa Department of Natural Resources
J	Analyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit
NE	None established
ORO	Oil-range organics
RSL	Regional screening level
SB	Soil boring
TEH	Total extractable hydrocarbons
TPH	Total petroleum hydrocarbons
U	Analyte was not detected above the reported Sample Quantitation Limit

TABLE E-4

SUMMARY OF METALS ANALYSIS OF SOIL SAMPLES
OMAHA TRIBE OF IOWA
1302 LOCUST STREET

Sample Number	Sample Depth (ft bgs)	Sample Results (mg/kg)						
		Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium
SB-1	12-14	13	220	0.18 J	18	21	0.054	U
SB-2	6-8	5.0	170	0.40 J	13	140	0.038	U
SB-3	8-10	7.4	170	0.39 J	12	28	0.038	U
SB-4	10-12	10	240	0.16 J	13	36	0.038	0.33 J
SB-5	10-12	7.0	270	0.12 J	14	14	0.036	U
SB-6	8-10	9.2	270	0.96	13	120	0.13	U
SB-7	10-12	12	280	0.41 J	15	18	0.044	U
SS-1	0-0.6	10	200	0.38 J	14	48	0.051	U
SS-2	0-0.6	12	300	0.78 J	18	430	0.13	U
Screening Values (mg/kg)								
USGS Mean Background Concentration		12.1	NE	NE	NE	21.8	0.039	0.466
EPA RSL for Residential Soil		0.68	1,500	7.1	12,000*	400	1.1	39
EPA RSL for Industrial Soil		3.0	22,000	98	180,000*	800	4.6	580
IDNR Statewide Standards for Soil		17	15,000	70	97,000*	400	23	390

Notes:

Bold value indicates result is greater than the EPA RSL for residential soil.

Bold and shaded value indicates result is greater than the EPA RSLs for residential and industrial soil.

* Represents screening level for chromium (III)

bgs Below ground surface

EPA U.S. Environmental Protection Agency

ft Feet

mg/kg Milligrams per kilogram

IDNR Iowa Department of Natural Resources

J Analyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit

NE None established

RSL Regional screening level

SB Soil boring

SS Surface soil

U Analyte was not detected above the reported Sample Quantitation Limit

USGS U.S. Geological Survey

TABLE E-5

**SUMMARY OF VOC ANALYSIS OF GROUNDWATER SAMPLES
OMAHA TRIBE OF IOWA
1302 LOCUST STREET**

Sample Number	Sample Results (µg/L)			
	2-Butanone	4-Methyl-2-pentanone	Acetone	Chloroform
GW-5	1.3 J	U	7.4 J	U
GW-6	1.3 J	U	7.5 J	U
GW-7	U	U	3.6 J	U
GW-8	4.0 J	0.091 J	8.4 J	U
GW-9	U	U	2.0 J	U
GW-10	U	0.69 J	2.0 J	U
FB-1	U	U	2.5 J	U
RB-1	U	U	1.9 J	U
TB	U	U	U	0.96 J
Screening Values (µg/L)				
EPA MCL	560*	630*	1,400*	80
IDNR Statewide Standard for Protected Groundwater Source	4,000	560	6,300	80

Notes:

Bold value indicates result is greater than one or more screening values.

* No EPA MCL has been established for this compound. The value represents the EPA screening level for tapwater.

EPA U.S. Environmental Protection Agency
 FB Field blank
 GW Groundwater
 IDNR Iowa Department of Natural Resources
 J Analyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit
 MCL Maximum contaminant level
 µg/L Micrograms per liter
 RB Rinsate blank
 TB Trip blank
 U Analyte was not detected above the reported Sample Quantitation Limit
 VOC Volatile organic compound

TABLE E-6

SUMMARY OF SVOC ANALYSIS OF GROUNDWATER SAMPLES

OMAHA TRIBE OF IOWA

1302 LOCUST STREET

Sample Number	Sample Results (µg/L)															
	Anthracene	Benzaldehyde	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(g,h,i)perylene	Bis(2ethylhexy)phthalate	Butyl benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Fluoranthene	Indeno (1,2,3cd)pyrene	Phenanthrene	Pyrene
GW-6	U	U	U	U	U	U	U	0.58 J	0.35 J	0.89 J	U	U	0.060 J	U	U	0.050 J
GW-7	0.14 J	U	0.48 J	0.55 J	0.28 J	0.40 J	2.6 J	U	U	U	0.32 J	1.4 J	0.65 J	0.48 J	0.11 J	0.46 J
FB-1	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
RB-1	U	1.8	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Screening Values (µg/L)																
EPA MCL	180*	190	0.20	0.034*	0.34*	NE	6	16*	1,500*	NE	90*	20*	80*	0.034*	NE	12*
IDNR Statewide Standard for Protected Groundwater Source	2,100	NE	0.2	0.24	2.4	21	6	140	5,600	NE	700	NE	280	0.24	210	210

Notes:

Bold value indicates result is greater than the EPA MCL and IDNR residential standards.

* No EPA MCL has been established for this compound. The value represents the EPA screening level for tapwater.

- EPAU.S. Environmental Protection Agency
- FBField blank
- GWGroundwater
- IDNRIowa Department of Natural Resources
- JAnalyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit
- MCLMaximum contaminant level
- µg/LMicrograms per liter
- RBRinsate blank
- UAnalyte was not detected above the reported Sample Quantitation Limit
- SVOCSemivolatile organic compound

TABLE E-7

**SUMMARY OF METALS ANALYSIS OF GROUNDWATER SAMPLES
OMAHA TRIBE OF IOWA
1302 LOCUST STREET**

Sample Number	Sample Results (µg/L)							
	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver
GW-6	130	9,700	9.2	170	520	1.5	23	1.4 J
FB-1	U	U	U	U	U	U	U	U
RB-1	U	U	U	U	U	U	U	U
Screening Values (µg/L)								
EPA MCL	10	2,000	5	100*	15	2	50	9.4**
IDNR Statewide Standard for Protected Groundwater Source	10	2,000	5	100	15	2	50	100

Notes:

Bold value indicates result is greater than the EPA MCL and IDNR residential standards.

Bold and shaded value indicates result is greater than the EPA MCL and IDNR residential standards, and IDNR industrial standards.

* Represents EPA MCL for total chromium

** No EPA MCL has been established for this compound. The value represents the EPA screening level for tapwater.

EPA U.S. Environmental Protection Agency

FB Field blank

GW Groundwater

IDNR Iowa Department of Natural Resources

J Analyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit

MCL Maximum contaminant level

µg/L Micrograms per liter

RB Rinsate blank

TABLE E-8

**SUMMARY OF TPH ANALYSIS OF GROUNDWATER SAMPLES
OMAHA TRIBE OF IOWA
1302 LOCUST STREET**

Sample Number	Sample Results (µg/L)		
	TPH-DRO	TPH-ORO	TPH-GRO
GW-5	390	470	U
GW-6	290	450	U
GW-7	490	900	U
GW-8	670	690	U
GW-9	400	260	U
GW-10	NA	NA	U
RB-1	160	250	U
FB-1	100	91	U
Screening Values (mg/kg)			
EPA MCL	NE	NE	NE
IDNR Statewide Standard for Protected Groundwater Source	2,200*	730**	NE

Notes:

Bold value indicates result is greater than one or more screening values.

* No statewide standard has been established for TPH-DRO. The value represents the statewide standard for TEH Diesel

** No statewide standard has been established for TPH-ORO. The value represents the statewide standard for TEH Waste Oil

bgs Below ground surface
DRO Diesel-range organics
EPA U.S. Environmental Protection Agency
ft Feet
GRO Gasoline-range organics
mg/kg Milligrams per kilogram
IDNR Iowa Department of Natural Resources
J Analyte is present at an estimated concentration between the Method Detection Limit and Reporting Limit
NA Not analyzed
ORO Oil-range organics
SB Soil boring
TEH Total extractable hydrocarbons
TPH Total petroleum hydrocarbons
U Analyte was not detected above the reported Sample Quantitation Limit

APPENDIX F
PROPERTY PROFILE FORM



United States
ENVIRONMENTAL PROTECTION AGENCY
Washington, DC 20460

Form Approved
OMB Number No. 2050-0192
Expires 07-31-2012

PROPERTY PROFILE FORM—Brownfields

Public reporting burden for this collection of information is estimated to average 1.50 hours per response, including the time for reviewing instructions, searching data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate, or any other aspect of this collection of information, including suggestions for reducing this burden, to the Environmental Protection Agency, Office of Environmental Information, Code 2822T, Washington, DC 20460 and to the Paperwork Reduction Project, Office of Management and Budget, Washington, DC 20503. DO NOT RETURN your form to either of these addresses. Send your completed form to the address provided by the issuing office.

PART I- PROPERTY INFORMATION

COOPERATIVE AGREEMENT RECIPIENT INFORMATION

1. Cooperative Agreement Recipient Name (State/Tribe for Section 128(a) Cooperative Agreements; requestor/contractor for TBAs):

The Omaha Tribe of Iowa

2. Cooperative Agreement Number (contract number for TBAs):

EP-S7-13-06

3. What type of cooperative agreement funding is being used for this property?

- ☐ Assessment ☐ Section 128(a) – State and Tribal Response
☐ Revolving Loan Fund ☒ TBA (EPA Regions Only)
☐ Cleanup

4. For Assessment, Cleanup, and Revolving Loan Fund cooperative agreements, what type of funding is being used at this property?

- ☒ Hazardous Substance ☐ Petroleum ☐ Both

5a. Indicate if this form is the initial or Updated Form:

- ☒ Initial Form ☐ Updated Form

5b. If "Updated Form," what's the ACRES Property ID?

PROPERTY BACKGROUND INFORMATION

6. Property Name: 1302 Locust Street

7a. Street Address: 1302 Locust Street

7b. City: Carter Lake

7c. County: Pottawattamie 7d. State: IA

7e. Zip code: 51510

8. Size (in acres): 9.00

9. Parcel Number(s):

STATE & TRIBAL BROWNFIELDS/VOLUNTARY RESPONSE PROGRAM INFORMATION

10. State & Tribal Program Enrollment (If the property is not enrolled in a state program, check Property Not Enrolled check box):

Date of Enrollment: ID Number (if applicable): ☒ Property Not Enrolled in a State or Tribal Program

PROPERTY GEOGRAPHIC INFORMATION (EPA Brownfields Program, or its contractors, will provide complete latitude/longitude information if cooperative agreement recipients are unable)

11a. Latitude
(use 00.000000 decimal
degree format):

42.22757

11b. Longitude
(use -000.000000 decimal
degree format):

-96.47351

11c. Horizontal Collection Method:

Global Positioning Method- Unspecified Parameters

11d. Source Map Scale Number (Only if a map/photo was used):

11e. Reference Point (e.g., Center of Facility or Station):

Other Point

11f. Horizontal Reference Datum (Choose one):

- ☐ NAD27-North American Datum of 1927 ☐ WGS84-World Geodetic System of 1984
☒ NAD83-North American Datum of 1983
EPA Form # 6200-03 (9-2006)

PART II- ENVIRONMENTAL ACTIVITIES

ENVIRONMENTAL ASSESSMENT INFORMATION (mandatory for Assessment Cooperative Agreements, State & Tribal Property-Specific Assessments, and TBAs; as available for Cleanup and RLF cooperative agreement recipients; CA = Cooperative Agreement)

Table A – Environmental Assessment Activity (If there are multiple assessments, please use a separate line for each assessment)

Environmental Assessment Detail			Source of Funding (enter one source of funding per line; do not include funding received prior to the award of this)					Name of Entity Providing Funds	Amount of Funding Expended on this Activity
Activity	Start Date	Completion Date	This US EPA CA	Other Federal	State/Tribal (exclude §128(a) funds)	Local Gov't	Private/ Other		
Phase I	12/17/2015	5/4/2016	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EPA	\$5,000.00
Phase II	6/13/2016	1/26/2017	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	EPA	\$17,500.00
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

12. Indicate whether cleanup is required: ☒ Yes ☐ No ☐ Unknown

CONTAMINANTS & MEDIA AFFECTED INFORMATION (mandatory for all cooperative agreement types)

Table B - Contaminants and Media Affected (check all that apply):

Contaminants			
Class of Contaminant	REC*	Found	Cleaned Up
Petroleum/Petroleum Products	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Controlled Substances	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asbestos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
PCBs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
VOCs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lead	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other Metals	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
PAHs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other Contaminants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No Contaminants	<input type="checkbox"/>		
Unknown	<input type="checkbox"/>		

Media		
Media	Affected	Cleaned Up
Soil	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Air	<input type="checkbox"/>	<input type="checkbox"/>
Surface Water	<input type="checkbox"/>	<input type="checkbox"/>
Ground Water	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Drinking Water	<input type="checkbox"/>	<input type="checkbox"/>
Sediments	<input type="checkbox"/>	<input type="checkbox"/>
No Media Affected	<input type="checkbox"/>	
Unknown	<input type="checkbox"/>	

*REC = Recognized Environmental Conditions

ENVIRONMENTAL CLEANUP INFORMATION (mandatory for Cleanup and RLF

Cooperative Agreements and State & Tribal Property-Specific Cleanups; as available for Assessment Cooperative Agreements and TBAs)

13. Cleanup Activity Start Date: _____ 14. Cleanup Activity Completion Date: _____ 15. Acres Cleaned Up: _____

16. Date No Further Action/Cleanup Completion Document Issued

(If the property was not enrolled in a state or tribal program, leave blank):

Date: _____

17. Number of Cleanup Jobs Leveraged: _____

18. If EPA Brownfields funding was used, indicate the type and amount (If any non-EPA funding was used, fill out Table C):

Type Amount
☐ Cleanup Cooperative Agreement _____
☐ RLF Loan _____

Date RLF
Loan
Signed

Type Amount
☐ RLF Subgrant _____
☐ Section 128(a) State/Tribal Cooperative Agreement _____

Table C - Environmental Cleanup Leveraged Funding Detail

Source of Funding (enter one source of funding per line; do not include funding received prior to the award of this EPA Cooperative Agreement)				Name of Entity Providing Funds	Amount of Funding Expended on this Activity
Other Federal	State/Tribal (exclude §128(a) funds)	Local Gov't	Private/ Other		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

PART II- ENVIRONMENTAL ACTIVITIES (continued)

INSTITUTIONAL & ENGINEERING CONTROLS INFORMATION (mandatory for all cooperative agreement types)

19a. Indicate whether Institutional Controls are required: ☐ Yes ☐ No ☒ Unknown

19b. If Institutional Controls were required, indicate the category (check all that apply):

- ☐ Proprietary Controls (e.g., easements, covenants) ☐ Governmental Controls (e.g., zoning, building codes)
- ☐ Informational Devices (e.g., state registries, deed notices) ☐ Enforcement/Permit Tools (e.g., permits, consent decrees)

Additional Institutional Controls Information:

Address of Data Source (URL if available):

19c. Indicate whether Institutional Controls in place: ☐ Yes ☒ No Date: _____

20a. Indicate whether Engineering Controls are required: ☐ Yes ☒ No ☐ Unknown

20b. If Engineering Controls were required, indicate the category (check all that apply):

- ☐ Cover Technologies (e.g., Capping) ☐ Immobilization Process (e.g., Encapsulation, In-Situ Solidification) ☐ Engineered Barriers (e.g., Slurry Walls, Sheet)
- ☐ Security (e.g., Guard, Fences) ☐ Other _____

Additional Engineering Controls Information:

The subject property was listed in the Iowa (IA) Leaking Underground Storage Tank (LUST), IA Underground Storage Tank (UST), identified as a REC during the Phase I TBA, is located and where TPH-DRO and TPH-GRO, lead and various compounds including metals were found in the soil and groundwater at concentrations exceeding the EPA RSL and EPA MCL

Address of Data Source (URL if available):

20c. Indicate whether Engineering Controls in place: ☒ Yes ☐ No Date: 10/29/2015

REDEVELOPMENT AND OTHER LEVERAGED ACCOMPLISHMENTS (Mandatory for Assessment, Cleanup and RLF Cooperative Agreements; as available for State and Tribal Property Specific Activities and TBAs)

21. Redevelopment Start Date: _____ 22. Redevelopment Completion Date: _____

Table D- Redevelopment Leveraged Funding Detail

Source of Funding (enter one source of funding per line; do not include funding received prior to the award of this EPA Cooperative Agreement)				Name of Entity Providing Funds	Amount of Funding Expended on this Activity
Other Federal	State/Tribal	Local Gov't	Private/ Other		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

23. Number of Redevelopment Jobs Leveraged: _____

24. Future Use and Estimated Acreage (check all that apply; For properties with multi-story buildings only, please indicate also the square footage for each type of reuse (e.g. a three story building with first floor commercial and remaining floors residential)).

- ☐ Multi-story building
- ☒ Greenspace 9 acres acres _____ sq. ft. ☐ Commercial _____ acres _____ sq. ft.
- ☐ Industrial _____ acres _____ sq. ft. ☐ Residential _____ acres _____ sq. ft.

25. Actual Acreage(s) and Type(s) of Greenspace Created: _____ 9- acre property

PART II- ENVIRONMENTAL ACTIVITIES (continued)

ANECDOTAL PROPERTY INFORMATION (as available for all cooperative agreement types)

26. Property Highlights:

The area consists of an approximate 9-acre property at 1302 Locust Street, in the northwest portion of Section 21, Township 75 North, Range 44 West, in Carter Lake, Pottawattamie County, Iowa. EPA conducted Phase I and Phase II TBAs to determine if historical activities conducted on the property or near the property impacted soil and groundwater. TPH-DRO, TPH-GRO, BTEX chemicals, and lead were found in soil at concentrations exceeding the EPA RSL for residential and/or industrial soil and/or the Pottawattamie County, USGS levels. Several metals (arsenic, barium, cadmium, chromium, and lead) were found in groundwater at concentrations exceeding EPA MCLs and IDNR statewide levels. 4-Methyl-2-pentanone Benzo(a)pyrene, Benzo(b)fluoranthene, Indeno (1,2,3 cd)pyrene were also found in the groundwater and exceeded EPA MCLs and/or IDNR statewide levels. All of the chemicals listed above could cause a serious risk to human and environmental health.

PROPERTY PHOTOGRAPH INFORMATION

27. Indicate whether photographs are available: ☒ Yes ☐ No 28. Indicate whether video is available: ☐ Yes ☒ No

PART III- ADDITIONAL PROPERTY INFORMATION

PROPERTY HISTORY INFORMATION

29. Property Description / History / Past Ownership:

The subject property has historically been used as a gas station, a residential property, and a commercial use that is unknown

30. Predominant Past Use(s) (check all that apply; For properties with multi-story buildings only, please indicate also the square footage for each type of reuse (e.g. a three story building with first floor commercial and remaining floors residential):

☐ Multi-story building

☐ Greenspace _____ acres _____ sq. ft. ☐ Commercial _____ acres _____ sq. ft.

☐ Residential _____ acres _____ sq. ft. ☒ Industrial _____ 1.17 acres _____ sq. ft.

OWNERSHIP & SUPERFUND LIABILITY (Mandatory for Cleanup and RLF Cooperative Agreements)

31a. Ownership Entity:

☒ Government (Tribal, State, Local) ☐ Private

32a. During the life of the cooperative agreement, did ownership change?

☐ Yes ☒ No

31b. Current Owner:

The Omaha Tribe of Nebraska

32b. If "yes," did Superfund federal landowner liability protections factor into the ownership change?

☐ Yes ☐ No ☐ Unknown

PART IV- APPROVALS

33. Cooperative Agreement Recipient Project Manager

Name (please print):

Signature

Date:

34. US EPA Regional Representative

Name (please print):

Signature

Date: